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US SECURITIES & EXCHANGE COMMISSION FORM 20-F 2011

As filed with the Securities and Exchange Commission on January 25, 2012

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington D.C. 20549

FORM 20-F

☐ REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR 12(g) OF THE SECURITIES EXCHANGE ACT OF 1934

OR

☒ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934 for the fiscal year ended December 31, 2011

OR

☐ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

OR

☐ SHELL COMPANY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

Commission file number 1-15024

NOVARTIS AG

(Exact name of Registrant as specified in its charter)

NOVARTIS Inc.

(Translation of Registrant's name into English)

Switzerland

(Jurisdiction of incorporation or organization)

Lichtstrasse 35
4056 Basel, Switzerland
(Address of principal executive offices)

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(Name, Telephone, E-mail and/or Facsimile number and Address of Company Contact Person)

Securities registered pursuant to Section 12(b) of the Act:

Title of class	Name of each exchange on which registered
American Depositary Shares each representing 1 share, nominal value CHF 0.50 per share, and shares	**New York Stock Exchange, Inc.**

Securities registered or to be registered pursuant to Section 12(g) of the Act:

None

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act:

None

Indicate the number of outstanding shares of each of the issuer's classes of capital or common stock as of the close of the period covered by the annual report:

2,406,693,857 shares

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

Yes ☒ **No** ☐

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934.

Yes ☐ **No** ☒

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes ☒ **No** ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, or a non-accelerated filer. See definition of "accelerated filer and large accelerated filer" in Rule 12b-2 of the Exchange Act (Check one):

Large accelerated filer ☒ Accelerated filer ☐ Non-accelerated filer ☐

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing:

☐ U.S. GAAP ☒ International Financial Reporting Standards as issued by the International Accounting Standards Board ☐ Other

If "Other" has been checked in response to the previous question indicate by check mark which financial statement item the registrant has elected to follow.

Item 17 ☐ **Item 18** ☐

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes ☐ **No** ☒

TABLE OF CONTENTS

INTRODUCTION AND USE OF CERTAIN TERMS 1

FORWARD LOOKING STATEMENTS 1

PART I 3

Item 1. Identity of Directors, Senior Management and Advisers 3

Item 2. Offer Statistics and Expected Timetable 3

Item 3. Key Information 3
3.A Selected Financial Data 3
3.B Capitalization and Indebtedness 6
3.C Reasons for the offer and use of proceeds 6
3.D Risk Factors 6

Item 4. Information on the Company 17
4.A History and Development of Novartis 17
4.B Business Overview 20
Pharmaceuticals 22
Alcon 54
Sandoz 62
Vaccines and Diagnostics 68
Consumer Health 75
4.C Organizational Structure 78
4.D Property, Plants and Equipment 78

Item 4A. Unresolved Staff Comments 85

Item 5. Operating and Financial Review and Prospects 85
5.A Operating Results 85
5.B Liquidity and Capital Resources 159
5.C Research & Development, Patents and Licenses 164
5.D Trend Information 165
5.E Off-Balance Sheet Arrangements 165
5.F Aggregate Contractual Obligations 165

Item 6. Directors, Senior Management and Employees 166
6.A Directors and Senior Management 166
6.B Compensation 174
6.C Board Practices 199
6.D Employees 219
6.E Share Ownership 219

Item 7. Major Shareholders and Related Party Transactions 220
7.A Major Shareholders 220
7.B Related Party Transactions 221
7.C Interests of Experts and Counsel 222

Item 8. Financial Information 222
8.A Consolidated Statements and Other Financial Information 222
8.B Significant Changes 222

Item 9. The Offer and Listing 223
9.A Listing Details 223
9.B Plan of Distribution 224
9.C Market 224
9.D Selling Shareholders 224
9.E Dilution 224
9.F Expenses of the Issue 224

Item 10. Additional Information 224
10.A Share Capital 224
10.B Memorandum and Articles of Association 224
10.C Material Contracts 228

10.D Exchange Controls . . . 228
10.E Taxation . . . 228
10.F Dividends and Paying Agents . . . 233
10.G Statement by Experts . . . 233
10.H Documents on Display . . . 233
10.I Subsidiary Information . . . 233

Item 11. Quantitative and Qualitative Disclosures about Non-Product-Related Market Risk . . . 234

Item 12. Description of Securities other than Equity Securities . . . 238
12.A Debt Securities . . . 238
12.B Warrants and Rights . . . 238
12.C Other Securities . . . 238
12.D American Depositary Shares . . . 239

PART II . . . 240

Item 13. Defaults, Dividend Arrearages and Delinquencies . . . 240

Item 14. Material Modifications to the Rights of Security Holders and Use of Proceeds . . . 240

Item 15. Controls and Procedures . . . 240

Item 16A. Audit Committee Financial Expert . . . 240

Item 16B. Code of Ethics . . . 240

Item 16C. Principal Accountant Fees and Services . . . 241

Item 16D. Exemptions from the Listing Standards for Audit Committees . . . 242

Item 16E. Purchases of Equity Securities by the Issuer and Affiliated Purchasers . . . 242

Item 16F. Change in Registrant's Certifying Accountant . . . 242

Item 16G. Corporate Governance . . . 243

PART III . . . 244

Item 17. Financial Statements . . . 244

Item 18. Financial Statements . . . 244

Item 19. Exhibits . . . 245

INTRODUCTION

Novartis AG and its consolidated affiliates (Novartis or the Group) publish consolidated financial statements expressed in US dollars. Our consolidated financial statements found in Item 18 of this annual report on Form 20-F (Form 20-F) are prepared in accordance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB).

USE OF CERTAIN TERMS

In this Form 20-F, references to "US dollars," "$" or "$" are to the lawful currency of the United States of America, and references to "CHF" are to Swiss francs; references to the "United States" or to "US" are to the United States of America, references to the European Union (EU) are to the European Union and its 27 member states and references to "Americas" are to North, Central (including the Caribbean) and South America, unless the context otherwise requires; references to "associates" are to employees of our affiliates; references to the "FDA" are to the US Food and Drug Administration, references to "EMA" are to the European Medicines Agency, an agency of the EU, and references to the CHMP are to the EMA's Committee for Medicinal Products for Human Use; references to "ADS" or "ADSs" are to Novartis American Depositary Shares, and references to "ADR" or "ADRs" are to Novartis American Depositary Receipts; references to the NYSE are to the New York Stock Exchange, and references to the SIX are to the SIX Swiss Exchange. All product names appearing in italics are trademarks owned by or licensed to Group companies. Product names identified by a "®" or a "™" are trademarks that are not owned by or licensed to Group companies. You will find the words "we," "our," "us" and similar words or phrases in this Form 20-F. We use those words to comply with the requirement of the US Securities and Exchange Commission to use "plain English" in public documents like this Form 20-F. For the sake of clarification, each Group company is legally separate from all other Group companies and manages its business independently through its respective board of directors or other top local management body. No Group company operates the business of another Group company nor is any Group company the agent of any other Group company. Each executive identified in this Form 20-F reports directly to other executives of the Group company which employs the executive, or to that Group company's board of directors.

FORWARD LOOKING STATEMENTS

This Form 20-F contains certain "forward looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, which can be identified by terminology such as "planned," "expected," "will," "potential," "pipeline," "outlook," or similar expressions, or by express or implied discussions regarding potential new products, potential new indications for existing products, or regarding potential future revenues from any such products; or regarding potential future sales or earnings of the Novartis Group or any of its divisions; or by discussions of strategy, plans, expectations or intentions. You should not place undue reliance on these statements. Such forward-looking statements reflect the current views of the Group regarding future events, and involve known and unknown risks, uncertainties and other factors that may cause actual results to be materially different from any future results, performance or achievements expressed or implied by such statements. There can be no guarantee that any new products will be approved for sale in any market, or that any new indications will be approved for any existing products in any market, or that any approvals which are obtained will be obtained at any particular time, or that any such products will achieve any particular revenue levels. Nor can there be any guarantee that the Group, or any of its divisions, will achieve any particular financial results. In particular, management's expectations could be affected by, among other things, unexpected regulatory actions or delays or government regulation generally, including the potential outcomes of our ongoing discussions with health authorities concerning *Rasilez/Tekturna* as a result of the ALTITUDE study, and including the outcome of health authority reviews of the benefits and risks of *Gilenya;* unexpected clinical trial results, including additional analyses of existing clinical data or unexpected new clinical data, including any potential new analyses of the ALTITUDE study which may occur; the Group's ability to obtain or maintain patent or other proprietary intellectual property protection, including the ultimate extent of the impact on the Group of the loss of patent protection on key products which commenced last year and will continue this year; unexpected product manufacturing issues, including the potential outcomes of the Warning Letter issued to us with respect to three Sandoz manufacturing facilities, and the potential outcome of the shutdown of the OTC manufacturing facility at Lincoln, Nebraska; government, industry, and general public pricing pressures; uncertainties regarding actual or potential legal proceedings, including, among others, actual or potential product liability litigation, litigation regarding sales and marketing practices, shareholder litigation, government investigations and intellectual property disputes; competition in general; uncertainties regarding the

after-effects of the recent global financial and economic crisis; uncertainties regarding future global exchange rates and uncertainties regarding future demand for our products; uncertainties involved in the development of new healthcare products; the impact that the foregoing factors could have on the values attributed to the Group's assets and liabilities as recorded in the Group's consolidated balance sheet. Some of these factors are discussed in more detail herein, including under "Item 3. Key Information—3.D. Risk factors," "Item 4. Information on the Company," and "Item 5. Operating and Financial Review and Prospects." Should one or more of these risks or uncertainties materialize, or should underlying assumptions prove incorrect, actual results may vary materially from those described in this Form 20-F as anticipated, believed, estimated or expected. We provide the information in this 20-F as of the date of its filing. We do not intend, and do not assume any obligation, to update any information or forward looking statements set out in this Form 20-F as a result of new information, future events or otherwise.

PART I

Item 1. Identity of Directors, Senior Management and Advisers

Not applicable.

Item 2. Offer Statistics and Expected Timetable

Not applicable.

Item 3. Key Information

3.A Selected Financial Data

The selected financial information set out below has been extracted from our consolidated financial statements prepared in accordance with IFRS as issued by the IASB. Our consolidated financial statements for the years ended December 31, 2011, 2010 and 2009 are included in "Item 18. Financial Statements" in this Form 20-F.

The results of our Medical Nutrition and Gerber Business Units are shown as discontinued operations for all periods presented, following their divestment in 2007.

All financial data should be read in conjunction with "Item 5. Operating and Financial Review and Prospects". All financial data presented in this Form 20-F are qualified in their entirety by reference to the consolidated financial statements and their notes.

	Year Ended December 31,				
	2011	**2010**	**2009**	**2008**	**2007**
	($ millions, except per share information)				
INCOME STATEMENT DATA					
Net sales from continuing operations	**58,566**	**50,624**	**44,267**	**41,459**	**38,072**
Operating income from continuing operations	**10,998**	**11,526**	**9,982**	**8,964**	**6,781**
Income from associated companies	528	804	293	441	412
Interest expense	(751)	(692)	(551)	(290)	(237)
Financial income/(expense)	(2)	64	198	384	531
Income before taxes from continuing operations	**10,773**	**11,702**	**9,922**	**9,499**	**7,487**
Taxes	(1,528)	(1,733)	(1,468)	(1,336)	(947)
Net income from continuing operations	**9,245**	**9,969**	**8,454**	**8,163**	**6,540**
Net income from discontinued operations				70	5,428
Group net income	**9,245**	**9,969**	**8,454**	**8,233**	**11,968**
Attributable to:					
Shareholders of Novartis AG	9,113	9,794	8,400	8,195	11,946
Non-controlling interests	132	175	54	38	22
Operating income from discontinued operations (including divestment gains)				70	6,152
Basic earnings per share ($):					
—Continuing operations	3.83	4.28	3.70	3.59	2.81
—Discontinued operations				0.03	2.34
—Total	3.83	4.28	3.70	3.62	5.15
Diluted earnings per share ($):					
—Continuing operations	3.78	4.26	3.69	3.56	2.80
—Discontinued operations				0.03	2.33
—Total	3.78	4.26	3.69	3.59	5.13
Cash dividends[1]	5,368	4,486	3,941	3,345	2,598
Cash dividends per share in CHF[2]	2.25	2.20	2.10	2.00	1.60

(1) Cash dividends represent cash payments in the applicable year that generally relate to earnings of the previous year.

(2) Cash dividends per share represent dividends proposed that relate to earnings of the current year. Dividends for 2011 will be proposed to the Annual General Meeting on February 23, 2012 for approval.

	Year Ended December 31,				
	2011	2010	2009	2008	2007
			($ millions)		
BALANCE SHEET DATA					
Cash, cash equivalents and marketable securities & derivative financial instruments	5,075	8,134	17,449	6,117	13,201
Inventories	5,930	6,093	5,830	5,792	5,455
Other current assets	13,079	12,458	10,412	8,972	8,774
Non-current assets	93,412	96,633	61,814	57,418	48,022
Total assets	**117,496**	**123,318**	**95,505**	**78,299**	**75,452**
Trade accounts payable	4,989	4,788	4,012	3,395	3,018
Other current liabilities	18,159	19,870	15,458	13,109	13,623
Non-current liabilities	28,408	28,891	18,573	11,358	9,415
Total liabilities	**51,556**	**53,549**	**38,043**	**27,862**	**26,056**
Issued share capital and reserves attributable to shareholders of Novartis AG	65,844	63,196	57,387	50,288	49,223
Non-controlling interests	96	6,573	75	149	173
Total equity	**65,940**	**69,769**	**57,462**	**50,437**	**49,396**
Total liabilities and equity	**117,496**	**123,318**	**95,505**	**78,299**	**75,452**
Net assets	65,940	69,769	57,462	50,437	49,396
Outstanding share capital	895	832	825	820	815
Total outstanding shares (millions)	2,407	2,289	2,274	2,265	2,264

Cash Dividends per Share

Cash dividends are translated into US dollars at the Reuters Market System Rate on the payment date. Because we pay dividends in Swiss francs, exchange rate fluctuations will affect the US dollar amounts received by holders of ADSs.

Year Earned	Month and Year Paid	Total Dividend per share	Total Dividend per share
		(CHF)	($)
2007	February 2008	1.60	1.53
2008	February 2009	2.00	1.72
2009	March 2010	2.10	1.95
2010	March 2011	2.20	2.37
2011[1]	March 2012	2.25	2.39[2]

(1) Dividend to be proposed at the Annual General Meeting on February 23, 2012 and to be distributed March 1, 2012.

(2) Translated into US dollars at the 2011 Reuters Market System period end rate of $1.06 to the Swiss franc. This translation is an example only, and should not be construed as a representation that the Swiss franc amount represents, or has been or could be converted into US dollars at that or any other rate.

Exchange Rates

The following table shows, for the years and dates indicated, certain information concerning the rate of exchange of US dollar per Swiss franc based on exchange rate information found on Reuters Market System. The exchange rate in effect on January 19, 2012, as found on Reuters Market System, was CHF 1.00 = $1.07.

Year ended December 31, ($ per CHF)	Period End	Average[1]	Low	High
2007	0.88	0.83	0.80	0.91
2008	0.94	0.93	0.82	1.02
2009	0.97	0.92	0.84	1.00
2010	1.06	0.96	0.86	1.07
2011	1.06	1.13	1.06	1.25
Month				
August 2011			1.22	1.37
September 2011			1.10	1.27
October 2011			1.08	1.16
November 2011			1.08	1.13
December 2011			1.05	1.10
January 2012[2]			1.05	1.07

(1) Represents the average of the exchange rates on the last day of each full month during the year.

(2) Through January 19, 2012.

3.B Capitalization and Indebtedness

Not applicable.

3.C Reasons for the offer and use of proceeds

Not applicable.

3.D Risk Factors

Our businesses face significant risks and uncertainties. You should carefully consider all of the information set forth in this annual report on Form 20-F and in other documents we file with or furnish to the SEC, including the following risk factors, before deciding to invest in any Novartis securities. Our business as well as our financial condition or results of operations could be materially adversely affected by any of these risks, as well as other risks and uncertainties not currently known to us or not currently deemed to be material.

Risks Facing Our Business

Our patented pharmaceuticals businesses, and other key products, face, and will continue to face, important patent expirations and aggressive generic competition.

The products of our Pharmaceuticals and Alcon Divisions, as well as key products from our other divisions, are generally protected by patent rights, which are intended to provide us with exclusive rights to market the patented products. However, those patent rights are of varying strengths and durations. Loss of market exclusivity for one or more important products—including the loss of exclusivity on *Diovan*, our best-selling product, which began in the EU in 2011, and will continue in the US in 2012 and in Japan in 2013—will have a material adverse effect on our results of operations.

The introduction of generic competition for a patented medicine typically results in a significant and rapid reduction in net sales for the patented product because generic manufacturers typically offer their unpatented versions at sharply lower prices. Such competition can result from the regular expiration of the term of the patent. Such competition can also result from the entry of generic versions of another medicine in the same therapeutic

class as one of our drugs, or in another competing therapeutic class. In addition, generic manufacturers frequently take an aggressive approach to challenging patents, conducting so-called "launches at risk" of products that are still under legal challenge for patent infringement, before final resolution of legal proceedings.

We also rely in all aspects of our businesses on unpatented proprietary technology, know-how, trade secrets and other confidential information, which we seek to protect through various measures including confidentiality agreements with licensees, employees, third-party collaborators, or consultants who may have access to such information. If these agreements are breached, our contractual remedies may not be adequate to cover any losses.

Some of our best-selling products have begun to face significant competition due to the end of market exclusivity resulting from the expiry of patent protection.

- The patent on valsartan, the active ingredient of *Diovan*/*Co-Diovan*/*Diovan HCT* (high blood pressure), expired in the major countries of the EU in November 2011, and generic competitors have launched there. In addition, patent protection is scheduled to expire in the US in September 2012, and in Japan in 2013. The active ingredient valsartan is also used in the single-pill combination therapies *Exforge*/*Exforge HCT* (high blood pressure). While market exclusivities for *Exforge*/*Exforge HCT* will remain in the EU and Japan due to regulatory exclusivities, there is a risk that generic manufacturers may circumvent regulatory exclusivity and gain approval of a combination valsartan-amlodipine product in Europe. In the US, under a license agreement with a generics manufacturer, the product is expected to face generic competition in the US beginning in October 2014.
- The patent on *Femara* (cancer) expired in 2011 in the US and in major European markets, and generic competitors have launched in those markets.
- The patent on zoledronic acid, the active ingredient in *Zometa* (cancer), as well as in *Reclast*/*Aclasta* (osteoporosis), will expire in 2013 in the US and in 2012 and 2013 in other major markets.
- The patent on *Glivec*/*Gleevec* (cancer) will expire in 2015 in the US, in 2016 in the major EU countries and 2014 in Japan, in each case including extensions.

For more information on the patent status of our Pharmaceuticals Division's products see "Item 4. Information on the Company—Item 4.B Business Overview—Pharmaceuticals—Intellectual Property" and "Item 18. Financial Statements—note 20".

Clearly, with respect to major products for which the patent terms are expiring, the loss of exclusivity of these products will have a material adverse effect on our business, financial condition and results of operations. In addition, should we unexpectedly lose exclusivity on additional products due to patent litigation or other reasons, this will also have a material adverse effect on our business, financial condition and results of operations, both due to the loss of revenue, and the difficulties in planning for such losses.

Our research and development efforts may not succeed in bringing high-potential products to market, or to do so cost-efficiently enough, or in sufficient numbers.

Our ability to continue to grow our business and to replace sales lost due to the end of market exclusivity depends upon the success of our research and development activities in identifying, and successfully and cost-effectively developing high-potential breakthrough products that address unmet medical needs, are accepted by patients and physicians, and are reimbursed by payors. To accomplish this, we commit substantial effort, funds and other resources across all our divisions to research and development, both through our own dedicated resources and through various collaborations with third parties. Developing new healthcare products and bringing them to market, however, is a highly costly, lengthy and uncertain process. In spite of our significant investments, there can be no guarantee that our research and development activities will produce a sufficient number of commercially viable new products.

Using the products of our largest division as an example, the research and development process for a new pharmaceutical product can take up to 15 years, or even longer, from discovery to commercial product launch—and with a limited available patent life the longer it takes to develop a product, the less time there will be for us to recoup our development costs. New products need not only undergo intensive preclinical and clinical testing, but also must be approved by means of highly complex, lengthy and expensive approval processes which can vary from country to country. During each stage, there is a substantial risk that we will encounter serious obstacles which will further delay us and add substantial expense, or that we will not achieve our goals and, accordingly, may be forced to abandon a product in which we have invested substantial amounts of time and money. Reasons for delays may include: failure of the product candidate in preclinical studies; difficulty enrolling patients in clinical

trials or delays or clinical trial holds at clinical trial sites; delays in completing formulation and other testing and work necessary to support an application for regulatory approval; adverse reactions to the product candidate or indications of other safety concerns; insufficient clinical trial data to support the safety or efficacy of the product candidate; our inability to manufacture sufficient quantities of the product candidate for development or commercialization activities in a timely and cost-efficient manner; and failure to obtain, or delays in obtaining, the required regulatory approvals for the product candidate or the facilities in which it is manufactured. In addition, FDA and other governmental health authorities have recently begun to intensify their scrutiny of pharmaceutical companies' compliance with regulations related to the development of new products, thus adding to the obstacles and costs we face in bringing new products to market.

Our Vaccines and Diagnostics and Alcon Divisions face challenges similar to those faced by our Pharmaceuticals Division in developing and bringing to market new products. At Alcon, management has announced plans to make significant investments in research and development in the coming years to develop new eyecare products. Vaccines and Diagnostics has, and continues to expend considerable time and resources to fully develop and bring to market two vaccines, *Menveo* and *Bexsero*, to combat different strains of meningococcal disease in patients of a wide range of age groups. These products are the primary products in the Vaccines and Diagnostics Division's pipeline. If these efforts by our Alcon and Vaccines and Diagnostics Divisions do not bear significant fruit, they could have a material adverse effect on the medium to long-term success of the divisions, and of the Group as a whole.

In addition, our Sandoz Division has made, and expects to continue to make, significant investments in the development of biotechnology-based, "biologic" medicines intended for sale as bioequivalent or "biosimilar" generic versions of currently-marketed biotechnology products. While the development of such products can be somewhat less costly and complex than the development of originator biologic medicines, to date many countries do not yet have an established legislative or regulatory pathway which would permit such products to be sold in a manner in which the biosimilar product would be readily substitutable for the originator product. Significant delays in the development of such pathways, or significant impediments that may ultimately be built into such pathways, could diminish the value of the investments that Sandoz has made, and will continue to make, in its biotechnology operations, and could have a material adverse effect on the long-term success of the Group as a whole.

If we are unable to cost-effectively maintain an adequate flow of successful new products and new indications for existing products sufficient to cover our substantial research and development costs and to replace sales lost as older products are lost to generic competition (including the significant number of important products which have begun, and will continue to face generic competition in the near future), or are displaced by competing products or therapies, this could have a material adverse effect on our business, financial condition or results of operations. For a description of the approval processes which must be followed to market our products, see the sections headed "Regulation" included in the descriptions of our four operating divisions under "Item 4. Information on the Company—Item 4.B Business Overview."

Increasing regulatory scrutiny of drug safety and efficacy has and is likely to continue to adversely affect us.

Following several widely publicized issues in recent years, health regulators are increasingly focusing on product safety. Recently, the Obama Administration has publicly emphasized the importance of enforcing US drug safety regulations. In addition, authorities have paid increased attention to the risk/benefit profile of pharmaceutical products with an increasing emphasis on product safety and the value-added of products. These developments have led to requests for more clinical trial data, for the inclusion of a significantly higher number of patients in clinical trials, and for more detailed analyses of the trials. As a result, the already lengthy and expensive process of obtaining regulatory approvals for pharmaceutical products has become even more challenging.

In addition, for the same reason, the post-approval regulatory burden has been increasing. Approved drugs have increasingly been subject to requirements such as risk evaluation and mitigation strategies (REMS), Risk Management Plans, comparative effectiveness studies, Health Technology Assessments and requirements to conduct post-approval Phase IV clinical trials to gather far more detailed safety and other data on products. These requirements have the effect of making the maintenance of regulatory approvals and achieving reimbursement for our products increasingly expensive, and further heightening the risk of recalls, product withdrawals, or loss of market share.

Like our industry peers, we have been required by health authorities to conduct additional clinical trials, and to submit additional analyses of our data in order to obtain product approvals. We have had REMS and other such requirements imposed as a condition of approval of our new drugs. By increasing the costs of, and causing

delays in obtaining approvals—and creating a risk that safe and efficacious products will not be approved, or will be removed from the market after previously having been approved—these regulatory developments have had, and likely will continue to have, a material adverse effect on our business, financial condition and results of operations.

Our business is increasingly affected by pressures on pricing for our products.

The growth of overall healthcare costs as a percentage of gross domestic product in many countries means that governments and payors are under intense pressure to control spending even more tightly. These pressures are particularly strong given the lingering effects of the recent global economic and financial crisis, including the ongoing debt crisis in certain countries in Europe, and the risk of a similar crisis in the US. As a result, our businesses and the healthcare industry in general are operating in an ever more challenging environment with very significant pricing pressures. These ongoing pressures affect all of our businesses that rely on reimbursement—including Pharmaceuticals, Alcon, Sandoz and Vaccines and Diagnostics—and involve government-imposed industry-wide price reductions, mandatory pricing systems, reference pricing initiatives, an increase in imports of drugs from lower-cost countries to higher-cost countries, shifting of the payment burden to patients through higher co-payments, limiting physicians' ability to choose among competing medicines, mandatory substitution of generic drugs for the patented equivalent, payors limiting access to innovative medicines on their own cost-benefit analyses, and growing pressure on physicians to reduce the prescribing of patented prescription medicines. Such initiatives include the 2010 enactment of healthcare reform in the US, its implementation, and ongoing efforts by the US Government to find additional savings from government healthcare programs.

As a result of such measures, we faced downward pricing pressures on our patented and generic drugs in many countries in 2011. For example, in April, Italy introduced temporary price cuts with the aim of saving $834 million by the end of 2011, and Germany increased their mandatory rebates from 6 to 10%. Other European countries exerting price pressure include France and Portugal. In the United States, an uncertain economy and regulatory reform continued to weigh on the industry. In addition, during 2011, the UK's National Institute for Health and Clinical Excellence (NICE) declined on cost-effectiveness grounds to recommend UK National Health Service funding of use of our product *Afinitor* for advanced renal cell carcinoma, and the use of our product *Lucentis* to treat diabetic macular edema, and issued negative draft guidance in relation to the use of our product *Gilenya* and of our product *Lucentis* to treat macular edema caused by retinal vein occlusion, despite the products having been approved by the relevant health authorities for each of the indications.

We expect these efforts to control costs to continue in 2012 as healthcare payors around the globe—in particular government-controlled health authorities, insurance companies and managed care organizations—step up initiatives to reduce the overall cost of healthcare, restrict access to higher-priced new medicines, increase the use of generics and impose overall price cuts. For more information on price controls and on our challenging business environment see "Item 4. Information on the Company—Item 4.B Business Overview—Pharmaceuticals—Price Controls."

Failure to comply with law, and resulting legal proceedings may have a significant negative effect on our results of operations.

We are obligated to comply with the laws of the approximately 140 countries in which we operate, covering an extremely wide range of activities. To that end, we have a significant global compliance with law program in place. Nonetheless, despite our efforts, any failure to comply with law could lead to substantial liabilities that may not be covered by insurance, and could affect our business and reputation.

In particular, in recent years, there has been a trend of increasing litigation and government investigations against companies operating in the industries of which we are a part, both in the US and in an increasing number of countries around the world. A number of our subsidiaries are, and will likely continue to be, subject to various legal proceedings that arise from time to time, including proceedings regarding product liability, commercial disputes, employment and wrongful discharge, antitrust, securities, sales and marketing practices, health and safety, environmental, tax, privacy, and intellectual property matters. Such proceedings are inherently unpredictable, and large judgments sometimes occur. As a consequence, we may in the future incur judgments or enter into settlements of claims that could have a material adverse effect on our results of operations or cash flows.

In addition, governments and regulatory authorities around the world have been stepping up their compliance and law enforcement activities in recent years in key areas, including corruption, marketing practices, insider trading, antitrust and trade restrictions. Responding to such investigations is costly, and a significant

diversion of management's attention from our business. In addition, such investigations may affect our reputation and create a risk of potential exclusion from government reimbursement programs in the US and other countries. These factors have contributed to decisions by us and other companies in our industry to enter into settlement agreements with governmental authorities around the world. Those settlements have involved and may continue to involve large cash payments, including the potential repayment of amounts allegedly obtained improperly and penalties up to treble damages. In addition, settlements of healthcare fraud cases often require companies to enter into a corporate integrity agreement, which is intended to regulate company behavior for a period of years. Also, matters underlying governmental investigations and settlements may be the subject of separate private litigation.

Our businesses have been subject, from time to time, to governmental investigations and information requests by regulatory authorities. In 2010 our US affiliate Novartis Pharmaceuticals Corporation (NPC) settled parallel civil and criminal investigations by the US government into allegations of potential inappropriate marketing and promotion of six Novartis drugs. As part of the settlement, NPC agreed to plead guilty to one misdemeanor, and to resolve civil charges against it, agreeing to pay a total of $422.5 million, and to enter into a five-year Corporate Integrity Agreement.

At the same time, our Sandoz Division may, from time to time, seek approval to market a generic version of a product before the expiration of patents claimed by the marketer of the patented product. We do this in cases where we believe that the relevant patents are invalid, unenforceable, or would not be infringed by our generic product. As a result, affiliates of our Sandoz Division frequently face patent litigation, and in certain circumstances, we may elect to market a generic product even though patent infringement actions are still pending. Should we elect to proceed in this manner and conduct a "launch at risk," we could face substantial damages if the final court decision is adverse to us.

Adverse judgments or settlements in any of these cases could have a material adverse effect on our business, financial condition and results of operations.

For more detail regarding specific legal matters currently pending against us and provisions for such matters, see "Item 18. Financial Statements—note 20." See also "—Our reliance on third parties for the performance of key business functions heightens the risks faced by our businesses" below.

The manufacture of our products is highly regulated and complex, and may result in a variety of issues that could lead to extended supply disruptions and significant liability.

The products we market and sell are either manufactured at our own dedicated manufacturing facilities or by third parties. In either case, we must ensure that all manufacturing processes comply with current Good Manufacturing Practices (cGMP) and other applicable regulations, as well as with our own high quality standards. The manufacture of our products is heavily regulated by governmental health authorities around the world, including the FDA, and such health authorities continue to intensify their scrutiny of manufacturers' compliance with such requirements. If we or our third-party suppliers fail to comply fully with these requirements then there could be a regulatorily-required shutdown of production facilities or production lines, which in turn could lead to product shortages, or to our being entirely unable to supply product to patients for an extended duration. This, in turn, could lead to a significant loss of sales revenue and potential third-party litigation. In addition, health authorities have begun to impose significant penalties for such failures to comply with cGMP. A failure to comply fully with cGMP could also lead to a delay in the approval of new products to be manufactured at the impacted site.

Like our competitors, we have faced, and continue to face, significant manufacturing issues. For example, in November 2011, we received a Warning Letter from the FDA with respect to three of our Sandoz Division's facilities—in Broomfield, Colorado, Wilson, North Carolina, and Boucherville, Canada—which remains unresolved. The Warning Letter raised concerns regarding these facilities' compliance with FDA cGMP regulations. It states that until the FDA confirms that the deficiencies have been corrected, the FDA can recommend disapproval of any pending applications or supplements listing Novartis affiliates as a drug manufacturer. In addition, FDA may refuse requests to issue export certificates to our Sandoz US affiliate, or import certificates to our Sandoz Canada affiliates. The letter further states that other federal agencies may take the Warning Letter into account when considering the award of contracts. Sandoz is collaborating with the FDA to promptly correct all concerns raised in the Warning Letter, and to ensure that our products are safe and effective and meet highest quality standards. However, if we fail to fully resolve the issues raised in the Warning Letter then we could be subject to legal action without further notice including, without limitation, seizure and injunction.

Similarly, in December 2011, we voluntarily suspended operations and shipments from the OTC Division facility located at Lincoln, Nebraska. This action was taken to accelerate maintenance and other improvement activities at the site. Subsequently, in January 2012, we voluntarily recalled certain OTC Division products, as well as an Animal Health Division product that were produced at the Lincoln facility. We plan to gradually resume operations at the Lincoln site following implementation of planned improvements and in agreement with the FDA. However, as of the date of this Form 20-F, it is not possible to determine when the plant will resume full operations. The Lincoln facility produces a variety of products with annual sales value of less than 2% of Novartis Group sales. Should we fail to complete the planned improvements at the site in agreement with the FDA in a timely manner, then we may suffer a significant loss in sales.

In addition, we currently have several other Group Company manufacturing sites which are being upgraded to address advances in technology, improve quality, and assure consistency of product supply, in accordance with commitments to FDA. Ultimately, there can be no guarantee of the outcome of these matters. Nor can there be any guarantee that we will not face similar such issues in the future, or that we will successfully manage such issues when they arise.

In addition to regulatory requirements, many of our products involve technically complex manufacturing processes or require a supply of highly specialized raw materials. For some products and raw materials, we may also rely on a single source of supply. In particular, an increasing portion of our portfolio, including products from our Pharmaceuticals, Alcon, Vaccines and Diagnostics, and Sandoz Divisions, are "biologic" products. Unlike traditional "small-molecule" drugs, biologic drugs or other biologic-based products cannot be manufactured synthetically, but typically must be produced from living plant or animal micro-organisms. As a result, the production of biologic-based products which meet all regulatory requirements is especially complex. Even slight deviations at any point in the production process may lead to batch failures or recalls. In addition, because the production process is based on living micro-organisms, the process could be affected by contaminants which could impact those micro-organisms. As a result, the inherent fragility of certain of our raw material supplies and production processes may cause the production of one or more of our products to be disrupted, potentially for extended periods of time.

Also as part of the Group's portfolio of products, we have a number of sterile products, including oncology products, which are considered to be technically complex to manufacture, and require strict environmental controls. Any change in the environment may impact production schedules and inadvertently affect supply until remediated. For example, drug shortages were reported for a limited period of time this year for influvite, which is produced at the Sandoz, Boucherville, Canada site.

Finally, in addition to potential liability for government penalties, because our products are intended to promote the health of patients, for some of our products, any supply disruption or other production issue could subject us to lawsuits or to allegations that the public health, or the health of individuals, has been endangered.

In sum, a disruption in the supply of certain key products—whether as a result of a failure to comply with applicable regulations, the fragility of the production process, or our failure to accurately predict demand—could have a material adverse effect on our business, financial condition or results of operations.

The continuing global economic and financial crisis may have a material adverse effect on our results.

Many of the world's largest economies and financial institutions continue to be impacted by the ongoing global economic and financial crisis, with some continuing to face financial difficulty, a decline in asset prices, liquidity problems and limited availability of credit. It is uncertain how long these effects will last, or whether economic and financial trends will worsen or improve. Such uncertain economic times may have a material adverse effect on our revenues, results of operations, financial condition and ability to raise capital. For example, the ongoing debt crisis in certain countries in Europe has increased pressures on those countries, and on payors in those countries to force healthcare companies to decrease the prices at which we may sell them our products. The debt crisis has also given rise to concerns that some countries may not be able to pay us for our products at all. This situation could deteriorate as a result of potential developments in countries of key concern such as Greece, which is facing possible default of its sovereign debt obligations, as well as Spain and Italy, the sovereign debt obligations of which were recently downgraded.

Current economic conditions may adversely affect the ability of our distributors, customers, suppliers and service providers to obtain the liquidity required to pay for our products, or otherwise to buy necessary inventory or raw materials, and to perform their obligations under agreements with us, which could disrupt our operations, and negatively impact our business and cash flow. Although we attempt to monitor these third parties' financial condition and their liquidity, our ability to do so is limited, and some of them may become unable to pay their

bills in a timely manner, or may even become insolvent, which could negatively impact our business and results of operations. These risks may be elevated with respect to our interactions with third parties with substantial operations in countries where current economic conditions are the most severe, particularly where such third parties are themselves exposed to sovereign risk from business interactions directly with fiscally-challenged government payers. See also "—Our reliance on third parties for the performance of key business functions heightens the risks faced by our businesses" below.

In addition, the varying effects of difficult economic times on the economies and currencies of different countries has impacted, and may continue to unpredictably impact, the conversion of our operating results into US dollars, our reporting currency. This is particularly so given recent financial troubles in the US and in many European economies, investor concerns about the future of the Euro, and the flight of investor capital to the perceived safety of the Swiss franc. The financial and debt crises may also cause the value of our investments in our pension plans to decrease, potentially requiring us to increase our funding of those pension plans. In addition, the financial crisis may also result in a lower return on our financial investments, and a lower value on some of our assets. Alternately, the financial crisis may lead to inflation, which could lead to higher interest rates, which would increase our costs of raising capital. See also "—If any of numerous key assumptions and estimates in calculating our pension plan obligations turn out to be different from our actual experience, we may be required to increase substantially our contributions to pension plans as well as our pension-related costs in the future" below, and "—Foreign exchange fluctuations may adversely affect our earnings and the value of some of our assets" below.

To the extent that the economic and financial crisis is directly affecting consumers, some of our businesses, including the elective surgical business of our Alcon Division and our OTC and Animal Health Divisions, may be particularly sensitive to declines in consumer spending. In addition, our Pharmaceuticals, Vaccines and Diagnostics, and Sandoz Divisions, and the remaining businesses of our Alcon Division, may not be immune to consumer cutbacks, particularly given the increasing requirements in certain countries that patients pay a larger contribution toward their own healthcare costs. As a result, there is a risk that consumers may cut back on prescription drugs and vaccines, as well as consumer health products, to help cope with rising costs and difficult economic times.

At the same time, significant changes and volatility in the financial markets, in the consumer and business environment, in the competitive landscape and in the global political and security landscape make it increasingly difficult for us to predict our revenues and earnings into the future. As a result, any revenue or earnings guidance or outlook which we have given or might give may be overtaken by events, or may otherwise turn out to be inaccurate. Though we endeavor to give reasonable estimates of future revenues and earnings at the time we give such guidance, based on current conditions, there is a significant risk that such guidance or outlook will turn out to be, or to have been, incorrect.

Foreign exchange fluctuations may adversely affect our earnings and the value of some of our assets.

In the past year, the US dollar, our reporting currency, has suffered significant decreases in value against other world currencies. Because a significant portion of our earnings and expenditures are in currencies other than the US dollar, these decreases have had a significant impact on our reported net sales and earnings. In 2011, 36% of our net sales were made in US dollars, 27% in euros, 9% in Japanese yen, 2% in Swiss francs and 26% in other currencies. During the same period, 38% of our expenses arose in US dollars, 25% in euros, 14% in Swiss francs, 4% in Japanese yen and 19% in other currencies. As has happened in the recent past, changes in exchange rates between the US dollar and other currencies can result in increases or decreases in our sales, costs and earnings. Fluctuations in exchange rates between the US dollar and other currencies may also affect the reported value of our assets measured in US dollars and the components of shareholders' equity. For more information on the effects of currency fluctuations on our consolidated financial statements and on how we manage currency risk, see "Item 5.A Operating Results—Effects of Currency Fluctuations" and "Item 11. Quantitative and Qualitative Disclosures about Non-Product-Related Market Risk." See also "—The continuing economic and financial crisis may have a material adverse effect on our results" above.

We may not successfully complete and integrate strategic acquisitions to expand or complement our business.

As part of our growth strategy, we evaluate and pursue strategic business acquisitions to expand or complement our business. Such ventures may bring new products, increased market share or new customers to our prominent position in the healthcare industry. We cannot ensure that suitable acquisition candidates will be identified. Acquisition activities can be thwarted by overtures from competitors for the targeted candidates, governmental regulation (including market concentration limitations) and replacement product developments in

our industry. Further, after an acquisition, successful integration of the venture can be complicated by corporate cultural differences, difficulties in retention of key personnel, customers and suppliers, and coordination with other products and processes. Also, acquisitions could divert management's attention from our existing business and could result in liabilities being incurred that were not known at the time of acquisition or the creation of tax or accounting issues. If we fail to timely recognize or address these matters or to devote adequate resources to them, we may fail to achieve our growth strategy or otherwise not realize the intended benefits of any acquisition.

An increasing amount of intangible assets and goodwill on our books may lead to significant impairment charges in the future.

The amount of goodwill and other intangible assets on our consolidated balance sheet has increased significantly in recent years, primarily due to acquisitions. As a result, impairment testing could lead to material impairment charges in the future.

We regularly review our long-lived intangible and tangible assets, including identifiable intangible assets, investments in associated companies and goodwill, for impairment. Goodwill, acquired research and development, and acquired development projects not yet ready for use are subject to impairment review at least annually. Other long-lived assets are reviewed for impairment when there is an indication that an impairment may have occurred. Impairment testing under IFRS may lead to impairment charges in the future. Any significant impairment charges could have a material adverse effect on our results of operations. In 2011, for example, we recorded intangible asset impairment charges of $619 million. Of these charges, $552 million arose in the Pharmaceuticals Division, principally due to the expected reduction in demand for *Tekturna*/*Rasilez* (aliskiren), and discontinuation of the PRT128 (elinogrel), SMC021 (oral calcitonin), PTK796 (omadacycline) and AGO178 (agomelatine) development programs. $67 million of impairment charges arose in all other divisions. For a detailed discussion of how we determine whether an impairment has occurred, what factors could result in an impairment and the increasing impact of impairment charges on our results of operations, see "Item 5. Operating and Financial Review and Prospects—Item 5.A Operating Results—Critical Accounting Policies and Estimates—Impairment of Long-Lived Intangible and Tangible Assets" and "Item 18. Financial Statements—note 11."

Our indebtedness could adversely affect our operations.

As of December 31, 2011 we had $13.8 billion of non-current financial debt and $6.4 billion of current financial debt. Our current and future debt requires us to dedicate a portion of our cash flow to service interest and principal payments and may limit our ability to engage in other transactions and otherwise places us at a competitive disadvantage to our competitors that have less debt. We may have difficulty refinancing our existing debt or incurring new debt on terms that we would consider to be commercially reasonable, if at all.

Our reliance on third parties for the performance of key business functions heightens the risks faced by our businesses.

We invest a significant amount of effort and resources into outsourcing and offshoring certain key business functions with third parties, including research and development collaborations, manufacturing operations, warehousing, distribution activities, certain finance functions, marketing activities, data management and others. We do not control the third parties to whom we outsource these functions, but we depend on them to achieve results which may be significant to us. If these third parties fail to meet our expectations, we may lose our investment in the collaborations and fail to receive the expected benefits. In addition, should any of these third parties fail to comply with the law in the course of their performance of services for us, there is a risk that we could be held responsible for such violations of law, as well. Any such failures by third parties could have a material adverse effect on our business, financial condition or results of operations.

In particular, in many countries, including many less-developed markets, we rely heavily on third party distributors and other agents for the marketing and distribution of our products. Many of these third parties do not have internal compliance resources comparable to those within our organization. Some of these countries are plagued by corruption. If our efforts to screen our third party agents and detect cases of potential misconduct fail, we could be held responsible for the noncompliance of these third parties with applicable laws and regulations, which may have a material adverse effect on our reputation and our business, financial condition or results of operations.

We may not be able to realize the expected benefits of our significant investments in emerging growth markets.

At a time of slowing growth in sales of pharmaceuticals in industrialized countries, many emerging markets have experienced comparatively strong economies, leading to proportionately higher growth and an increasing

contribution to the industry's global performance. In 2011, we generated $5.8 billion, or approximately 10% (2010: 10%) of net sales from our six priority emerging markets—Brazil, China, India, Russia, South Korea and Turkey—as compared with $37 billion, or approximately 63% (2010: 64%) of our net sales, in the world's seven largest developed markets. However, combined net sales in the six priority emerging markets grew 17% in constant currency in 2011, compared to 11% sales growth in constant currency in the seven largest developed markets during the same period. As a result of this trend, we have been taking steps to increase our presence in these priority emerging markets and in other emerging markets. For example, in June 2011, we began construction on a new state-of-the-art manufacturing plant for pharmaceutical and generic medicines in St. Petersburg, Russia. This investment is part of a greater commitment to local infrastructure and collaborative healthcare initiatives planned in Russia over a five-year period. In China, by 2014 we will expand the number of our research and development associates nearly ten-fold, bringing the total to 1,200 across all divisions.

There is no guarantee that our efforts to expand our sales in these countries will succeed, or that these countries will continue to experience growth rates in excess of the world's largest markets. Some emerging countries may be especially vulnerable to the after-effects of the recent global financial crisis, or may have very limited resources to spend on healthcare. See "—The continuing economic and financial crisis may have a material adverse effect on our results" above. Many of these countries have a relatively limited number of persons with the skills and training suitable for employment at an enterprise such as ours. See "—An inability to attract and retain qualified personnel could adversely affect our business" below. In many emerging countries, we may be required to rely on third-party agents, which may put us at risk of liability. See "—Legal proceedings may have a significant negative effect on our results of operations" above. In addition, many of these countries have currencies that fluctuate substantially. If currencies devalue and we cannot offset the devaluations with price increases, our products may become less profitable.

For all these reasons, our sales to emerging growth markets carry significant risks. A failure to continue to expand our business in emerging growth markets could have a material adverse effect on our business, financial condition or results of operations.

Failure to obtain marketing exclusivity periods for new generic products, or to develop differentiated products, as well as intense competition from patented pharmaceuticals companies, may have an adverse effect on the success of our Sandoz Division.

Our Sandoz Division achieves significant revenue opportunities when it secures and maintains exclusivity periods granted for generic products in certain markets—particularly the 180-day exclusivity period granted in the US by the Hatch-Waxman Act—and when it is able to develop differentiated products with few, if any, generic competitors. Failure to obtain and maintain these market opportunities could have an adverse effect on the success of Sandoz. In addition, the division faces intense competition from patented pharmaceuticals companies, which commonly take aggressive steps to limit the availability of exclusivity periods or to reduce their value. These activities may increase the costs and risks associated with our efforts to introduce generic products and may delay or entirely prevent their introduction.

If any of numerous key assumptions and estimates in calculating our pension plan obligations turn out to be different from our actual experience, we may be required to increase substantially our contributions to pension plans as well as our pension-related costs in the future.

We sponsor pension and other post-employment benefit plans in various forms. These plans cover a significant portion of our current and former associates. We are required to make significant assumptions and estimates about future events in calculating the present value of expected future expense and liability related to these plans. These include assumptions about discount rates we apply to estimated future liabilities, expected returns on plan assets and rates of future compensation increases. In addition, our actuarial consultants provide our management with historical statistical information such as withdrawal and mortality rates in connection with these estimates. Assumptions and estimates used by Novartis may differ materially from the actual results we experience due to changing market and economic conditions (including the effects of the ongoing global economic and debt crisis, which, to date, have resulted in extremely low interest rates), higher or lower withdrawal rates, or longer or shorter life spans of participants, among other variables. For example, a decrease in the discount rate we apply in determining the present value of expected future obligations of one-half of one percent would have increased our year-end defined benefit obligation by $1.3 billion. Any differences between our assumptions and estimates and our actual experience could have a material effect on our results of operations and financial condition. For more information on obligations under retirement and other post-employment benefit plans and underlying actuarial assumptions, see "Item 5. Operating and Financial Review and Prospects—Item 5.A Operating Results—Critical Accounting Policies and Estimates—Retirement and other

post-employment plans" and "Item 18. Financial Statements—note 25". See also "—The continuing economic and financial crisis may have a material adverse effect on our results" above.

Changes in tax laws or their application could adversely affect our results of operations.

The integrated nature of our worldwide operations enables us to reduce the effective tax rate on our earnings because a portion of our earnings are taxed at more favorable rates in some jurisdictions. Changes in tax laws or their application with respect to matters such as transfer pricing, intercompany dividends and cross-border transactions, controlled corporations, and limitations on tax relief allowed on the interest on intercompany debt, could increase our effective tax rate and adversely affect our financial results.

Our OTC Division faces adverse impacts from increased competition, as well as potential questions of safety and efficacy.

Our OTC Division sells over-the-counter medicines, many of which contain ingredients also sold by competitors in the OTC industry. Particularly in the US, our branded OTC products compete against "store brand" products that are made with the same active ingredients as ours. These products do not carry our trusted brand names, but they also do not carry the burden of the expensive advertising and marketing that helped to establish demand for the product. As a result, the store brand products may be sold at lower prices. In recent years, consumers have increasingly begun to purchase store brand OTC products instead of branded products. In addition, in recent years, significant questions have arisen regarding the safety, efficacy and potential for misuse of certain products sold by our OTC Division and its competitors. As a result, health authorities around the world have begun to re-evaluate some important over-the-counter products, leading to restrictions on the sale of some of them and even the banning of certain products. For example, in 2010, the FDA undertook a review of one cough medicine ingredient to consider whether over-the-counter sales of the ingredient remained appropriate. While FDA has not, to date, changed the ingredient's status, further regulatory or legislative action may follow, and litigation has often followed actions such as these, particularly in the US. Additional actions and litigation regarding OTC products are possible in the future. These trends have had, and may continue to have, a significant adverse effect on the success of our OTC Division. See also "—The continuing economic and financial crisis may have a material adverse effect on our results" above.

Ongoing consolidation among our distributors may increase both the purchasing leverage of key customers and the concentration of credit risk.

Increasingly, a significant portion of our global sales are made to a relatively small number of US drug wholesalers, retail chains and other purchasing organizations. For example, our three most important customers globally are all in the US, and accounted for approximately 9%, 7% and 7%, respectively, of Group net sales in 2011. The largest trade receivables outstanding were for these three customers, amounting to 10%, 6% and 6%, respectively, of the Group's trade receivables at December 31, 2011. The trend has been toward further consolidation among our distributors, especially in the US. As a result, our distributors are gaining additional purchasing leverage, which increases the pricing pressures facing our businesses. Moreover, we are exposed to a concentration of credit risk as a result of this concentration among our customers. If one or more of our major customers experienced financial difficulties, the effect on us would be substantially greater than in the past. This could have a material adverse effect on our business, financial condition and results of operations.

An inability to attract and retain qualified personnel could adversely affect our business.

We highly depend upon skilled personnel in key parts of our organization, and we invest heavily in recruiting and training qualified individuals. The loss of the service of key members of our organization—particularly senior members of our scientific and management teams—could delay or prevent the achievement of major business objectives. In addition, the success of our research and development activities is particularly dependent on our ability to attract and retain sufficient numbers of high-quality researchers and development specialists.

Future economic growth will demand more talented associates and leaders, yet the market for talent will become increasingly competitive. Shifting demographic trends will result in fewer students, fewer graduates and fewer people entering the workforce in the Western world in the next 10 years. The supply of talent for key functional and leadership positions is decreasing, and a talent gap is clearly visible for some professions and geographies—engineers in Germany, for example. Recruitment is increasingly regional or global in specialized fields such as clinical development, biosciences, chemistry and information technology.

Emerging markets are expected to be a driving force in global growth, but in countries like Russia and China there is a limited pool of executives with the training and international experience needed to work successfully in

a global organization like Novartis. Moreover, younger generations around the world have changing expectations toward careers, engagement and the integration of work in their overall lifestyles. Geographic mobility is expected to decrease, and talent in emerging countries anticipate ample career opportunities closer to home than in the past.

We face intense competition for an increasingly limited pool of qualified individuals from numerous pharmaceutical and biotechnology companies, universities, governmental entities and other research institutions. As a result, we may be unable to attract and retain qualified individuals in sufficient numbers, which would have an adverse effect on our business, financial condition and results of operations.

Environmental liabilities may adversely impact our results of operations.

The environmental laws of various jurisdictions impose actual and potential obligations on us to remediate contaminated sites. While we have set aside substantial provisions for worldwide environmental liabilities, there is no guarantee that additional costs will not be incurred beyond the amounts for which we have provided in the Group consolidated financial statements. If we are required to further increase our provisions for environmental liabilities in the future, or if we fail to properly manage environmental risks, this could have a material adverse effect on our business, financial condition and results of operations. For more detail regarding environmental matters, see "Item 4.D Property, Plants and Equipment—Environmental Matters" and "Item 18. Financial Statements—note 20."

Significant disruptions of information technology systems or breaches of data security could adversely affect our business.

Our business is increasingly dependent on critical, complex and interdependent information technology systems, including Internet-based systems, to support business processes as well as internal and external communications. The size and complexity of our computer systems make them potentially vulnerable to breakdown, malicious intrusion and computer viruses, which may result in the impairment of production and key business processes.

In addition, our systems are potentially vulnerable to data security breaches—whether by employees or others—which may expose sensitive data to unauthorized persons. Such data security breaches could lead to the loss of trade secrets or other intellectual property, or could lead to the public exposure of personal information (including sensitive personal information) of our employees, clinical trial patients, customers and others.

Such disruptions and breaches of security could have a material adverse effect on our business, financial condition and results of operations.

Increasing use of social media and mobile technologies could give rise to liability or breaches of data security.

Novartis and our associates are increasingly relying on social media tools and mobile technologies as a means of communications. To the extent that we seek as a company to use these tools as a means to communicate about our products or about the diseases our products are intended to treat, there are significant uncertainties as to either the rules that apply to such communications, or as to the interpretations that health authorities will apply to the rules that exist. As a result, despite our efforts to comply with applicable rules, there is a significant risk that our use of social media and mobile technologies for such purposes may cause us to nonetheless be found in violation of them. In addition, because of the universal availability of social media tools and mobile technologies, our associates may use them in ways that may not be sanctioned by the company, and which may give rise to liability, or which could lead to the loss of trade secrets or other intellectual property, or could lead to the public exposure of personal information (including sensitive personal information) of our employees, clinical trial patients, customers and others. In either case, such uses of social media and mobile technologies could have a material adverse effect on our business, financial condition and results of operations.

Earthquakes could adversely affect our business.

Our corporate headquarters, the headquarters of our Pharmaceuticals and Animal Health Divisions, and certain of our major Pharmaceuticals Division production and research facilities are located near earthquake fault lines in Basel, Switzerland. In addition, other major facilities of our Pharmaceuticals, Alcon, and Vaccines and Diagnostics Divisions are located near major earthquake fault lines in various locations around the world. In the event of a major earthquake, we could experience business interruptions, destruction of facilities and loss of life, all of which could have a material adverse effect on our business, financial condition and results of operations.

Risks Related To Our ADSs

The price of our ADSs and the US dollar value of any dividends may be negatively affected by fluctuations in the US dollar/Swiss franc exchange rate.

Our American Depositary Shares (ADSs) trade on the New York Stock Exchange (NYSE) in US dollars. Since the shares underlying the ADSs are listed in Switzerland on the SIX Swiss Exchange (SIX) and trade in Swiss francs, the value of the ADSs may be affected by fluctuations in the US dollar/Swiss franc exchange rate. In addition, since any dividends that we may declare will be denominated in Swiss francs, exchange rate fluctuations will affect the US dollar equivalent of dividends received by holders of ADSs. If the value of the Swiss franc decreases against the US dollar, the price at which our ADSs trade may—and the value of the US dollar equivalent of any dividend will—decrease accordingly.

Holders of ADSs may not be able to exercise preemptive rights attached to shares underlying ADSs.

Under Swiss law, shareholders have preemptive rights to subscribe for cash for issuances of new shares on a pro rata basis. Shareholders may waive their preemptive rights in respect of any offering at a general meeting of shareholders. Preemptive rights, if not previously waived, are transferable during the subscription period relating to a particular offering of shares and may be quoted on the SIX. US holders of ADSs may not be able to exercise the preemptive rights attached to the shares underlying their ADSs unless a registration statement under the US Securities Act of 1933 is effective with respect to such rights and the related shares, or an exemption from this registration requirement is available. In deciding whether to file such a registration statement, we would evaluate the related costs and potential liabilities, as well as the benefits of enabling the exercise by ADS holders of the preemptive rights associated with the shares underlying their ADSs. We cannot guarantee that a registration statement would be filed, or, if filed, that it would be declared effective. If preemptive rights could not be exercised by an ADS holder, JPMorgan Chase Bank, N.A., as depositary, would, if possible, sell the holder's preemptive rights and distribute the net proceeds of the sale to the holder. If the depositary determines, in its discretion, that the rights could not be sold, the depositary might allow such rights to lapse. In either case, the interest of ADS holders in Novartis would be diluted and, if the depositary allowed rights to lapse, holders of ADSs would not realize any value from the granting of preemptive rights.

Item 4. Information on the Company

4.A History and Development of Novartis

Novartis AG

Novartis AG was incorporated on February 29, 1996 under the laws of Switzerland as a stock corporation (*Aktiengesellschaft*) with an indefinite duration. On December 20, 1996, our predecessor companies, Ciba-Geigy and Sandoz, merged into this new entity, creating Novartis. We are domiciled in and governed by the laws of Switzerland. Our registered office is located at the following address:

Novartis AG
Lichtstrasse 35
CH-4056 Basel, Switzerland
Telephone: 011-41-61-324-1111
Web: www.novartis.com

The Novartis Group is a multinational group of companies specializing in the research, development, manufacturing and marketing of a broad range of healthcare products led by innovative pharmaceuticals. Novartis AG, our Swiss holding company, owns, directly or indirectly, 100% of most significant operating companies. For a list of our significant operating subsidiaries, see "Item 18. Financial Statements—note 31."

Important Corporate Developments 2009-2011

2011

December — Following the seventh interim review of data from the ALTITUDE study with *Tekturna*/*Rasilez* (aliskiren), Novartis decided to terminate the trial based on the recommendation of the independent Data Monitoring Committee (DMC) overseeing the study. The DMC concluded that patients were unlikely to benefit from treatment on top of standard anti-hypertensive medicines, and identified higher adverse events in patients receiving *Tekturna*/*Rasilez* in addition to standard of care in the trial. Novartis has written to healthcare professionals worldwide recommending that hypertensive patients with diabetes should not be treated with *Tekturna*/*Rasilez*, or combination products containing aliskiren, if they are also receiving an angiotensin-converting enzyme (ACE) inhibitors or an angiotensin receptor blocker (ARB). As an additional precautionary measure, Novartis has ceased promotion of *Tekturna*/*Rasilez*-based products for use in combination with an ACE or ARB. A reassessment of the future sales potential of *Tekturna*/*Rasilez* in light of the ALTITUDE results has led to an exceptional charge of approximately $900 million (of which approximately $800 million are non cash) to be recognized in the fourth quarter of 2011. The charge comprises impairments to intangible and manufacturing assets and excess inventory together with trial wind down and other exit costs. The accounting charge is triggered by lower sales expectations and does not seek to anticipate the results of our ongoing discussions with health authorities concerning *Tekturna*/*Rasilez*.

We voluntarily suspended operations and shipments from the OTC Division facility located at Lincoln, Nebraska. This action was taken to accelerate maintenance and other improvement activities at the site. Subsequently, in January 2012, we voluntarily recalled certain OTC Division products, as well as an Animal Health Division product that were produced at the Lincoln facility. We took a charge of $115 million related to the temporary suspension of production at the facility.

Novartis discontinues development of PRT128 for acute coronary syndrome and chronic coronary heart disease, and SMC021 for osteoporosis and osteoarthritis, resulting in intangible asset and other impairment charges of approximately $160 million.

October — Novartis discontinues development of AGO178 for major depressive disorder, resulting in an intangible asset impairment charge of $87 million.

April — Following the acquisition of the remaining non-controlling interest in Alcon, Inc., on April 8, an Extraordinary General Meeting of Novartis shareholders approved the merger of Alcon, Inc. into Novartis, creating the global leader in eye care. As a result, the Alcon Division became the newest division in our strategically diversified healthcare portfolio. In order to complete the transaction, the Extraordinary General Meeting authorized the Board of Directors of Novartis to issue 108 million new shares which, together with 57 million shares held in treasury, were used to fund part of the merger consideration.

Novartis sells global rights to Elidel®, a medicine to treat atopic dermatitis, for $420 million to Meda.

March — Novartis completes acquisition of majority stake in Zhejiang Tianyuan vaccines company in China. The total amount paid for the 85% interest was $194 million, excluding $39 million of cash acquired.

January — Novartis announces agreement to acquire Genoptix, Inc. in an all cash tender offer. The acquisition, which was completed in March, of 100% of the shares of Genoptix totaled $458 million, excluding the $24 million of cash acquired. Genoptix laboratory service offerings are expected to provide a strategic fit with the portfolio of our Molecular Diagnostics unit and to complement our internal capabilities aimed at improving health outcomes by advancing individualized treatment programs.

2010

December — Novartis announces $500 million investment over the next five years in healthcare in Russia, including for the construction of a new Novartis manufacturing plant in St. Petersburg, and the expansion of research and development collaborations and public health alliances. Construction of the manufacturing plant began in June 2011.

	Novartis announces that it has entered into a definitive agreement with Alcon to merge Alcon into Novartis, subject to certain approvals and conditions, which when completed would cause Alcon to be 100% owned by Novartis and enable Alcon to become a new division of Novartis focused on eye care. Novartis also announced the reactivation of its share buyback program.
November	Novartis discontinues development of ASA404 for non-small cell lung cancer, resulting in an intangible asset impairment charge of approximately $120 million.
October	Novartis discontinues development of two investigational compounds: albinterferon alfa-2b for hepatitis C and *Mycograb* for invasive candidiasis, resulting in impairment and other charges of approx $584 million.
September	Novartis Pharmaceuticals Corporation (NPC), a US subsidiary of Novartis AG, agrees to settle civil and criminal investigations by the US Government regarding *Trileptal* and five other products. As part of the settlement, NPC agreed to plead guilty to one misdemeanor, and to pay criminal fines and civil penalties totaling $422.5 million. NPC also entered into a five-year Corporate Integrity Agreement, which will require it to implement additional compliance-related measures.
	Novartis sells US rights to the overactive bladder treatment Enablex® to Warner Chilcott for $400 million in cash.
August	Novartis completes 77% majority ownership of Alcon adding new growth platform in eye care to its leading healthcare portfolio.
July	NPC agrees to settle gender discrimination claims associated with class action brought on behalf of female members of sales force for payment of $152.5 million to eligible class members, and commitment to implement comprehensive programs designed to ensure that all members of its sales force are treated fairly. The court approved the settlement in November.
April	Sandoz announces the acquisition of Oriel Therapeutics. The sale closed in June, gaining rights to a portfolio of respiratory products targeting asthma and COPD.
March	Novartis successfully completes a $5.0 billion bond market transaction in three tranches.
February	Novartis gains exclusive rights to DEB025, an antiviral agent in Phase IIb development as potential first-in-class hepatitis C therapy.
January	Novartis announces its intention to gain full ownership of Alcon by first completing the April 2008 agreement with Nestlé S.A. to acquire a 77% majority stake in Alcon, and subsequently entering into an all-share direct merger with Alcon for the remaining 23% minority stake.

2009

December	Novartis enters into an agreement to acquire Corthera Inc. for $120 million plus potential milestone payments related to the successful development and commercialization of relaxin, a potential treatment for acute decompensated heart failure. The acquisition was completed in February 2010.
	Novartis licenses to Prometheus Laboratories the rights to sell *Proleukin* in the US, commencing in February 2010. Novartis retains the right to sell *Proleukin* outside of the US.
November	Novartis announces $1 billion investment over the next five years to significantly expand the China Novartis Institutes for BioMedical Research so that it would become the largest pharmaceutical research and development institute in China, and the third largest Novartis research institute worldwide.
	Novartis enters into agreement to acquire 85% stake in Chinese vaccines company Zhejiang Tianyuan Bio-Pharmaceutical Co., Ltd., which offers marketed vaccine products in China and research and development projects focused on viral and bacterial diseases, for $125 million.
	Novartis opens large-scale flu cell culture vaccine and adjuvant manufacturing facility in Holly Springs, North Carolina, in partnership with US Department of Health and Human Services, Biomedical Research and Development Authority.

	Novartis announces agreement to obtain rights outside the US to INC424, a promising Janus kinase inhibitor in Phase III development as well as worldwide rights to potential c-Met inhibitor compound, from Incyte Corporation for a combined upfront payment of $150 million as well as an immediate $60 million milestone payment and rights to potential future milestone payments and royalties based on future sales.
October	Novartis gains exclusive worldwide rights to PTK796, a potential first-in-class IV and oral broad-spectrum antibiotic in Phase III development, from Paratek Pharmaceuticals for upfront payment and eligibility for future milestone payments as well as royalties based on future sales.
	Novartis enters into agreement for exclusive US and Canadian rights to *Fanapt*, an FDA-approved oral therapy for schizophrenia, with Vanda Pharmaceuticals Inc. for an upfront payment of $200 million, eligibility for additional milestone payments and sales royalties.
June	Novartis completes an open offer to acquire an additional stake in its majority-owned Indian subsidiary, Novartis India Ltd., increasing its holding to nearly 76.4% from the previous level of 50.9%. The transaction represented a total value of approximately $80 million.
	Novartis successfully launches a EUR 1.5 billion notes issue.
May	Novartis signs definitive agreement to acquire for EUR 925 million ($1.3 billion) the specialty generic injectables business of EBEWE Pharma, providing Sandoz—the Group's generics division—an opportunity to create a global platform for growth while improving access for patients to many generic oncology medicines. The transaction closed in September.
February	Novartis gains worldwide rights to elinogrel (PRT128), a Phase II anti-clotting compound with potential to reduce risk of heart attack and stroke, from Portola Pharmaceuticals Inc. for an upfront payment of $75 million and rights to future milestone payments and royalties based on future sales.
	Novartis successfully completes a $5.0 billion debt offering in the US.

For information on our principal expenditures on property, plants and equipment, see "Item 4. Information on the Company—4.D Property, Plants & Equipment." For information on our significant investments in research and development, see the sections headed "Research and Development" included in the descriptions of our four operating divisions under "Item 4. Information on the Company—4.B Business Overview."

4.B Business Overview

OVERVIEW

Novartis provides healthcare solutions that address the evolving needs of patients and societies worldwide. Our broad portfolio includes innovative medicines, eye care, cost-saving generic pharmaceuticals, preventive vaccines and diagnostic tools, over-the-counter and animal health products. Novartis is the only company to have leadership positions in each of these areas.

The Group's wholly-owned businesses is made up of six global operating divisions and reports its results in five segments:

- Pharmaceuticals: Innovative patent-protected prescription medicines
- Alcon: Surgical, ophthalmic pharmaceutical and vision care products
- Sandoz: Generic pharmaceuticals
- Vaccines and Diagnostics: Human vaccines and blood-testing diagnostics
- Consumer Health: OTC (over-the-counter medicines) and Animal Health

Our strategy is to strengthen our healthcare portfolio through sustained investments in innovation, as well as through targeted acquisitions.

Novartis achieved net sales of $58.6 billion in 2011, while net income amounted to $9.2 billion. We invested $9.6 billion ($9.1 billion excluding impairment and amortization charges) in Research & Development in 2011.

Headquartered in Basel, Switzerland, our Group companies employed approximately 124,000 full-time equivalent associates as of December 31, 2011, and have operations in approximately 140 countries around the world.

Pharmaceuticals Division

Our Pharmaceuticals Division researches, develops, manufactures, distributes and sells patented prescription medicines in the following therapeutic areas (reorganized as of January 1, 2012): Oncology; Primary Care, consisting of Primary Care medicines and Established Medicines; and Specialty Care, consisting of Ophthalmology, Neuroscience, Integrated Hospital Care, and Critical Care medicines. In 2011, the Pharmaceuticals Division accounted for $32.5 billion, or 56%, of Group net sales, and for $8.3 billion, or 71%, of Group operating income (excluding Corporate income and expense, net).

Alcon Division

Our Alcon Division discovers, develops, manufactures, distributes and sells eye care products. Alcon is the global leader in eye care with product offerings in Surgical, Ophthalmic Pharmaceuticals and Vision Care. In Surgical, Alcon develops, manufactures, distributes and sells ophthalmic surgical equipment, instruments, disposable products and intraocular lenses. In Pharmaceutical, Alcon discovers, develops, manufactures, distributes and sells medicines to treat chronic and acute diseases of the eye, as well as over-the-counter medicines for the eye. In Vision Care, Alcon develops, manufactures, distributes and sells contact lenses and lens care products. In 2011, Alcon accounted for $10.0 billion, or 17%, of Group net sales, and for $1.5 billion, or 13%, of Group operating income (excluding Corporate income and expense, net).

Sandoz Division

Our Sandoz Division is a leading global generic pharmaceuticals company that develops, manufactures, distributes and sells prescription medicines, as well as pharmaceutical and biotechnological active substances, which are not protected by valid and enforceable third-party patents. The Sandoz Division has activities in Retail Generics, Anti-Infectives, and Biopharmaceuticals & Oncology Injectables. In Retail Generics, Sandoz develops, manufactures and markets active ingredients and finished dosage forms of pharmaceuticals, as well as supplying active ingredients to third parties. In Anti-Infectives, Sandoz develops and manufactures active pharmaceutical ingredients and intermediates—mainly antibiotics—for internal use by Retail Generics and for sale to third-party customers. In Biopharmaceuticals, Sandoz develops, manufactures and markets protein- or other biotechnology-based products (known as biosimilars or follow-on biologics) and sells biotech manufacturing services to other companies. In Oncology Injectables, Sandoz develops, manufactures and markets primarily cytotoxic products for the hospital market. In 2011, Sandoz accounted for $9.5 billion, or 16%, of Group net sales, and for $1.4 billion, or 12%, of Group operating income (excluding Corporate income and expense, net).

Vaccines and Diagnostics Division

Our Vaccines and Diagnostics Division researches, develops, manufactures, distributes and sells preventive vaccines and diagnostic tools. Novartis Vaccines is a leading global developer and manufacturer of human vaccines. Novartis Diagnostics is a blood testing and molecular diagnostics business dedicated to preventing the spread of infectious diseases through novel blood-screening tools that protect the world's blood supply. In 2011, the Vaccines and Diagnostics Division accounted for $2.0 billion, or 3%, of Group net sales, and an operating loss of $249 million.

Consumer Health

Consumer Health consists of two Divisions: OTC (over-the-counter medicines) and Animal Health. Each has its own research, development, manufacturing, distribution and selling capabilities. However, neither is material enough to the Group to be separately disclosed as a segment. OTC offers readily available consumer medicine. Animal Health provides veterinary products for farm and companion animals. In 2011, Consumer Health accounted for $4.6 billion, or 8%, of Group net sales, and for $727 billion, or 6%, of Group operating income (excluding Corporate income and expense, net).

PHARMACEUTICALS

Overview

Our Pharmaceuticals Division is a world leader in offering innovation-driven, patent-protected medicines to patients and physicians.

The Pharmaceuticals Division researches, develops, manufactures, distributes and sells patented pharmaceuticals in the following therapeutic areas:

- Oncology
- Primary Care
  - Primary Care medicines
  - Established Medicines
- Specialty Care
  - Ophthalmology
  - Neuroscience
  - Integrated Hospital Care
  - Critical Care

The Pharmaceuticals Division is organized into global business franchises responsible for the commercialization of various products as well as Novartis Oncology, a business unit responsible for the global development and commercialization of oncology products; and Novartis Molecular Diagnostics, a business responsible for the development and commercialization of diagnostic tests and services related to our pharmaceuticals portfolio and therapeutic areas.

Prior to January 1, 2012, the therapeutic areas of the Pharmaceuticals Division were divided into the following franchises: Cardiovascular and Metabolism, Oncology (including Hematology), Neuroscience and Ophthalmics, Respiratory, Integrated Hospital Care, and Other additional products. The tables, product descriptions and other information set forth below in this Item 4.B reflect the new organization which took effect as of January 1, 2012. However, we continue to provide certain historical information elsewhere in this 20-F, including certain sales data, organized by the prior therapeutic areas.

The Pharmaceuticals Division is the largest contributor among the six divisions of Novartis and reported consolidated net sales of $32.5 billion in 2011, which represented 56% of the Group's net sales.

The division is made up of approximately 80 affiliated companies which together employed 60,527 full-time equivalent associates as of December 31, 2011, and sell products in approximately 140 countries. The product portfolio of the Pharmaceuticals Division includes more than 40 key marketed products, many of which are leaders in their respective therapeutic areas. In addition, the division's portfolio of development projects includes 130 potential new products, and new indications or new formulations for existing products in various stages of clinical development.

Pharmaceuticals Division Products

The following table and summaries describe certain key marketed products, including recently launched products, in our Pharmaceuticals Division. While we intend to sell our marketed products throughout the world, not all products and indications are currently available in every country. Compounds and new indications in development are subject to required regulatory approvals and, in certain instances, contractual limitations. These compounds and indications are in various stages of development throughout the world. It may not be possible to obtain regulatory approval for any or all of the new compounds and new indications referred to in this Form 20-F in every country, or at all. In addition, for some of our products, we are required to conduct post-approval studies (Phase IV) to evaluate long-term effects or to gather information on the use of the products under special conditions. See "—Regulation" for further information on the approval process. Certain of the products listed below have lost patent protection or are otherwise subject to generic competition. Others are subject to patent challenges by potential generic competitors. See below and "—Intellectual Property" for further information on the patent status of our Pharmaceuticals Division's products.

Key Marketed Products

Therapeutic area	Product	Common name	Indication[1]	Formulation
Oncology	*Afinitor/Votubia*	everolimus	Advanced renal cell carcinoma after failure of treatment with VEGF-targeted therapy Advanced pancreatic neuroendocrine tumors SEGA associated with tuberous sclerosis	Tablet
	Exjade	deferasirox	Chronic iron overload due to blood transfusions	Dispersible tablet for oral suspension
	Femara	letrozole	Hormone receptor positive early breast cancer in postmenopausal women following surgery (upfront adjuvant therapy) Early breast cancer in post-menopausal women following standard tamoxifen therapy (extended adjuvant therapy) Advanced breast cancer in post-menopausal women (both as first- and second-line therapies)	Tablet
	Gleevec/ Glivec	imatinib mesylate/ imatinib	Certain forms of chronic myeloid leukemia Certain forms of gastrointestinal stromal tumors Certain forms of acute lymphoblastic leukemia Dermatofibrosarcoma protuberans Hypereosinophilic syndrome Aggressive systemic mastocytosis Myelodysplastic/myeloproliferative diseases	Tablet
	Sandostatin LAR & Sandostatin SC	octreotide acetate for injectable suspension & octreotide acetate	Acromegaly Symptom control for certain forms of neuroendocrine tumors Delay of tumor progression in patients with midgut tumors	Vial Ampoule/pre-filled syringe
	Tasigna	nilotinib	Certain forms of chronic myeloid leukemia in patients resistant or intolerant to prior treatment including *Gleevec*/*Glivec* First line CML	Capsule
	Zometa	zoledronic acid	Skeletal-related events from bone metastases (cancer that has spread to the bones) hypercalcemia of malignancy	Vial Ready-to-use

[1] Indications vary by country.

Therapeutic area	Product	Common name	Indication[1]	Formulation
Primary Care ***Primary Care***	*Amturnide*	aliskiren, amlodipine besylate and hydrochlorothiazide	Hypertension	Tablet
	Arcapta Neohaler/ Onbrez Breezhaler	indacaterol	Chronic obstructive pulmonary disease	*Neohaler/Breezhaler* inhaler (powder in hard capsules for inhalation)
	Diovan	valsartan	Hypertension Heart failure Post-myocardial infarction	Capsule Tablet Oral Solution
	Diovan HCT/ Co-Diovan	valsartan and hydrochlorothiazide	Hypertension	Tablet
	Eucreas	vildagliptin and metformin	Type 2 diabetes	Tablet
	Exforge	valsartan and amlodipine besylate	Hypertension	Tablet
	Exforge HCT	valsartan, amlodipine besylate and hydrochlorothiazide	Hypertension	Tablet
	Galvus	vildagliptin	Type 2 diabetes	Tablet
	Tekturna/ Rasilez	aliskiren	Hypertension	Tablet
	Tekturna HCT/ Rasilez HCT	aliskiren and hydrochlorothiazide	Hypertension	Tablet
	Tekamlo/ Rasilamlo	aliskiren and amlodipine besylate	Hypertension	Tablet
	Valturna	aliskiren and valsartan	Hypertension	Tablet

[1] Indications vary by country.

Therapeutic area	Product	Common name	Indication[1]	Formulation
Established Medicines	*Clozaril*/ *Leponex*	clozapine	Treatment-resistant schizophrenia Prevention and treatment of recurrent suicidal behavior in patients with schizophrenia and psychotic disorders	Tablet
	Coartem/ *Riamet*	artemether and lumefantrine	Plasmodium falciparum malaria or mixed infections that include Plasmodium falciparum Standby emergency malaria treatment	Tablet Dispersible tablet for oral suspension
	Famvir	famciclovir	Acute herpes zoster including ophthalmic herpes zoster and decreased duration of post herpetic neuralgia Acute treatment of first episode and recurrent genital herpes infections, and for the suppression of recurrent genital herpes Treatment of recurrent herpes labialis (cold sores) Indicated in immuno- compromised patients with herpes zoster or herpes simplex infections	Tablet
	Focalin & *Focalin XR*	dexmethylphenidate HCl & dexmethylphenidate extended release	Attention deficit hyperactivity disorder	Tablet Capsule
	Foradil	formoterol	Asthma Chronic obstructive pulmonary disease	*Aerolizer* (capsules) Aerosol
	Lamisil	terbinafine	Fungal infection of the skin and nails caused by dermatophyte fungi Tinea capitis Fungal infections of the skin for the treatment of tinea corporis, tinea cruris, tinea pedis and yeast infections of the skin caused by the genus Candida (e.g. Candida albicans)	Tablet Cream DermGel Solution Spray
	Lescol/ *Lescol XL*	fluvastatin sodium	Hypercholesterolemia and mixed dyslipidemia in adults Secondary prevention of major adverse cardiac events Slowing the progression of atherosclerosis Heterozygous familial hypercholesterolemia in children and adolescents	Capsule Tablet
	Lotensin/ *Cibacen*	benazepril hydrochloride	Hypertension Adjunct therapy in congestive heart failure Progressive chronic renal insufficiency	Tablet
	Lotensin HCT/ *Cibadrex*	benazepril hydrochloride and hydrochlorothiazide	Hypertension	Tablet
	Miacalcin/ *Miacalcic*	salmon calcitonin	Osteoporosis Bone pain associated with osteolysis and/or osteopenia Paget's disease Neurodystrophic disorders (synonymous with algodystrophy or Sudeck's disease) Hypercalcemia	Nasal spray Ampoule & multi-dose Vial for injection or infusion
	Reclast/ *Aclasta*	zoledronic acid/ zoledronic acid 5 mg	Treatment of osteoporosis in postmenopausal women to reduce the incidence of hip, vertebral and non-vertebral fractures, and to increase bone mineral density Prevention of clinical fractures after hip fracture in men and women Treatment of osteoporosis in men Treatment and prevention of glucocorticoid-induced osteoporosis Prevention of postmenopausal osteoporosis Treatment of Paget's disease of the bone	Intravenous infusion

[1] Indications vary by country.

Therapeutic area	Product	Common name	Indication[1]	Formulation
	Ritalin & *Ritalin LA*	methylphenidate HCl & methylphenidate HCl modified release	Attention deficit hyperactivity disorder and narcolepsy Attention deficit hyperactivity disorder	Tablet
	Tegretol	carbamazepine	Epilepsy Pain associated with trigeminal neuralgia Acute mania and bipolar affective disorders	Tablet Chewable tablet Oral suspension Suppository
	Trileptal	oxcarbazepine	Epilepsy	Tablet Oral suspension
	Vivelle Dot/ *Estradot*	estradiol hemihydrate	Estrogen replacement therapy for the treatment of the symptoms of menopause Prevention of postmenopausal osteoporosis	Transdermal patch
	Voltaren/ *Cataflam*	diclofenac sodium/ potassium/resinate/ free acid	Inflammatory and degenerative forms of rheumatism Post-traumatic and post-operative pain, inflammation and swelling Painful and/or inflammatory conditions such as migraine, ear, nose and throat, or dysmenorrhoea	Tablet Capsule Oral drop Ampoule for injection Suppository Gel Powder for oral solution Transdermal patch

[1] Indications vary by country.

Therapeutic area	Product	Common name	Indication[1]	Formulation
Specialty Care				
Opthalmology	*Lucentis*	ranibizumab	Wet age-related macular degeneration Visual impairment due to diabetic macular edema Visual impairment due to macular edema secondary to retinal vein occlusion	Intravitreal injection
Neuroscience	*Comtan*	entacapone	Parkinson's disease	Tablet
	Exelon & Exelon Patch	rivastigmine tartrate & rivastigmine transdermal system	Mild-to-moderate Alzheimer's disease dementia Dementia associated with Parkinson's disease	Capsule Oral solution Transdermal patch
	Extavia	interferon beta-1b	Relapsing remitting and/or relapsing forms of multiple sclerosis (MS) in adult patients	Subcutaneous injection
	Fanapt	iloperidone	Schizophrenia	Tablet
	Gilenya	fingolimod	Relapsing forms of multiple sclerosis	Capsule
	Stalevo	carbidopa, levodopa and entacapone	Parkinson's disease patients who experience end-of-dose motor (or movement) fluctuations	Tablet
Integrated Hospital Care	*Cubicin*	daptomycin	Complicated skin and soft tissue infections (cSSTI) Right-sided endocarditis (RIE) due to Staphylococcus aureus Staphylococcus aureus bacteremia when associated with RIE or cSSTI	Powder for solution, injection or infusion
	Ilaris	canakinumab	Cryopyrin-associated periodic syndrome (CAPS)	Lyophilized powder for reconstitution for subcutaneous injection
	Myfortic	mycophenolic acid/ mycophenolate sodium, USP	Prevention of graft rejection following kidney transplantation	Tablet
	Neoral/ Sandimmune	cyclosporine, USP Modified	Prevention of rejection following certain organ transplantation Non-transplantation autoimmune conditions such as severe psoriasis and severe rheumatoid arthritis	Capsule Oral solution
	Simulect	basiliximab	Prevention of acute organ rejection in de novo renal transplantation	Vial for injection or infusion
	Tyzeka/Sebivo	telbivudine	Chronic hepatitis B	Tablet Oral solution
	Zortress/ Certican	everolimus	Prevention of organ rejection (heart and kidney)	Tablet Dispersible tablet for oral suspension
Critical Care	*Tobi/Tobi Podhaler*	tobramycin	Pseudomonas aeruginosa infection in cystic fibrosis	*Nebulizer* solution/ Inhalation powder
	Xolair	omalizumab	Allergic asthma	Lyophilized powder for reconstitution and liquid formulation in pre-filled syringes as subcutaneous injection

[1] Indications vary by country.

Selected Leading Products

Oncology

- *Gleevec/Glivec* (imatinib mesylate tablets/imatinib) is a signal transduction inhibitor approved to treat patients with certain forms of chronic myeloid leukemia (CML) and gastrointestinal stromal tumors (GIST). First launched in 2001, *Gleevec/Glivec* is available in more than 110 countries. *Gleevec/Glivec* is indicated for the treatment of newly diagnosed adult and pediatric patients with a form of CML.

Gleevec/*Glivec* is also approved in the US, EU and Japan to treat Philadelphia chromosome positive (Ph+) acute lymphoblastic leukemia, a rapidly progressive form of leukemia; and approved in the US and EU to treat dermatofibrosarcoma protuberans, a rare solid tumor; hypereosinophilic syndrome and myelodysplastic/myeloproliferative diseases; and other rare blood disorders. In the US, *Gleevec*/*Glivec* is also approved for aggressive systemic mastocytosis. *Gleevec*/*Glivec* has received approvals as a post-surgery (adjuvant setting) therapy for KIT+ GIST in more than 60 countries, including the US and EU. The CHMP also adopted a positive opinion in January 2012 recommending that the *Glivec* label be updated to include three years of adjuvant treatment for patients with resected KIT+ GIST. The FDA also granted a priority review of these data for the label.

- *Tasigna* (nilotinib) is a signal transduction inhibitor of the tyrosine kinase activity of Bcr-Abl, KIT+ and the PDGF-receptor. Since 2007, *Tasigna* has gained regulatory approval in more than 90 countries including the US, EU, Switzerland and Japan, to treat patients with a form of CML in chronic and/or accelerated phase patients resistant or intolerant to existing treatment including *Gleevec*/*Glivec*. Results from the global, randomized Phase III trial called ENESTnd (Evaluating Nilotinib Efficacy and Safety in Clinical Trials of Newly Diagnosed Ph+ CML Patients), a head-to-head comparison against *Gleevec*/*Glivec,* showed that *Tasigna* produced faster and deeper responses than *Gleevec*/*Glivec* in adult patients with newly-diagnosed Ph+ CML. The ENESTnd 36-month follow-up confirmed that *Tasigna* continued to surpass *Gleevec*/*Glivec* in inducing a deeper and more durable cytogenetic and molecular response and showed a lower incidence in transformation to accelerated phase and blast crisis. Results from ENESTcmr, the first randomized trial in patients with Ph+ CML to investigate the impact of switching adult patients with residual disease after a minimum of two years of treatment with *Gleevec*/*Glivec* to *Tasigna,* showed that 23% of the patients switched to *Tasigna* achieved undectable levels of Bcr-Abl within 12 months compared to 11% who continued on *Gleevec*/*Glivec.* The study showed a two-fold difference in confirmed undetectable CML for patients on *Tasigna* versus patients on *Gleevec*/*Glivec* although statistical significance was not achieved. *Tasigna* is now approved in 50 markets including the US, EU, Japan, and Switzerland for the treatment of adult patients with a form of newly diagnosed CML. The clinical trial ENESTg1 comparing *Tasigna* to *Gleevec*/*Glivec* in newly diagnosed patients with unresectable and/or metastatic gastrointestinal stromal tumors was discontinued following the recommendation of an independent data monitoring committee. Interim efficacy results indicated that *Tasigna* was unlikely to show superiority. A trial is underway examining the use of *Tasigna* in patients with c-KIT mutated, advanced melanoma.
- *Zometa* (zoledronic acid for injection/zoledronic acid 4 mg) is a leading treatment to reduce or delay skeletal-related events (SREs), including pathologic fracture, spinal cord compression, and/or requirement of radiation therapy or surgery to bone, in patients with bone metastases (cancer that has spread to the bones) from solid tumors and multiple myeloma. First approved in the US in 2001 for the treatment of hypercalcemia of malignancy (tumor-induced excessive levels of calcium), *Zometa* is approved in more than 100 countries for this indication as well as for the treatment of patients with multiple myeloma and patients with bone metastasis from solid malignancies, including prostate, breast and lung cancer. A new ready-to-use (RTU) formulation of *Zometa* was approved by the FDA in June 2011 and launched in September 2011, offering improved convenience of use. The EMA approved this formulation in August 2011 and the product was launched in October in countries including Germany, Austria, UK, Ireland, Sweden, Denmark, Norway, Finland, Netherlands, Portugal, and Slovenia. Zoledronic acid, the active ingredient in *Zometa*, is also available under the trade names *Reclast*/*Aclasta* for use in non-oncology indications. *Zometa* and *Reclast*/*Aclasta* face significant competition from denosumab, a new Amgen product approved for the treatment of postmenopausal osteoporosis and cancer treatment-induced bone loss in the oncology setting, for SRE reduction or delay in patients with advanced malignancy involving bone. Denosumab is not approved in the multiple myeloma setting.
- *Femara* (letrozole) is a once-daily oral aromatase inhibitor for the treatment of early stage or advanced breast cancer in postmenopausal women. *Femara* was first launched in 1996 and is currently available in more than 90 countries. *Femara* is approved in the US, EU and other countries in the adjuvant, extended adjuvant and neoadjuvant settings for early stage breast cancer. *Femara* is also approved in the US and other countries as adjuvant therapy for locally advanced breast cancer and for advanced breast cancer following anti-estrogen therapy. *Femara* is approved as neo-adjuvant (pre-operative) therapy for early stage breast cancer in a limited number of countries. In Japan, *Femara* is approved for the treatment of all hormone receptor-positive breast cancer in postmenopausal women. *Femara* faced generic challenges in 2011 when the patent on its active ingredient, letrozole, expired in the US and major countries in Europe. See "—Intellectual Property" below for further information on the patent status of *Femara*.

- *Sandostatin SC*/*Sandostatin LAR* (octreotide acetate/octreotide acetate for injectable suspension) is indicated for the treatment of patients with acromegaly, a chronic disease caused by over-secretion of pituitary growth hormone in adults. *Sandostatin* is also indicated for the treatment of patients with certain symptoms associated with carcinoid tumors and other types of gastrointestinal and pancreatic neuroendocrine tumors. Additionally, *Sandostatin LAR* is approved in more than 25 countries for the delay of tumor progression in patients with midgut carcinoid tumors. *Sandostatin* was first launched in 1988 and is approved in more than 100 countries. *Sandostatin SC* faces worldwide generic competition. Formulation patents covering *Sandostatin LAR* expired in July 2010 in all countries except the US, where the expiration of formulation patents begins from the end of 2014. The expiration of the last formulation patent in the US will be in January 2017. There are currently no equivalent versions of *Sandostatin LAR* approved in any markets.
- *Exjade* (deferasirox) is an oral iron chelator approved for the treatment of chronic iron overload due to blood transfusions in patients over two years of age who have a wide range of underlying anemias. Patients with congenital and acquired chronic anemia, such as thalassemia, sickle cell disease and myelodysplastic syndromes, require transfusions, which puts them at risk of iron overload. *Exjade* was first approved in 2005 and is now approved in more than 100 countries, including the US, EU and Japan.
- *Afinitor*/*Votubia* (everolimus), an oral inhibitor of the mTOR pathway, *Afinitor* is approved in more than 80 countries and regions including the US, EU and Japan for advanced renal cell carcinoma following vascular endothelial growth factor-targeted therapy. *Afinitor* was approved in May 2011 in the US, in September 2011 in the EU, and in December 2011 in Japan for the treatment of advanced progressive neuroendocrine tumors of pancreatic origin. Everolimus is also approved in 40 countries including in the US as *Afinitor* and the EU as *Votubia* to treat patients with subependymal giant cell astrocytoma (SEGA) associated with tuberous sclerosis complex (TSC) who require therapeutic intervention but are not candidates or amenable for surgery. Additional Phase III data examining this patient population, EXIST-1, met its primary endpoint of SEGA response rate and supports these regulatory approvals. Everolimus, the active ingredient in *Afinitor*, is also available under the trade names *Zortress*/*Certican* for use in transplantation, and is exclusively licensed to Abbott and sublicensed to Boston Scientific for use in drug-eluting stents.

Primary Care

Primary Care

- *Arcapta Neohaler*/*Onbrez Breezhaler* (indacaterol) is a long-acting beta$_2$-agonist delivered in a single-dose dry powder inhaler indicated for long-term, once-daily maintenance bronchodilator treatment of airflow obstruction in patients with chronic obstructive pulmonary disease (COPD). *Onbrez Breezhaler* was first approved in the EU in November 2009 at two dose strengths, 150 mcg and 300 mcg, once-daily and is now approved in more than 80 countries. In July 2011, the FDA approved a 75 mcg once-daily dose of indacaterol under its US trade name, *Arcapta Neohaler,* and Japanese regulatory authorities approved *Onbrez Inhalation Capsules* in a 150 mcg once-daily dose. In Germany, the reimbursed price of *Onbrez Breezhaler* was reduced below that of generic LABAs from October 1, 2011, following a reference pricing review. We will maintain current prices in Germany, as we remain convinced that once-daily *Onbrez Breezhaler* offers additional benefits over existing LABAs, as described in the EU-approved label. Consequently an additional co-payment for *Onbrez Breezhaler* will be required for many patients in Germany.
- *Diovan* (valsartan), together with *Diovan HCT*/*Co-Diovan* (valsartan and hydrochlorothiazide), is the world's number one selling high blood pressure medication (IMS August 2011; 59 countries audited). *Diovan* is the only agent in its class approved to treat all of the following: high blood pressure (including children 6 to 16 years), high-risk heart attack survivors and patients with heart failure. First launched in 1996, *Diovan* is available in more than 120 countries for treating high blood pressure, in more than 90 countries for heart failure, and in more than 70 countries for heart attack survivors. First launched in 1997, *Diovan HCT*/*Co-Diovan* is approved in over 100 countries worldwide. In July 2008, the FDA approved *Diovan HCT* for the first-line treatment of hypertension in patients unlikely to achieve blood pressure control on a single agent. In 2009, *Co-Diovan* was approved for treatment of high blood pressure in Japan. In September 2010, all 27 European Union (EU) member states locally approved *Diovan* for use in children aged 6 to 18 years. *Diovan* faced generic challenges in 2011 when the patent on its active ingredient, valsartan, expired in the major countries of the EU, with patent expirations in the US and

Japan to follow in 2012 and 2013 respectively. See "—Intellectual Property" below for further information on the patent status of *Diovan*.

- *Exforge* (valsartan and amlodipine besylate) is a single-pill combination of the angiotensin receptor blocker *Diovan* and the calcium channel blocker amlodipine besylate. First approved for the treatment of high blood pressure in Switzerland in 2006, and in the US and EU in 2007, it is now available in more than 80 countries. In 2008, the FDA approved *Exforge* for the first-line treatment of hypertension in patients likely to need multiple drugs to achieve their blood pressure goals. In January 2010, *Exforge* was approved in Japan and also launched in China. *Exforge HCT* (valsartan, amlodipine besylate and hydrochlorothiazide) is a single pill combining three widely prescribed high blood pressure treatments: an ARB (valsartan), CCB (amlodipine) and diuretic HCT (hydrochlorothiazide). *Exforge HCT* was approved in the EU and the US in 2009, and is now available in more than 40 countries.
- *Tekturna*/*Rasilez* (aliskiren) is a treatment for high blood pressure, and the first and only approved direct renin inhibitor. *Tekturna*/*Rasilez* was approved in the US and EU in 2007, and is now approved in more than 100 countries. The product is known as *Tekturna* in the US and *Rasilez* in the rest of the world. There are various *Tekturna*/*Rasilez* single-pill combination products. The first single-pill combination product, *Tekturna*/*Rasilez* with hydrochlorothiazide was approved by the US in 2008 as *Tekturna HCT*, and in the EU in 2009, where it is known as *Rasilez HCT*. A second single-pill combination product, *Tekturna*/*Rasilez* with valsartan, called *Valturna* in the US, was launched in the US in 2009. The single-pill combination of *Tekturna*/*Rasilez* with the calcium channel blocker amlodipine besylate, known as *Tekamlo* in the US and *Rasilamlo* in the EU, was approved by the FDA in August 2010 and launched in January 2011. It was approved by the European Commission in April 2011. The single-pill triple combination of *Tekturna*/*Rasilez* with amlodipine besylate and hydrochlorothiazide was approved in the US in December 2010 and launched in January 2011 under the product name *Amturnide*. Under the tradename *Rasitrio*, the triple combination was approved in the EU in November 2011. In December 2011, Novartis announced the termination of the ALTITUDE study which was investigating *Tekturna*/*Rasilez* in a high-risk population of patients with type 2 diabetes and renal impairment. This action was taken on the recommendation of the independent Data Monitoring Committee (DMC) overseeing the trial, after a higher risk of adverse events was identified in patients receiving *Tekturna*/*Rasilez* than those on placebo. Following discussions with health authorities, Novartis has written to healthcare professionals worldwide recommending that hypertensive patients with diabetes should not be given *Tekturna*/*Rasilez*-based products in combination with an ACE inhibitor or ARB, and that *Valturna* should not be given to diabetic patients. As an additional precautionary measure, Novartis has ceased promotion of *Tekturna*/*Rasilez*-based products for use in combination with an ACE or ARB. These products remain available for appropriate patients.
- *Galvus* (vildagliptin), an oral treatment for type 2 diabetes, and *Eucreas*, a single-pill combination of vildagliptin and metformin, have shown promising results during the rollout in Europe following approvals in 2007. *Galvus* is currently approved in 89 countries and has been launched in 68. *Galvus* was most recently approved in China in August 2011. *Eucreas* was the first single-pill combining a DPP-4 inhibitor and another medication to be launched in Europe. *Eucreas* is currently approved in 79 countries and has been launched in 56 countries.

Established Medicines

- *Reclast*/*Aclasta* (zoledronic acid 5 mg) is the first and only once-yearly bisphosphonate infusion for the treatment of different forms of osteoporosis, and for the treatment of Paget's disease of the bone in men and women. Sold as *Reclast* in the US and *Aclasta* in the rest of the world, the product is approved in more than 90 countries including the US, EU and Canada, and is the only bisphosphonate approved to reduce the incidence of fractures at all three key fracture sites (hip, spine and non-spine) in the treatment of postmenopausal osteoporosis. The *Reclast*/*Aclasta* label was expanded in the EU and US to include the reduction in the incidence of clinical fractures after a low trauma hip fracture. The EU has also approved *Aclasta* for the treatment of osteoporosis in men at increased risk of fracture and for the treatment of osteoporosis associated with long-term systemic glucocorticoid therapy in post-menopausal women and in men at increased risk of fracture. *Reclast* is also approved in the US as a treatment to increase bone mass in men with osteoporosis, the prevention and treatment of glucocorticoid-induced osteoporosis in men and women, as well as for the prevention of osteoporosis in postmenopausal women. Zoledronic acid, the active ingredient in *Reclast*/*Aclasta*, is also approved in a number of countries in a different dosage under the trade name *Zometa* for certain oncology indications. *Zometa* and *Reclast*/*Aclasta* face significant competition from denosumab, a new Amgen product approved for the treatment of postmenopausal

osteoporosis and cancer treatment-induced bone loss in the oncology setting, for SRE reduction or delay in patients with advanced malignancy involving bone.

- *Voltaren*/*Cataflam* (diclofenac sodium/potassium/resinate/free acid) is a leading non-steroidal anti-inflammatory drug (NSAID) for the relief of symptoms in rheumatic diseases such as rheumatoid arthritis and osteoarthritis, and for various other inflammatory and pain conditions. *Voltaren*/*Cataflam* was first launched in 1973 and is available in more than 140 countries. This product, which is subject to generic competition, is marketed by the Pharmaceuticals Division in a wide variety of dosage forms, including tablets, drops, suppositories, ampoules and topical therapy. In addition, in various countries, our OTC Division markets low-dose oral forms and the topical therapy of *Voltaren* as over-the-counter products.
- *Ritalin, Ritalin LA, Focalin* and *Focalin XR* (methylphenidate HCl, methylphenidate HCl extended release, dexmethylphenidate HCl and dexmethylphenidate HCl extended release) are indicated for the treatment of attention deficit hyperactivity disorder (ADHD) in children and *Focalin XR* is additionally indicated for adults. *Ritalin* and *Ritalin LA* are also indicated for pediatric and adult narcolepsy. *Ritalin* was first marketed during the 1950s and is available in over 50 countries. *Ritalin LA* is available in over 20 countries. *Focalin* comprises the active d-isomer of methylphenidate and therefore requires half the dose of *Ritalin*. *Focalin XR* is now approved in Switzerland. *Focalin* and *Focalin XR* is available in the US. Immediate-release *Focalin* is subject to generic competition.

Specialty Care

Ophthalmology

- *Lucentis* (ranibizumab) is a recombinant humanized high affinity antibody fragment that binds to vascular endothelial growth factors. *Lucentis* is the first approved drug for wet age-related macular degeneration that has been shown to improve vision and vision-related quality of life. *Lucentis* was approved in the EU in 2007. It is now approved in more than 100 countries. In January 2011, the European Commission granted Novartis a new indication for *Lucentis* for the treatment of visual impairment due to diabetic macular edema, and since August 2010 it has been filed for this same indication elsewhere around the world, outside of the US. In May 2011, the European Commission approved a new indication for *Lucentis* for the treatment of visual impairment due to macular edema secondary to retinal vein occlusion. *Lucentis* is developed in collaboration with Genentech, which holds the rights to market the product in the US.

Neuroscience

- *Gilenya* (fingolimod) is the first in a new class of multiple sclerosis (MS) therapy called sphingosine 1-phosphate receptor modulators. *Gilenya* is the first approved oral disease-modifying treatment for MS in the US, a major advance for people with relapsing MS, the most common forms of the disease. *Gilenya* showed superior efficacy by reducing relapses by 52% at one year ($p < .001$) compared to interferon beta-1a IM, a current standard of care. A two-year, placebo-controlled study showed that *Gilenya* significantly reduced the risk of disability progression. *Gilenya* has a well-studied safety and tolerability profile with over 2,600 MS clinical trial patients included in the FDA regulatory review, with some patients in their seventh year of treatment. *Gilenya* is approved as a first line treatment for relapsing forms of MS in the US. In the EU, *Gilenya* was approved in March 2011 as a disease modifying therapy in patients with highly active relapsing-remitting multiple sclerosis (RRMS) despite treatment with beta interferon, or in patients with rapidly evolving severe RRMS. *Gilenya* is currently approved in over 55 countries around the world. In September 2011, *Gilenya* received regulatory approval in Japan for the prevention of relapse and delay of progression of physical disability in adults with MS. *Gilenya* is licensed from Mitsubishi Tanabe Pharma Corporation. Novartis is working with the European Medicines Agency (EMA) and the US Food and Drug Administration (FDA) on their reviews of the benefits and risks of *Gilenya* that were initiated following the report of a patient death that occurred within 24 hours after receiving the first dose of *Gilenya* in November 2011. The FDA has stated that, at this time, it cannot conclude whether the drug resulted in the November 2011 patient death. According to the EMA, the cause of that patient death is still unexplained. In addition the EMA described 10 other deaths as being of potential interest but noted that the role of *Gilenya* in these deaths has not been established. These other events preceded the November 2011 death, and were reported to the health authorities per regulations. During the EMA review process and following the recent consultation with the EU Committee for Medicinal Products for Human Use (CHMP), Novartis is in the process of notifying physicians of new interim recommendations regarding the initiation of treatment with *Gilenya* in the European Union to be effective immediately. This includes the addition of continuous electrocardiogram (ECG) monitoring during the six-hour observation period

following the first dose. First dose monitoring is already recommended in the *Gilenya* label. In patients who meet certain specified criteria, monitoring should be extended.

- *Exelon* (rivastigmine tartrate) and *Exelon Patch* (rivastigmine transdermal system): *Exelon* capsules have been available since 1997 to treat mild to moderate Alzheimer's disease (AD) dementia in more than 90 countries. In 2006, *Exelon* became the only cholinesterase inhibitor to be approved for mild to moderate Parkinson's disease dementia in addition to AD in both the US and EU. *Exelon Patch* was approved in 2007 in the US and EU and has been launched in more than 60 countries. The once-daily *Exelon Patch* has shown comparable efficacy to the highest recommended doses of *Exelon* capsules, with significant improvement in cognition and overall functioning compared to placebo. *Exelon* capsules are now subject to generic competition in several markets, including the US.
- *Extavia* (interferon beta-1b) is an injectable disease modifying therapy for relapsing forms of multiple sclerosis (MS), as well as for patients who have had a single episode/demyelinating event and MRI findings consistent with MS in both the US and EU and for secondary progressive MS with active disease, evidenced by relapses in the EU. It is the Novartis brand of interferon beta-1b, a product also marketed by Bayer Healthcare Pharmaceuticals Inc. under the brand name Betaseron® in the US and by Bayer Schering Pharma under the brand name Betaferon® in the EU. Bayer Schering supplies the product to Novartis under an agreement reached in 2007. *Extavia* was first approved in the EU in 2008 and since 2009 has been launched in more than 20 markets, including the US.
- *Comtan* and *Stalevo* (entacapone and carbidopa, levodopa and entacapone) are indicated for the treatment of Parkinson's disease. *Stalevo* (carbidopa, levodopa and entacapone) is indicated for certain Parkinson's disease patients who experience end-of-dose motor (or movement) fluctuations, known as "wearing off". *Stalevo* was approved in the US and EU in 2003, and is available from Novartis in more than 50 countries. *Comtan* (entacapone) is also indicated for the treatment of Parkinson's disease patients who experience end-of-dose wearing off and is marketed in approximately 50 countries. Both products are marketed by Novartis under a licensing agreement with the Orion Corporation. *Stalevo* and *Comtan* were developed and are manufactured by Orion, and are marketed by Novartis and Orion in their respective territories.

Integrated Hospital Care

- *Zortress*/*Certican* (everolimus) is an mTOR inhibitor with immunosuppressant and anti-proliferative properties indicated for the prevention of transplant rejection in combination with basiliximab and concurrently with reduced doses of cyclosporine and corticosteroids. It has been sold as *Zortress* in the US since April 2010 and as *Certican* in the rest of the world since 2003. It is approved in the US for the prophylaxis of organ rejection in adult patients at low to moderate immunological risk receiving an allogenic renal transplant, and launched in more than 85 countries for the prophylaxis of organ rejection in adult patients at low to moderate immunological risk receiving an allogenic renal or cardiac transplant. Everolimus, the active ingredient in *Zortress*/*Certican*, is also available under the trade names *Afinitor* and *Votubia* for certain other indications, and is exclusively licensed to Abbott and sublicensed to Boston Scientific for use in drug-eluting stents.
- *Ilaris* (canakinumab) is a fully human monoclonal antibody that selectively binds and neutralizes interleukin-1β (IL-1β), a pro-inflammatory cytokine. Since 2009, *Ilaris* has been approved in over 50 countries for the treatment of children and adults suffering from cryopyrin associated periodic syndrome (CAPS), a group of rare disorders characterized by chronic recurrent fever, urticaria, occasional arthritis, deafness, and potentially life threatening amyloidosis.
- *Neoral* (cyclosporine, USP Modified) is an immunosuppressant to prevent organ rejection following a kidney, liver, or heart transplant. *Neoral* is also approved for use in lung transplant in many countries outside of the US. This micro-emulsion formulation of cyclosporine is also indicated for treating selected autoimmune disorders such as psoriasis and rheumatoid arthritis. First launched in 1995, *Neoral* is marketed in approximately 100 countries. This product is subject to generic competition.
- *Myfortic* (enteric-coated formulation of mycophenolate sodium) is approved in more than 90 countries for the prevention of acute rejection of kidney allografts, and is indicated in combination with cyclosporine and corticosteroids. *Myfortic* was first approved in the US in 2004 and in the EU in 2003.

Critical Care

- *Xolair* (omalizumab) is the first humanized monoclonal antibody approved for the treatment of moderate to severe allergic asthma in the US in adolescents (aged 12 and above) and adults. It is approved for severe allergic asthma in the EU in children (aged six and above), adolescents, and adults. *Xolair* is approved in more than 85 countries, including the US in 2003 and the EU in 2005. Following approval in the EU, a liquid formulation of *Xolair* in pre-filled syringes has been launched in most European countries. *Xolair* is being jointly developed with Genentech and is co-promoted in the US by Novartis and Genentech.
- *Tobi Podhaler* (tobramycin inhalation powder) was approved in the EU in July 2011 as a suppressive therapy for chronic Pseudomonas aeruginosa lung infections in patients with cystic fibrosis aged six years and older. *Tobi Podhaler* is a new dry powder formulation of the antibiotic tobramycin, delivered using a more convenient, patient-friendly device that reduces administration time by 72% relative to *Tobi* (nebulizer solution), with comparable efficacy.

Compounds in Development

The traditional model of development comprises three phases, which are defined as follows:

Phase I: First clinical trials of a new compound, generally performed in a small number of healthy human volunteers, to assess the clinical safety, tolerability as well as metabolic and pharmacologic properties of the compound.

Phase II: Clinical studies that are performed on patients with the targeted disease, to continue the Phase I safety assessment in a larger group, to assess the efficacy of the drug in the patient population, and to determine the appropriate doses for further testing.

Phase III: Large scale clinical studies to establish the safety and effectiveness of the drug for regulatory approval for indicated uses. Phase III trials may also be used to compare a new drug against a current standard of care, in order to evaluate the overall risk/benefit relationship of the new drug.

Novartis, while essentially using the same model as a platform, has tailored the process to be simpler, more flexible and efficient. Our development paradigm consists of two parts: Exploratory and Confirmatory development. Exploratory development consists of clinical "proof of concept" (PoC) studies which are small clinical trials (typically 5-15 patients) that combine elements of traditional Phase I/II testing. These customized trials are designed to give early insights into issues such as safety, efficacy and toxicity for a drug in a given indication. Once a positive proof of concept has been established, the drug moves to the Confirmatory development stage. Confirmatory development has elements of traditional Phase II/III testing and includes trials aimed at confirming the safety and efficacy of the drug in the given indication leading up to submission of a dossier to health authorities for approval. Like traditional Phase III testing, this stage can also include trials which compare the drug to the current standard of care for the disease, in order to evaluate the drug's overall risk/benefit profile.

The following table and paragraph summaries provide an overview of the key projects currently in the Confirmatory development stage within our Pharmaceuticals Division, including projects seeking to develop potential uses of new molecular entities, as well as potential additional indications or new formulations for already marketed products.

A reference to a project being in registration means that it has been submitted to a health authority for marketing approval.

Selected Development Projects

Project/ Product	Common name	Mechanism of action	Potential indication/ Disease area	Therapeutic area	Formulation/ Route of administration	Year Project Entered Current Development Phase	Planned filing dates/Current phase
ACZ885	canakinumab	Anti IL-1β monoclonal antibody	Gouty arthritis	Integrated Hospital Care	Subcutaneous injection	EU: 2010 US: 2011	EU (registration) US (registration/
			Systemic onset juvenile idiopathic arthritis	Integrated Hospital Care		2009	2012/III
			Diabetes mellitus	Critical Care		2009	≥ 2016/II
			Secondary prevention of cardiovascular events	Critical Care		2011	≥ 2016/III

Project/ Product	Common name	Mechanism of action	Potential indication/ Disease area	Therapeutic area	Formulation/ Route of administration	Year Project Entered Current Development Phase	Planned filing dates/Current phase
AEB071	sotrastaurin	Protein kinase C inhibitor	Prevention of organ rejection after transplantation—kidney and liver	Integrated Hospital Care	Oral	2006	≥ 2016/II
			Psoriasis	Integrated Hospital Care		2009	≥ 2016/II
AFQ056	mavoglurant	Metabotropic glutamate receptor 5 antagonist	Fragile X syndrome	Neuroscience	Oral	2010	2013/II
			L-dopa induced dyskinesia in Parkinson's disease			2006	2014/II
AIN457	secukinumab	Anti IL-17 monoclonal antibody	Psoriasis	Integrated Hospital Care	Lyophilized powder in vial; Intravenous infusion, subcutaneous injection	2011	2013/III
			Arthritidies (Rheumatoid arthritis, Ankylosing Spondylitis, Psoriatic Arthritis)			2011	2013/III
			Multiple sclerosis	Neuroscience		2009	≥2016/II
ATI355	TBD	Anti NOGO-A mAb	Spinal cord injury	Neuroscience	Intrathecal spinal injection	2006	≥2016/I
AUY922	TBD	ATP-competitive nongeldanamycin inhibitor of HSP90	Solid tumors	Oncology	Intravenous	2010	≥2016/II
BAF312	TBD	Sphingosine-1-phosphate (S1P) receptor modulator	Multiple sclerosis	Neuroscience	Tablet	2009	≥2016/II
BCT197	TBD	Anti-inflammatory agent	Chronic obstructive pulmonary disease	Primary Care	Oral	2011	≥2016/II
BEZ235	TBD	P13K/mTOR inhibitor	Solid tumors	Oncology	Oral	2011	2014/II
BGS649	TBD	Aromatase inhibitor	Obese hypogonadotropic hypogonadism	Critical care	Oral	2010	≥2016/II
BKM120	TBD	P13K inhibitor	Endometrial cancer	Oncology	Oral	2011	2014/II
CAD106	TBD	Beta-amyloid-protein immunotherapy	Alzheimer's disease	Neuroscience	Subcutaneous, intramuscular injection	2008	≥2016/II
DEB025	alisporivir	Cyclophilin inhibitor	Chronic hepatitis C	Integrated Hospital Care	Oral	2011	2013/III
Exjade	deferasirox	Iron chelator	Non-transfusion dependent thalassemia	Oncology	Oral	2011	EU (registration) US (registration)
Gilenya	fingolimod	Sphingosine-1-phosphate (S1P) receptor modulator	Chronic inflammatory demyelinating poly-radiculoneuropathy	Neuroscience	Oral	2012	2014/II
HCD122	TBD	Anti-CD40 monoclonal antibody	Hematological tumors	Oncology	Intravenous	2011	2016/II
INC424	ruxolitinib	Janus kinase (JAK) inhibitor	Myelofibrosis	Oncology	Oral	2011	EU (registration)
			Polycythemia vera			2010	2014/III (outside US)
LBH589	panobinostat	Histone deactelylase inhibitor	Relapsed or relapsed-and-refractory Multiple Myeloma	Oncology	Oral	2009	2013/III
			Hematological cancers			2009	≥ 2016/II
LCI699	TBD	Aldosterone synthase inhibitor	Solid tumors	Oncology	Oral	2011	≥ 2016/II

Project/ Product	Common name	Mechanism of action	Potential indication/ Disease area	Therapeutic area	Formulation/ Route of administration	Year Project Entered Current Development Phase	Planned filing dates/Current phase
LCQ908	TBD	Diacylglycerol acyl transferase-1 inhibitor	Metabolic diseases	Critical Care	Tablet	2010	2014/II
LCZ696	TBD	Angiotensin receptor-Neprilysin Inhibitor	Heart failure	Critical Care	Oral	2009	2014/III
			Hypertension	Primary Care		2007	2014/II
LDE225	TBD	Oral smoothed inhibitor	Gorlin Syndrome Advanced basal cell carcinoma	Oncology	Oral	2011	2014/II
LFF571	TBD	Bacterial elongation factor Tu (EFTu) inhibitor	Clostridium difficile infection	Integrated Hospital Care	Oral	2010	≥2016/II
LGT209	TBD	Lipid modulator	Hypercholesterolemia	Critical Care	Oral	2011	≥2016/II
Lucentis	ranibizumab	Anti-VEGF monoclonal antibody fragment	Pathological myopia	Ophthalmology	Intravitreal injection	2010	2012/III
		Choroidal neovascularization and Macular edema	Ophthalmology			2010	≥2016/II
MEK162	TBD	MEK inhibitor	Solid tumors	Oncology	Oral	2011	≥2016/II
NIC002	TBD	Nicotine Qbeta therapeutic vaccine	Smoking cessation	Primary Care	Injection	2008	≥ 2016/II
NVA237	glycopyrronium bromide	Long-acting muscarinic antagonist	Chronic obstructive pulmonary disease	Primary Care	Inhalation	EU: 2011	EU (registration) US (TBD)
PKC412	midostaurin	Signal transduction inhibitor	Aggressive systemic mastocytosis	Oncology	Oral	2005	2013/II
			Acute myeloid leukemia			2008	2014/III
QAW039	TBD	Anti-inflammatory agent	Asthma	Primary Care	Oral	2010	≥2016/II
QMF149	indacaterol and mometasone furoate	Long-acting beta2-agonist and inhaled corticosteroid	Chronic obstructive pulmonary disease	Primary Care	Inhalation	2007	2015/II
			Asthma			2007	2015/II
QTI571	imatinib mesylate	Protein tyrosine kinase inhibitor	Pulmonary arterial hypertension	Critical Care	Oral	2009	2012/III
QVA149	indacaterol and glycopyrronium bromide	Long-acting beta2-agonist and long-acting muscarinic antagonist	Chronic obstructive pulmonary disease	Primary Care	Inhalation	2010	2012/III
RAD001 (*Afinitor)*	everolimus	mTOR inhibitor	Tuberous sclerosis complex-Angiomyolipoma	Oncology	Tablet	2011	US (registration) EU (registration)
			Advanced ER+HER2- breast cancer			2011	US (registration) EU (registration)
			Breast cancer HER2-over-expressing, 1st line			2009	2013/III
			Breast HER2-over-expressing 2nd/3rd line			2009	2013/III
			Hepatocellular carcinoma			2010	2013/III
			Lymphoma			2009	2015/III
RLX030	TBD	Vascular modulator	Acute heart failure	Critical Care	Intravenous infusion	2009	2013/III

Project/ Product	Common name	Mechanism of action	Potential indication/ Disease area	Therapeutic area	Formulation/ Route of administration	Year Project Entered Current Development Phase	Planned filing dates/Current phase
SOM230	pasireotide	Somatostatin analogue	Cushing's disease	Oncology	Immediate release: subcutaneous injection	EU:2010 US:2011	EU (registration), US (2012/III)
			Acromagaly		Long-acting release: monthly intramuscular injection	2008	2012/III
			Carcinoid syndrome		Long-acting release: monthly intramuscular injection	2008	2013/III
Tasigna	nilotinib	Signal transduction inhibitor	metastatic melanoma with c-KIT mutation	Oncology	Capsule	2011	2014/II
Tobi Podhaler	tobramycin inhalation powder	Aminoglycoside antibiotic	Pseudomonas aeruginosa infection in cystic fibrosis patients	Critical Care	Dry powder inhalation	EU: 2011 US: 2010	EU (approved) US (2012/III)
Tekturna ATMOSPHERE	aliskiren	Direct renin inhibitor	Reduction of CV death/ hospitalizations in chronic heart failure	Critical Care	Tablet	2009	2014/III
TKI258	dovitinib lactate	VEGFR1-3, FGFR 1-3, PDGFR angiogenesis inhibitor	Renal cell carcinoma	Oncology	Oral	2011	2013/III
			Solid tumors			2009	≥2016/II
Xolair	omalizumab	Anti-IgE monoclonal antibody	Chronic idiopathic urticaria	Critical Care	Lyophilized powder for reconstitution as subcutaneous injection	2011	2013/III
Zortress/Certican	everolimus	mTOR inhibitor	Prevention of organ rejection—liver	Integrated Hospital Care	Oral	EU: 2011 US: 2011	EU (registration) US (registration)

Key Compounds in Development (select products in Phases II, III and Registration)

- ACZ885 (canakinumab) was filed in the EU in December 2010 and in the US February 2011 for the treatment of acute attacks in gouty arthritis (GA). The Phase III program in GA showed superior pain relief and a much reduced risk of new attacks compared to an injectable corticosteroid. An FDA Advisory Committee Meeting in June 2011 voted in favor of the overall efficacy, but recommended that additional retreatment data would be needed to assess the overall safety profile of ACZ885 in the treatment of GA. A Complete Response letter was received in August 2011 from the FDA with a request for additional information, including clinical data to evaluate the benefit risk profile in refractory patients. Novartis is currently working with the FDA to determine the next steps for ACZ885 in gouty arthritis. In Europe, the outcome of the EU response regarding GA is expected in the first half of 2012. In systemic juvenile idiopathic arthritis (SJIA), results from two pivotal Phase III trials showed ACZ885 provided significant symptom relief and helped to substantially reduce oral steroid use in SJIA patients. Worldwide regulatory submissions are planned for 2012. ACZ885 is also being investigated for the secondary prevention of cardiovascular events and for the treatment of Diabetes Mellitus.
- AEB071 (sotrastaurin) is a low molecular weight, selective inhibitor of protein kinase-C (PKC). Inhibition of PKC reduces T-cell activation through a novel calcineurin-independent pathway. The molecule is in Phase II clinical development for the treatment of autoimmune indications (including psoriasis) and for the prevention of solid organ allograft rejection (kidney and liver transplantation).

- AFQ056 (mavoglurant) is a metabotropic glutamate receptor 5 (mGluR5) antagonist in Phase II development for the treatment of Parkinson's disease levodopa-induced dyskinesia. No therapy has previously been approved for this condition, which represents a complication after dopamine-replacement therapy in Parkinson's patients and which is characterized by a variety of hyperkinetic movements. Phase II studies in adult and adolescent patients with Fragile X syndrome started in the fourth quarter of 2010 and the second quarter of 2011 respectively. Fragile X syndrome is the most frequent inherited form of mental retardation. AFQ056 aims to improve the associated behavioral symptoms.
- AIN457 (secukinumab) is a human monoclonal antibody neutralizing interleukin-17A, a key pro-inflammatory cytokine expressed by TH17 cells and other types of white blood cells. The compound is in Phase III development in psoriasis and arthritidies (rheumatoid arthritis, ankylosing spondylitis and psoriatic arthritis), where initial studies suggested that AIN457 may provide a new mechanism of action for the treatment of immune-mediated diseases.
- BAF312 is an oral, second-generation sphingosine 1-phosphate receptor modulator in Phase II development for relapsing-remitting multiple sclerosis. BAF312 binds selectively to the sphingosine 1-phosphate receptor subtypes 1 and 5, and has a relatively fast washout. The results from the BOLD study, an adaptive dose-ranging Phase II study, were presented at the European Committee for Treatment and Research in Multiple Sclerosis (ECTRIMS) congress in October 2011. These results showed that BAF312 effectively suppresses MRI lesion activity in Relapsing-Remitting Multiple Sclerosis with a reduction of 80% of combined unique active MRI lesions vs placebo at three months. BAF312 is expected to enter Phase III development in 2012.
- DEB025 (alisporivir) is a cyclophilin inhibitor for the treatment of Hepatitis C virus infection (HCV). DEB025 was in-licensed from Debiopharm in early 2010. Phase III studies in HCV genotype 1 treatment-naïve are ongoing as well as a Phase IIb study in treatment-experienced patients and a Phase IIb study in patients with HCV genotype 2 and genotype 3, assessing the potential of DEB025 as an interferon-free therapy for this population.
- *Gilenya* (fingolimod) was approved in the US in September 2010 as a first line treatment for relapsing forms of MS and in the EU in March 2011 as a disease modifying therapy in patients with highly active RRMS despite treatment with beta interferon, or in patients with rapidly evolving severe RRMS. A pediatric study in MS as well as a Phase II/III study in patients with chronic inflammatory demyelinating polyradiculoneuropathy are planned to be initiated in 2012.
- *Exjade* (deferasirox) is an oral iron chelator in development for use in patients with non-transfusion-dependent thalassemia (NTDT). Results from the pivotal study (2209), the first prospective controlled study of iron chelation in NTDT patients, met the primary endpoint by demonstrating a significant decrease in iron burden in both the *Exjade* 5 and 10 mg arms compared to placebo. Regulatory filings were submitted in the EU and US in December 2011 for use of *Exjade* in patients with non-transfusion-dependent thalassemia.
- INC424 (ruxolitinib) is an investigational Janus kinase (JAK) inhibitor. This oral targeted therapy has completed Phase III clinical trials for the treatment of myelofibrosis, a life-threatening blood cancer. It is characterized by bone marrow failure, splenomegaly (enlarged spleen) and debilitating symptoms, including fatigue and pain. Novartis has licensed the rights to INC424 from Incyte for development and potential commercialization outside the US. In the third quarter of 2011, a marketing authorization was submitted to the EMA for the treatment of myelofibrosis based on the results of two Phase III clinical trials, COMFORT-I and COMFORT-II. Positive results from both Phase III trials presented in 2011 demonstrated that INC424 significantly reduced disease burden when compared to either placebo or the best available therapy. Additionally, INC424 provided clinically relevant and statistically significant improvements in symptoms at each evaluation when compared to best available therapy. An early analysis of COMFORT-I data shows INC424 treatment resulted in greater overall survival advantage when compared to placebo. INC424 is also being investigated in Polycythemia Vera. The pivotal Phase III RESPONSE trial is currently enrolling patients to study INC424 in patients with Polycythemia Vera who are resistant to or intolerant of hydroxyurea. This trial is managed by Incyte in the US and by Novartis in the rest of the world.
- LBH589 (panobinostat) is a highly potent pan deacetylase inhibitor targeting the epigenetic regulation of multiple oncogenic pathways, with development focused on hematological disease. In January 2011 the FDA issued a Refusal to File letter regarding the new drug application for LBH589 for the treatment of patients with relapsed/refractory Hodgkin lymphoma. LBH589 continues in Phase III development in the

ongoing PANORAMA-1 Phase III trial of bortezomib/dexamethasone plus panobinostat or placebo in relapsed or relapsed-and-refractory multiple myeloma. We plan to file LBH589 for this indication in 2013.

- LCQ908 is a diacylglycerol acyltransferase-1 (DGAT-1) inhibitor. DGAT-1 catalyzes the final committed step in triglyceride synthesis and is believed to play a key role in whole body energy homeostasis. Inhibition of DGAT-1 represents a novel approach to treat metabolic disease and LCQ908 is currently in Phase II development for the treatment of metabolic disorders.
- LCZ696 is a first-in-class angiotensin receptor neprilysin inhibitor, a dual-acting compound that delivers concomitant inhibition of neprilysin and blockage of the angiotensin type 1 receptor (ARB). LCZ696 entered Phase III development at the end of 2009 for the treatment of chronic heart failure in patients with reduced ejection fraction, an indication in which angiotensin converting enzyme (ACE) inhibitors are the current standard of care. The ongoing Phase III study PARADIGM-HF tests the efficacy and safety of LCZ696 compared with the ACE inhibitor enalapril on morbidity and mortality or heart failure hospitalizations. LCZ696 is also in Phase II development for the treatment of hypertension.
- *Lucentis* (ranibizumab) was approved in the EU in January 2011 for the treatment of visual impairment secondary to diabetic macular edema and in May 2011 for the treatment of visual impairment due to macular edema secondary to retinal vein occlusion. A Phase III program for the Pathologic myopia indication was initiated with first patient visit in October 2010.
- NVA237 (glycopyrronium bromide), a long-acting muscarinic antagonist (LAMA), is being developed as a once-daily treatment for chronic obstructive pulmonary disease (COPD) in a single-dose dry-powder inhaler. Phase III trials have shown that NVA237 50 mcg once-daily had superior efficacy and comparable safety to placebo. In an exploratory arm, NVA237 produced similar improvements in lung function (measured by trough FEV_1 at 12 weeks) to open-label tiotropium, the only once-daily LAMA presently on the market. The first regulatory submission was made in the EU in the third quarter of 2011 with the proposed brand-name *Seebri Breezhaler*. In the US, NVA237 will require additional clinical data to support submission and thus will be delayed.
- PKC412 (midostaurin) is an oral, multi-targeted, kinase inhibitor in Phase III development for treatment of patients with acute myeloid leukemia (AML) and in Phase II development for aggressive systemic mastocytosis (ASM). Filing is expected for ASM with Phase II data in 2013 and for newly diagnosed, FLT3-mutated AML with Phase III data by 2014.
- QMF149 is an investigational once-daily fixed-dose combination of the long-acting $beta_2$-agonist QAB149 (indacaterol) and the inhaled corticosteroid mometasone, licensed from Merck (formerly Schering-Plough), delivered in a single-dose dry-powder inhaler. Phase II development for asthma and COPD is currently ongoing. Filing in the EU is expected in 2015. Activities directly related to US development are not currently planned to be initiated.
- QVA149 is an investigational fixed-dose combination of the long-acting $beta_2$-agonist QAB149 (indacaterol) and the long-acting muscarinic antagonist NVA237 (glycopyrronium bromide), being developed as a once-daily treatment for COPD, in a single-dose dry-powder inhaler. Phase II studies have been successfully completed and results demonstrated that the fixed-dose combination QVA149 provided superior bronchodilation compared to QAB149 or placebo, which was sustained over 24 hours. The compound had a fast onset of action at first dose and was well tolerated with a good overall safety profile comparable to placebo. Phase III development is on track for 2012 submission in the EU and other countries outside the US. As a result of the NVA237 delay in the US, the QVA149 submission is delayed in the US.
- QTI571 (imatinib mesylate tablets/imatinib), an inhibitor of tyrosine kinase activity, is currently in development for pulmonary arterial hypertension (PAH). PAH is a rare, progressive, proliferative disease with high morbidity and mortality. A Phase III program in severe PAH patients has completed. The study met its primary endpoint of improvement in six-minute walk distance and there were significant improvements in key haemodynamic measurements compared to placebo. QTI571 did not improve time to clinical worsening. Safety was as expected for imatinib. The first regulatory submissions are expectedin the first quarter of 2012. Imatinib is the active ingredient in *Gleevec*/*Glivec.*
- RAD001 (*Afinitor*/*Votubia*, everolimus) is an oral inhibitor of the mTOR pathway. Phase III studies are underway in patients with breast cancer, lymphoma, hepatocellular cancer and tuberous sclerosis complex (TSC). Results of the Phase III BOLERO-2 (Breast cancer trials of OraL EveROlimus-2) study showed everolimus combined with hormonal therapy more than doubled time women lived without tumor growth

and significantly reduced the risk of cancer progression versus hormonal therapy alone in women with postmenopausal ER+HER2- advanced breast cancer. Worldwide filings were submitted at the end of 2011 based on these data. Everolimus is also being investigated for the treatment of ER+HER2+ advanced breast cancer in two Phase III pivotal studies. In addition, a Phase III data set in patients with angiomyolipomas associated with TSC met its primary endpoint of best overall angiomyolipoma response rate, and served as the base for worldwide filings (US file submitted in the fourth quarter of 2011; EU file submitted in January 2012), for a second TSC indication for everolimus. The Phase III GRANITE-1 (Gastric Antitumor Trial with Everolimus) trial in patients with advanced gastric cancer has been completed and the study did not meet the primary endpoint of extending overall survival.

- RLX030 is a recombinant form of human relaxin-2, which was obtained by Novartis through the acquisition of Corthera, Inc. in February 2010. RLX030 is being developed for patients hospitalized for acute heart failure. The Phase II data in this population indicated rapid and sustained symptom relief along with an outcome benefit, following a continuous intravenous infusion, on top of standard of care. The ongoing Phase III development program is investigating the short- and long-term efficacy and safety of RLX030.
- SOM230 (pasireotide) is a somatostatin analogue in development for patients with Cushing's disease, acromegaly and refractory/resistant carcinoid syndrome. Data from a pivotal study in Cushing's disease showing significant reduction of cortisol secretions are the basis for regulatory submissions of the SOM230 subcutaneous formulation. In the third quarter of 2011, the FDA new drug application that had been submitted for SOM230 in June was withdrawn due to a technical issue identified in a routine analysis of batches of SOM230 s.c. formulation. Novartis plans to resubmit the application following further discussion with the FDA. In January 2012, the CHMP adopted a positive opinion for SOM230 for the treatment of patients with Cushing's disease. In the first quarter of 2011, a Phase III trial comparing SOM230 LAR against *Sandostatin LAR* met the primary endpoint of normalization of IGF-1 and growth hormone levels in the treatment of patients with acromegaly. A Phase III trial comparing SOM230 LAR against *Sandostatin LAR* in patients with carcinoid tumors refractory/resistant to somatostatin analogues is ongoing.
- *Tasigna* (nilotinib) is being studied in patients with cKIT mutated melanoma began in a trial that began in April 2010.
- *Tekturna*/*Rasilez* (aliskiren) is a treatment for high blood pressure, and the first and only approved direct renin inhibitor. In December 2011, Novartis announced that following the seventh interim review of data from the ALTITUDE study, a decision to terminate the trial had been taken on the recommendation of the independent Data Monitoring Committee (DMC) overseeing the trial. The DMC concluded that patients were unlikely to benefit from treatment added to standard anti-hypertensives, and identified higher adverse events in patients receiving Tekturna/Rasilez in addition to standard of care in the trial. The trial was investigating the potential reduction in risk of cardiovascular/renal events for diabetics with renal impairment with or without cardiovascular disease. In addition, *Tekturna*/*Rasilez* is the subject of the ongoing ATMOSPHERE trial, which is studying the potential reduction in risk of cardiovascular death/heart failure hospitalization in patients with chronic heart failure, and is expected to be submitted to health authorities in 2014.
- TKI258 (dovitinib) is a multi-targeted kinase inhibitor of FGFR, VEGFR and PDGFR. With a unique preclinical profile its development is focused on FGFR driven diseases. A Phase III registration trial in renal cell carcinoma is currently recruiting patients.
- *Xolair* (omalizumab): Novartis and Genentech commenced development of omalizumab in a new indication, chronic idiopathic urticaria, and Phase III studies began in 2011.
- *Zortress*/*Certican* (everolimus) is an mTOR inhibitor with immune/non-immune cell proliferation inhibition being developed for prevention of solid organ transplant rejection. In 2008, Phase III development was initiated worldwide for the prevention of organ rejection in liver transplantation. In 2009, Phase III development was initiated in the US for an expanded kidney transplant indication of *Zortress* in combination with tacrolimus and corticosteroids.

Projects Added To And Subtracted From The Development Table Since 2010

Project/Product	Potential indication/ Disease area	Change	Reason
AGO178	Major depressive disorder	Terminated	Clinical results did not meet required standards
AIN457	Non-infectious uveitis	Transferred to Alcon Division	Project was transferred to Alcon Division together with other Novartis Ophthalmics assets after our merger with Alcon, Inc.
AUY922	Solid tumors	Project Added	Entered confirmatory development
BGS649	Refractory endometriosis	Terminated	Clinical results did not meet required standards
Elidel®	Atopic dermatitis in infants	Divested	Novartis sold global rights to third party
Gilenya	Multiple sclerosis	Commercialized	Received formal approval in EU and Japan in 2011
Joicela	Osteoarthritis	Terminated	Novartis withdrew its European application for *Joicela* (lumiraxcoxib) in combination with a genetic biomarker test. The decision was based on the inability to provide additional requested data within the timeframe of the current procedure. We remain committed to personalized medicines and biomarker testing programs. Currently lumiracoxib is not under review by any health authorities and there are no plans to submit in the near term.
LBH589	Hodgkin's Lymphoma	Terminated	Received Refusal to File letter from FDA
LGT209	Hypercholesterolemia	Project added	Entered confirmatory development
Lucentis	Retinal vein occlusion	Commercialized	Received marketing approval in EU in 2011
PRT128	Chronic coronary heart disease	Terminated	Clinical results did not meet required standards
PTK796	Acute bacterial skin and skin structure infections, community-acquired bacterial pneumonia	Terminated	Regulatory approval timing became uncertain. Collaboration terminated; all rights returned to Paratek.
QAB149 *(Arcapta Neohaler/Onbrez Breezhaler)*	Chronic obstructive pulmonary disease	Commercialized	Received marketing approval in US and Japan
QAW039	Asthma	Project added	Entered confirmatory development
RAF265	Solid tumors	Project added	Entered confirmatory development
RAD001 (Afinitor)	Tuberous sclerosis complex-subependymal giant cell astrocytoma	Commercialized	Received marketing approval in EU
RAD001 *(Afinitor)*	Neuroendocrine tumors	Commercialized	Received marketing approval in US and EU
RAD001 *(Afinitor)*	Advanced gastric cancer	Terminated	Clinical results did not meet required standards
Tasigna	First line metastatic gastrointestinal stromal tumors	Terminated	Clinical results did not meet required standards
Tekamlo/ Rasilamlo single pill combination	Hypertension	Commercialized	Received marketing approval in EU

Project/Product	Potential indication/ Disease area	Change	Reason
Tekturna/Rasilez single-pill combination (three active ingredients)	Hypertension	Commercialized	Received marketing approval in EU

Principal Markets

The Pharmaceuticals Division has a commercial presence in approximately 140 countries worldwide, but net sales are generally concentrated in the US, Europe and Japan, which together accounted for 78.4% of 2011 of the division's net sales. At the same time, sales from fast growing "emerging growth markets" have become increasingly important to us. See "Item 5. Operating and Financial Review and Prospects—5.A Operating Results—Factors Affecting Results of Operations—Fundamental Drivers Remain Strong—Growth of Emerging Markets." The following table sets forth certain data relating to our principal markets in the Pharmaceuticals Division.

Pharmaceuticals	2011 Net sales to third parties	
	$ millions	%
United States	9,973	30.7
Americas (except the United States)	3,012	9.3
Europe	11,595	35.7
Japan	3,909	12.0
Rest of the World	4,019	12.3
Total	**32,508**	**100**

Many of our Pharmaceuticals Division's products are used for chronic conditions that require patients to consume the product over long periods of time, from months to years. Net sales of the vast majority of our products are not subject to material changes in seasonal demand.

Production

The primary goal of our manufacturing and supply chain management program is to ensure the uninterrupted, timely and cost-effective supply of products that meet all product specifications. We manufacture our products at 6 bulk chemical and 13 pharmaceutical production facilities as well as three biotechnology sites. Bulk chemical production involves the manufacture of therapeutically active compounds, mainly by chemical synthesis or by biological processes such as fermentation. Pharmaceutical production involves the manufacture of "galenical" forms of pharmaceutical products such as tablets, capsules, liquids, ampoules, vials and creams. Major bulk chemical sites are located in Schweizerhalle, Switzerland; Grimsby, UK; Ringaskiddy, Ireland and Changshu, China. Significant pharmaceutical production facilities are located in Stein, Switzerland; Wehr, Germany; Singapore; Torre, Italy; Barbera, Spain; Suffern, New York; Sasayama, Japan and in various other locations. Our three biotechnology plants are in Huningue, France; Basel, Switzerland and Vacaville, California.

During clinical trials, which can last several years, the manufacturing process for a particular product is rationalized and refined. By the time clinical trials are completed and products are launched, the manufacturing processes have been extensively tested and are considered stable. However, improvements to these manufacturing processes may continue over time.

Raw materials for the manufacturing process are either produced in-house or purchased from a number of third-party suppliers. Where possible, our policy is to maintain multiple supply sources so that the business is not dependent on a single or limited number of suppliers. However, our ability to do so may at times be limited by regulatory or other requirements. We monitor market developments that could have an adverse effect on the

supply of essential materials. Our suppliers of raw materials are required to comply with Novartis quality standards.

The manufacture of our products is heavily regulated by governmental health authorities around the world, including the FDA In addition to regulatory requirements, many of our products involve technically complex manufacturing processes or require a supply of highly specialized raw materials. For some products and raw materials, we may also rely on a single source of supply.

We have implemented a global manufacturing strategy to maximize business continuity in case of such events or other unforeseen catastrophic events. However, there can be no guarantee that we will be able to successfully manage such issues when they arise.

Marketing and Sales

The Pharmaceuticals Division serves customers with approximately 3,600 field force representatives in the US (including supervisors), and an additional 18,937 in the rest of the world, as of December 31, 2011. These trained representatives, where permitted by law, present the therapeutic risks and benefits of our products to physicians, pharmacists, hospitals, insurance groups and managed care organizations. We are seeing the increasing influence of customer groups beyond the prescribers, and Novartis is responding by adapting our business practices. In addition, in January 2012, we announced that our US affiliate, Novartis Pharmaceuticals Corporation, planned to restructure its business to strengthen its competitive position in light of the impending loss in the US of our patent on *Diovan*, and the expected impact on worldwide sales of *Tekturna*/*Rasilez* after the ALTITUDE study termination. This restructuring is expected to result in a reduction of approximately 1,630 field force positions in the US in 2012, along with an additional 330 US headquarters positions.

Although specific distribution patterns vary by country, Novartis generally sells its prescription drugs primarily to wholesale and retail drug distributors, hospitals, clinics, government agencies and managed healthcare providers.

In the US, certain products can be advertised by way of television, newspaper and magazine advertising. Novartis also pursues co-promotion/co-marketing opportunities as well as licensing and distribution agreements with other companies when legally permitted as well as economically attractive.

The marketplace for healthcare is evolving with the consumer becoming a more influential stakeholder in their healthcare decisions and looking for solutions to meet their changing needs. Where permitted by law, Novartis is seeking to tap into the power of the patient, delivering innovative solutions to drive loyalty and engagement.

Competition

The global pharmaceutical market is highly competitive, and we compete against other major international corporations with substantial financial and other resources, which sell patented prescription pharmaceutical products. Competition within the industry is intense and extends across a wide range of commercial activities, including pricing, product characteristics, customer service, sales and marketing, and research and development.

As is the case with other pharmaceutical companies selling patented pharmaceuticals, Novartis faces ever-increasing challenges from companies selling generic forms of our products following the expiry of patent protection, or of products which compete with our products. Generic companies may also gain entry to the market through successfully challenging our patents, but we vigorously use legally permissible remedies to defend our patent rights from generic challenges. In addition, we also face competition from over-the-counter (OTC) products that do not require a prescription from a physician. See also "—Regulation—Price Controls", below.

Research and Development

We are among the leaders in the pharmaceuticals industry in terms of research and development investment. Our Pharmaceuticals Division invested the following amounts in research and development:

	2011		2010[1]		2009[1]	
	$ billion	$ billion, excluding impairment and amortization charges	$ billion	$ billion, excluding impairment and amortization charges	$ billion	$ billion, excluding impairment and amortization charges
Research and Exploratory Development	2.7	2.6	2.4	2.3	2.2	2.1
Confirmatory Development	4.5	4.3	4.9	4.0	3.8	3.8
Total	**7.2**	**6.9**	**7.3**	**6.3**	**6.0**	**5.9**

(1) Restated to account for the transfer of Corporate Research to the Pharmaceuticals Division

The $7.2 billion (6.9 billion excluding impairment and amortization charges) that the Pharmaceuticals Division invested in research and development in 2011 represented 22.1% (21.1% excluding impairment and amortization charges) of the division's total net sales. The Pharmaceuticals Division currently has 130 projects in clinical development.

Innovation is critical to long-term success in the pharmaceutical industry. In 2010, the industry's average spend of pharmaceutical companies on research and development activities was 15% of net sales, but that number is declining as some companies increasingly opt to outsource research and development, in-license products and establish option- or risk-sharing deals with other companies. On the development side, many companies are entrusting the conduct of clinical trials to contract research organizations in an effort to cut costs. At Novartis, we have historically made the discovery and development of innovative medicines that address unmet patient needs a priority, and plan to continue to do so. Our Pharmaceuticals Division research and development investment—in excess of 20% of the division's net sales in both 2011 and 2010—reflects this.

Research and Exploratory Development grew at constant currencies by $109 million (4.6%) in 2011 over 2010. The additional cost reflects our investment in scientific talent. At period rates, the currency impact added an additional $200 million, bringing total growth to $309 million (13%), increasing the amount invested in Research and Exploratory Development from $2.4 to $2.7 billion.

Confirmatory Development expenditure in 2011 decreased by 7% to $4.5 billion. This included $0.3 billion in impairments of intangible assets primarily related to the discontinuation of PTK796, PRT128, and AGO178. In 2010, impairments of intangible assets were $0.9 billion. Excluding impairments, Confirmatory Development expenditure increased 7% to $4.3 billion in 2011 and represented 13.1% of net sales in 2011 compared to 13.2% in 2010.

The discovery and development of a new drug is a lengthy process, usually requiring 10 to 15 years from the initial research to bringing a drug to market, including six to eight years from Phase I clinical trials to market. At each of these steps, there is a substantial risk that a compound will not meet the requirements to progress further. In such an event, we may be required to abandon a compound in which we have made a substantial investment.

We manage our research and development expenditures across our entire portfolio in accordance with our internal priorities. We make decisions about whether or not to proceed with development projects on a project-by-project basis. These decisions are based on the project's potential to meet a significant unmet medical need or to improve patient outcomes, the strength of the science underlying the project, and the potential of the project (subject to the risks inherent in pharmaceutical development) to generate significant positive financial results for the Company. Once a management decision has been made to proceed with the development of a particular molecule, the level of research and development investment required will be driven by many factors including the medical indications for which it is being developed; the number of indications being pursued; whether the molecule is of a chemical or biological nature; the stage of development; and the level of evidence necessary to demonstrate clinical efficacy and safety.

Research program

Our Research program is responsible for the discovery of new medicines. In 2003, we established the Novartis Institutes for BioMedical Research (NIBR).

At NIBR's headquarters in Cambridge, Massachusetts, more than 1,850 scientists and associates conduct research into disease areas such as cardiovascular and metabolism disease, infectious disease, oncology, muscle disorders and ophthalmology. An additional 4,500 scientists and technology experts conduct research in Switzerland, UK, Italy, Singapore, China and four other US sites. Research is conducted at these sites in the areas of neuroscience, autoimmune disease, oncology, cardiovascular disease, gastrointestinal disease and respiratory disease. Research platforms such as the Center for Proteomic Chemistry are headquartered in the NIBR site in Basel, Switzerland. In addition, The Novartis Institute for Tropical Diseases, Novartis Vaccines for Global Health, the Frederich Miescher Institute, and the Genomics Institute of the Novartis Research Foundation, focus on basic genetic and genomic research as well as research into diseases of the developing world such as malaria, tuberculosis, dengue and typhoid fever.

In June 2011, the ophthalmology disease research group at our Alcon Division joined NIBR's ophthalmology research group. Research continues to focus on the discovery and development of chemical and biological compounds for treating diseases of the eye, with a particular focus on diseases such as glaucoma and macular degeneration.

In April 2011, we announced that the gastrointestinal research teams based in Horsham, UK would be co-located with teams in Basel and Cambridge. In October 2011, we announced proposals that would impact our Basel-based associates working in Neuroscience, pre-clinical safety respiratory, kinase, translational medicine and siRNA research. Both announcements are part of our ongoing effort to co-locate teams, pursue new scientific directions and take advantage of outsourcing opportunities.

In October 2010, we announced that we would invest $600 million over the next five years to build new laboratory and office space in Cambridge on an area of land close to our research facilities on Massachusetts Avenue.

Our principal goal is to discover new medicines for diseases with high unmet medical need. To do this we focus our work in areas where we have sufficient scientific understanding and believe we have the potential to dramatically change the practice of medicine. This requires the hiring and retention of the best talent, a focus on fundamental disease mechanisms that are relevant across different disease areas, continuous improvement in technologies for drug discovery and potential therapies, close alliance with clinical colleagues, and the establishment of appropriate external complementary alliances.

All drug candidates are taken to the clinic via "proof-of-concept" trials to enable rapid testing of the fundamental efficacy of the drug while collecting basic information on pharmacokinetics, safety and tolerability, and adhering to the guidance for early clinical testing set forth by health authorities.

Development program

The focus of our Development program is to determine whether new drugs are safe and effective in humans. As previously described (see "—Compounds in Development"), we view the development process as generally consisting of an Exploratory phase where a "proof of concept" is established, and a Confirmatory phase where this concept is confirmed in large numbers of patients. Within this paradigm, clinical trials of drug candidates generally proceed through the traditional three phases: I, II and III. In Phase I clinical trials, a drug is usually tested with about 5 to 15 patients. The tests study the drug's safety profile, including the safe dosage range. The studies also determine how a drug is absorbed, distributed, metabolized and excreted, and the duration of its action. In Phase II clinical trials, the drug is tested in controlled studies of approximately 100 to 300 volunteer patients to assess the drug's effectiveness and safety, and to establish a proper dose. In Phase III clinical trials, the drug is further tested on larger numbers of volunteer patients in clinics and hospitals. In each of these phases, physicians monitor volunteer patients closely to assess the drug's safety and efficacy. The vast amount of data that must be collected and evaluated makes clinical testing the most time-consuming and expensive part of new drug development. The next stage in the drug development process is to seek registration for the new drug. See "—Regulation."

At each of these phases of clinical development, our activities are managed by our Innovation Management Board (IMB). The IMB is responsible for oversight over all major aspects of our development portfolio. In particular, the IMB is responsible for the endorsement of proposals to commence the first clinical trials of a development compound, and of major project phase transitions and milestones following a positive Proof of Concept outcome, including transitions to full development and the decision to submit a drug to health

authorities. The IMB is also responsible for project discontinuations, for the endorsement of overall development strategy and the endorsement of development project priorities. The IMB is chaired by the Head of Development of our Pharmaceuticals Division and has representatives from Novartis senior management, as well as experts from a variety of fields among its core members and extended membership.

Novartis Molecular Diagnostics

Recent advances in biology and bioinformatics have led to a much deeper understanding of the genetic underpinnings of disease and drug targets. Novartis Molecular Diagnostics (MDx), an integrated unit within our Pharmaceuticals Division, is working to capitalize on these scientific advances to develop innovative diagnostic tests which potentially could improve physicians' ability to optimize patient outcomes and to administer the right treatment to the right patient at the right time.

At its core, Novartis MDx is rooted in our leadership in drug discovery and development, and advancing "personalized medicine" is a key component of our overall strategy. Working closely with, and building on the strong science of NIBR and our Pharmaceuticals Division, MDx works to bring the full power of our internal capabilities and resources to bear in an effort to develop and commercialize important new diagnostic tests to support our development products and disease areas. Additionally, MDx strategically works with external collaborators to leverage technologies and capabilities that fit our diagnostic requirements.

In early 2011, Novartis MDx expanded its offerings through the acquisition of Genoptix Medical Laboratory, located in Carlsbad, California. With this new asset, Novartis MDx provides comprehensive laboratory services to community-based hematologists and oncologists. Our aim is to improve health outcomes for patients by advancing the ability of physicians to define and monitor individualized treatment programs.

Novartis MDx remains committed to addressing unmet medical need regardless of market size. We continue to build our broad suite of diagnostic tools and services to improve patient outcomes. We have developed a robust and expanding portfolio of molecular diagnostic programs and aim for multiple launches over the next few years to expand on the current offerings provided through Genoptix.

Alliances and acquisitions

Our Pharmaceuticals Division enters into business development agreements with other pharmaceutical and biotechnology companies and with academic institutions in order to develop new products and access new markets. We license products that complement our current product line and are appropriate to our business strategy. Therapeutic area strategies have been established to focus on alliances and acquisition activities for key disease areas/indications that are expected to be growth drivers in the future. We review products and compounds we are considering licensing using the same criteria as we use for our own internally discovered drugs.

Regulation

The international pharmaceutical industry is highly regulated. Regulatory authorities around the world administer numerous laws and regulations regarding the testing, approval, manufacturing, importing, labeling and marketing of drugs, and also review the safety and efficacy of pharmaceutical products. In particular, extensive controls exist on the non-clinical and clinical development of pharmaceutical products. These regulatory requirements, and the implementation of them by local health authorities around the globe, are a major factor in determining whether a substance can be developed into a marketable product, and the amount of time and expense associated with that development.

Health authorities, including those in the US, EU, Switzerland and Japan, have high standards of technical evaluation. The introduction of new pharmaceutical products generally entails a lengthy approval process. Of particular importance is the requirement in all major countries that products be authorized or registered prior to marketing, and that such authorization or registration be subsequently maintained. In recent years, the registration process has required increased testing and documentation for clearance of new drugs, with a corresponding increase in the expense of product introduction.

To register a pharmaceutical product, a registration dossier containing evidence establishing the quality, safety and efficacy of the product must be submitted to regulatory authorities. Generally, a therapeutic product must be registered in each country in which it will be sold. In every country, the submission of an application to a regulatory authority does not guarantee that approval to market the product will be granted. Although the criteria for the registration of therapeutic drugs are similar in most countries, the formal structure of the necessary registration documents and the specific requirements, including risk tolerance, of the local health authorities varies significantly from country to country. It is possible that a drug can be registered and marketed in one

country while the registration authority in another country may, prior to registration, request additional information from the pharmaceutical company or even reject the product. It is also possible that a drug may be approved for different indications in different countries.

The registration process generally takes between six months and several years, depending on the country, the quality of the data submitted, the efficiency of the registration authority's procedures and the nature of the product. Many countries provide for accelerated processing of registration applications for innovative products of particular therapeutic interest. In recent years, intensive efforts have been made among the US, the EU and Japan to harmonize registration requirements in order to achieve shorter development and registration times for medical products. However, the requirement in many countries to negotiate selling prices or reimbursement levels with government regulators can substantially extend the time until a product may finally be launched to the market.

The following provides a summary of the regulatory processes in the principal markets served by Pharmaceuticals Division affiliates:

United States

In the US, applications for drug registration are submitted to and reviewed by the FDA. The FDA regulates the testing, manufacturing, labeling and approval for marketing of pharmaceutical products intended for commercialization in the US. The FDA continues to monitor the safety of pharmaceutical products after they have been approved for marketing in the US market. The pharmaceutical development and registration process is typically intensive, lengthy and rigorous. When a pharmaceutical company has gathered data which it believes sufficiently demonstrates a drug's quality, safety and efficacy, then the company may file a New Drug Application (NDA) or biologics license application (BLA), as applicable, for the drug. The NDA or BLA must contain all the scientific information that has been gathered about the drug and typically includes information regarding the clinical experiences of patients tested in the drug's clinical trials. A Supplemental New Drug Application (sNDA) or BLA amendment must be filed for new indications for a previously approved drug.

Once an NDA or BLA is submitted, the FDA assigns reviewers from its biopharmaceutics, chemistry, clinical microbiology, pharmacology/toxicology, and statistics staff. After a complete review, these content experts then provide written evaluations of the NDA or BLA. These recommendations are consolidated and are used by the Senior FDA staff in its final evaluation of the NDA/BLA. Based on that final evaluation, FDA then provides to the NDA or BLA's sponsor an approval, or a "complete response" letter if the NDA or BLA application is not approved. If not approved, the letter will state the specific deficiencies in the NDA or BLA which need to be addressed. The sponsor must then submit an adequate response to the deficiencies in order to restart the review procedure.

Once the FDA has approved an NDA or BLA or sNDA or BLA amendment, the company can make the new drug available for physicians to prescribe. The drug owner must submit periodic reports to the FDA, including any cases of adverse reactions. For some medications, the FDA requires additional post-approval studies (Phase IV) to evaluate long-term effects or to gather information on the use of the product under special conditions.

Throughout the life cycle of a product, the FDA also requires compliance with standards relating to good laboratory, clinical, manufacturing and promotional practices.

European Union

In the EU, there are three main procedures for application for authorization to market pharmaceutical products in the EU Member States, the Centralized Procedure, the Mutual Recognition Procedure and the Decentralized Procedure. It is also possible to obtain a national authorization for products intended for commercialization in a single EU member state only, or for additional indications for licensed products.

Under the Centralized Procedure, applications are made to the European Medicines Agency (EMA) for an authorization which is valid for the European Community. The Centralized Procedure is mandatory for all biotechnology products and for new chemical entities in cancer, neurodegenerative disorders, diabetes and AIDS, autoimmune diseases or other immune dysfunctions and optional for other new chemical entities or innovative medicinal products or in the interest of public health. When a pharmaceutical company has gathered data which it believes sufficiently demonstrates a drug's quality, safety and efficacy, then the company may submit an application to the EMA. The EMA then receives and validates the application, and appoints a Rapporteur and Co-Rapporteur to review it. The entire review cycle must be completed within 210 days, although there is a "clock stop" at day 120, to allow the company to respond to questions set forth in the Rapporteur and Co-Rapporteur's

Assessment Report. When the company's complete response is received by the EMA, the clock restarts on day 121. If there are further aspects of the dossier requiring clarification, the EMA will then request an Oral Explanation on day 180, in which the sponsor must appear before the EMA's Scientific Committee (the CHMP) to provide the requested additional information. On day 210, the CHMP will then take a vote to recommend the approval or non-approval of the application. The final decision under this Centralized Procedure is an EU Community decision which is applicable to all Member States. This decision occurs on average 60 days after a positive CHMP recommendation.

Under the Mutual Recognition Procedure (MRP), the company first obtains a marketing authorization from a single EU member state, called the Reference Member State (RMS). In the Decentralized Procedure (DCP) the application is done simultaneously in selected or all Member States if a medicinal product has not yet been authorized in a Member State. During the DCP, the RMS drafts an Assessment Report within 120 days. Within an additional 90 days the Concerned Member States (CMS) review the application and can issue objections or requests for additional information. On Day 90, each CMS must be assured that the product is safe and effective, and that it will cause no risks to the public health. Once an agreement has been reached, each Member State grants national marketing authorizations for the product.

After the Marketing Authorizations have been granted, the company must submit periodic safety reports to the EMA (if approval was granted under the Centralized Procedure) or to the National Health Authorities (if approval was granted under the DCP or the MRP). In addition, several Pharmacovigilance measures must be implemented and monitored including Adverse Event collection, evaluation and expedited reporting and implementation as well as up-date of Risk Management Plans.

European Marketing Authorizations have an initial duration of five years. After this time, the Marketing Authorization may be renewed by the competent authority on the basis of re-evaluation of the risk/benefit balance. Once renewed the Marketing Authorization is valid for an unlimited period. Any Marketing Authorization which is not followed within three years of its granting by the actual placing on the market of the corresponding medicinal product shall cease to be valid.

Japan

In Japan, applications for new products are made through the Pharmaceutical and Medical Devices Agency (PMDA). Once an NDA is submitted, a review team is formed consisting of specialized officials of the PMDA, including chemistry/manufacturing, non-clinical, clinical and biostatistics. While a team evaluation is carried out, a data reliability survey and Good Clinical Practice inspection are carried out by the Office of Conformity Audit of the PMDA. Team evaluation results are passed to the PMDA's external experts who then report back to the PMDA. After a further team evaluation, a report is provided to the Ministry of Health, Labor and Welfare (MHLW), which makes a final determination for approval and refers this to the Council on Drugs and Foods Sanitation which then advises the MHLW on final approvability. Marketing and distribution approvals require a review to determine whether or not the product in the application is suitable as a drug to be manufactured and distributed by a person who has obtained a manufacturing and distribution business license for the type of drug concerned and confirmation that the product has been manufactured in a plant compliant with Good Manufacturing Practices.

Once the MHLW has approved the application, the company can make the new drug available for physicians to prescribe. After that, the MHLW has listed its national health insurance price within 60 days (or 90 days) from the approval, and physicians can obtain reimbursement. For some medications, the MHLW requires additional post-approval studies (Phase IV) to evaluate safety, effects and/or to gather information on the use of the product under special conditions. The MHLW also requires the drug's sponsor to submit periodic safety update reports. Within three months from the specified re-examination period, which is designated at the time of the approval of the application for the new product, the company must submit a re-examination application to enable the drug's safety and efficacy to be reassessed against approved labeling by the PMDA.

Price Controls

In most of the markets where we operate, the prices of pharmaceutical products are subject to both direct and indirect price controls and to drug reimbursement programs with varying price control mechanisms. Due to increasing political pressure and governmental budget constraints, we expect these mechanisms to remain in place—and to perhaps even be strengthened—and to have a negative influence on the prices we are able to charge for our products.

- Direct efforts to control prices.

- *United States.* In the US, as a result of health care reform legislation enacted in 2010 and the recent focus on deficit reduction, there is a significant risk of continued actions to control prices. Specifically, one of the proposals that was considered by the bipartisan Joint Select Committee on Deficit Reduction ("Super Committee") would have imposed a government-mandated pricing formula on both patented and generic medications provided through the Medicare prescription drug benefit (Medicare Part D). As to health care reform, there is a newly created entity, the Independent Payment Advisory Board, which has unprecedented authority to implement broad actions to reduce future costs of the Medicare program. This could include required prescription drug discounts or rebates, which could limit net prices for our products. In addition, the health care reform legislation included language authorizing significant increases in Medicaid rebates that were effective in 2010, and new required discounts in the Medicare Part D program, effective in 2011. There is a risk that government officials will continue to search for ways to reduce or control prices.
- *Europe.* In Europe, our operations are subject to significant price and marketing regulations. Many governments are introducing healthcare reforms in a further attempt to curb increasing healthcare costs. In the EU, governments influence the price of pharmaceutical products through their control of national healthcare systems that fund a large part of the cost of such products to consumers. The downward pressure on healthcare costs in general in the EU, particularly with regard to prescription drugs, has become very intense. Increasingly high barriers are being erected against the entry of new products. In addition, prices for marketed products are referenced within Member States and across Member State borders, including new EU Member States.
- *Japan.* In Japan, the government generally introduces price cut rounds every other year, and the government additionally mandates price decreases for specific products. In 2010, the National Health Insurance price calculation method for new products and the price revision rule for existing products were reviewed, and the resulting new drug tariffs were effective beginning April 2010. The Japanese government is currently undertaking a healthcare reform initiative with a goal of sustaining the universal coverage of the National Health Insurance program, and is addressing the efficient use of drugs including promotion of generic use. Meanwhile, the government tentatively initiated a premium system which basically maintains the price of patented drugs for unmet medical needs in order to promote innovative new drug creation and the solution of the unapproved indication issue. The continuance of this system will be reviewed as a part of price reforms in 2012.
- *Rest of World.* Many other countries around the world are also taking steps to rein in prescription drug prices. As just one example, in 2010, Turkey, one of our most important emerging growth markets, imposed a price reduction on prescription drugs ranging from 11-23%.

- Regulations favoring generics. In response to rising healthcare costs, many governments and private medical care providers, such as Health Maintenance Organizations, have instituted reimbursement schemes that favor the substitution of generic pharmaceuticals for more expensive brand-name pharmaceuticals. In the US, generic substitution statutes have been enacted by virtually all states and permit or require the dispensing pharmacist to substitute a less expensive generic drug instead of an original patented drug. Other countries have similar laws. We expect that the pressure for generic substitution will continue to increase.
- Cross-Border Sales. Price controls in one country can also have an impact in other countries as a result of cross-border sales. In the EU, products which we have sold to customers in countries with stringent price controls can in some instances legally be re-sold to customers in other EU countries with less stringent price controls at a lower price than the price at which the product is otherwise available in the importing country. In North America, products which we have sold to customers in Canada, which has relatively stringent price controls, are sometimes re-sold into the US, again at a lower price than the price at which the product is otherwise sold in the US. Such imports from Canada and other countries into the US are currently illegal. However, political efforts continue at the US federal, state and local levels to change the legal status of such imports. We expect that pressures on pricing will continue worldwide, and may increase. Because of these pressures, there can be no certainty that in every instance we will be able to charge prices for a product that, in a particular country or in the aggregate, enable us to earn an adequate return on our investment in that product.

Intellectual Property

We attach great importance to patents, trademarks, copyrights and know-how, including research data, in order to protect our investment in research and development, manufacturing and marketing. It is our policy to

seek the broadest protection available under applicable laws for significant product developments in all major markets. Among other things, patents may cover the products themselves, including the product's active ingredient and its formulation. Patents may cover processes for manufacturing a product, including processes for manufacturing intermediate substances used in the manufacture of the products. Patents may also cover particular uses of a product, such as its use to treat a particular disease, or its dosage regimen. In addition, patents may cover assays or tests for certain diseases or biomarkers, which will improve patient outcomes when administered certain drugs, as well as assays, research tools and other techniques used to identify new drugs. The protection offered by such patents extends for varying periods depending on the grant and duration of patents in the various countries or region. The protection afforded, which may vary from country to country, depends upon the type of patent and its scope of coverage.

In addition to patent protection, various countries offer data or marketing exclusivities for a proscribed period of time. Data exclusivity may be available which would preclude a potential competitor from filing a regulatory application for a set period of time that relies on the sponsor's clinical trial data, or the regulatory authority from approving the application. The data exclusivity period can vary depending upon the type of data included in the sponsor's application. When it is available, market exclusivity, unlike data exclusivity, precludes a competitor from obtaining FDA approval for a product even if a competitor's application relies on its own data.

United States

Patents. In the United States, a patent issued for an application filed today will receive a term of 20 years from the application filing date, subject to potential adjustments for Patent Office delay. A US pharmaceutical patent which claims a product, method of treatment using a product, or method of manufacturing a product, may be eligible for an extension of the patent term based on the time the FDA took to approve the product. This type of extension may only extend the patent term for a maximum of 5 years, and may not extend the patent term beyond 14 years from regulatory approval. Only one patent may be extended for any product based on FDA delay.

In practice, however, it is not uncommon for significantly more than the 5 year maximum patent extension period to pass between the time that a patent application is filed for a product and the time that the product is approved by the FDA. As a result, it is rarely the case that, at the time a product is approved by FDA, it will have the full 20 years of remaining patent life. Rather, in our experience, it is not uncommon that, at the date of approval, a product will have from 13 to 16 years of patent life remaining, including all extensions available at that time.

Data and Market Exclusivity. In addition to patent exclusivities, the FDA may provide data or market exclusivity for a new chemical entity or an "orphan drug," each of which run in parallel to any patent protection. Data exclusivity prevents a potential generic competitor from relying on clinical trial data which were generated by the sponsor when establishing the safety and efficacy of its competing product. Market exclusivity prohibits any marketing of the same drug for the same indication.

- A new small-molecule active pharmaceutical ingredient shall have 5 years of data exclusivity, during which time a competitor generally may not submit an application to the FDA based on a sponsor's clinical data.
- Orphan drug exclusivity provides 7 years of market exclusivity for drugs designated by the FDA as "orphan drugs," meaning drugs that treat rare diseases, as designated by the FDA. During this period, a potential competitor may not market the same drug for the same indication even if the competitor's application does not rely on data from the sponsor.
- A new biologic active pharmaceutical ingredient shall have 12 years of market exclusivity, during which time a competitor may not market the same drug for the same indication.
- The FDA may also request that a sponsor conduct pediatric studies, and in exchange will grant an additional 6-month period of market exclusivity, if the FDA accepts the data, the sponsor makes a timely application for approval for pediatric treatment, and the sponsor has either a patent-based or regulatory-based exclusivity period for the product which can be extended.

European Community

Patents. Patent applications in Europe may be filed in the European Patent Office (EPO) or in a particular country in Europe. The EPO system permits a single application to be granted for the whole of the EU, plus other non-EU countries, such as Switzerland and Turkey. A patent granted by the EPO or a European country office will expire no later than 21 years from the earliest patent application on which the patent is based.

Pharmaceutical patents can also be granted a further period of exclusivity under the Supplementary Protection Certificate (SPC) system. SPCs are designed to compensate the owner of the patent for the time it took to receive marketing authorization by the European Health Authorities. An SPC may be granted to provide, in combination with the patent, up to 15 years of exclusivity from the date of the first European marketing authorization. But the SPC cannot last longer than 5 years. The SPC duration can additionally be extended by a further 6 months if the product is the subject of an agreed pediatric investigation plan. The post-grant phase of patents, including the SPC system, is currently administered on a country-by-country basis under national laws which, while differing, are intended to, but do not always, have the same effect.

As in the US, in practice, however, it is not uncommon for the granting of an SPC to not fully compensate the owner of a patent for the time it took to receive marketing authorization by the European Health Authorities. Rather, since it can often take from 5 to 10 years to obtain a granted patent in Europe after the filing of the application, and since it can commonly take longer than this to obtain a marketing authorization for a pharmaceutical product in Europe, it is not uncommon that a pharmaceutical product, at the date of approval, will have a patent lifetime of 10 to 15 years, including all extensions available at that time.

Data and Market Exclusivity. In addition to patent exclusivity, the EU also provides a system of regulatory data exclusivity for authorized human medicines, which runs in parallel to any patent protection. The system for drugs being approved today is usually referred to as "8+2+1" because it provides: an initial period of 8 years of data exclusivity, during which a competitor cannot rely on the relevant data; a further period of 2 years of market exclusivity, during which the data can be used to support applications for marketing authorization, but the competitive product cannot be launched; and a possible 1 year extension of the market exclusivity period if, during the initial 8 year data exclusivity period, the sponsor registered a new therapeutic indication with "significant clinical benefit." This system applies both to national and centralized authorizations. Since it has been in force only since late 2005, the first 8 year period of data exclusivity has not yet expired, and many medicines are instead covered by the previous system in which EU member states provided either 6 or 10 years of data exclusivity.

The EU also has an orphan drug system for medicines similar to the US system. If a medicine is designated as an orphan drug, then it benefits from 10 years of market exclusivity after it is authorized, during which time a similar medicine for the same indication will not receive marketing authorization.

Japan

In Japan, a patent can be issued for active pharmaceutical ingredients. Although methods of treatment, such as dosage and administration, are not patentable in Japan, pharmaceutical compositions for a specific dosage or administration method are patentable. Processes to make a pharmaceutical composition are also patentable. The patent term granted is generally 20 years from the filing date of the patent application on which the patent is based. It can be extended up to 5 years under the Japanese Patent Act to compensate for erosion against patent term caused by the time needed to obtain marketing authorization from the MHLW. Typically, it takes approximately 7 to 8 years to obtain marketing authorization in Japan. A patent application on a pharmaceutical substance is usually filed shortly before or at the time when clinical testing begins. Regarding compound patents, it commonly takes approximately 4 to 5 years or more from the patent application filing date to the date that the patent is ultimately granted. As a result, it is not uncommon for the effective term of patent protection for an active pharmaceutical ingredient in Japan to be approximately 20 to 21 years, if duly extended.

The following is a summary of the patent expiration dates for certain key products of our Pharmaceuticals Division:

Oncology

- *Gleevec*/*Glivec.* We have patent protection on imatinib, the active ingredient used in our leading product *Gleevec*/*Glivec*, until July 2015 in the US (including pediatric extension), until 2016 in the major EU countries and until 2014 in Japan. Patent protection on a new crystal form of imatinib has been challenged in the US, but no challenge has been made to the compound patent in the US. In Turkey, where we do not have protection for the compound, we brought suit in 2007 for infringement of the imatinib formulation, indication and crystal form patents against a local company that had obtained generic marketing authorization for a generic version of *Glivec*. We obtained a preliminary injunction in Turkey, but it was lifted in 2008. Litigation is ongoing. In Canada, two generic companies have challenged the compound patent.
- *Tasigna.* Patent protection for the active ingredient in *Tasigna* will expire in 2023 in the US and other major markets.

- *Zometa* and *Reclast*/*Aclasta.* Patent protection on zoledronic acid, the active ingredient in these products, will expire in 2013 in the US and 2012-2013 in other major markets. We have settled patent litigation which we brought in the US against a generic manufacturer who challenged our patent on zoledronic acid. Under the settlement agreement, the generic manufacturer has dropped the challenge against the Novartis patent and will not launch zoledronic acid in the US until after the patent covering *Zometa* and *Reclast* expires in March 2013. In Canada, a generic company has challenged the compound patent.
- *Femara.* Patent protection for the active ingredient in *Femara* expired in 2011 in the US and in major European markets, and will expire in 2012 in Japan. Data exclusivity in Japan expires in 2014. Generic versions of *Femara* are available now in all major markets with the exception of Japan.
- *Sandostatin.* Patent protection for the active ingredient of *Sandostatin* has expired. Generic versions of *Sandostatin SC* are available in the US and elsewhere. Patents protecting the *Sandostatin LAR* formulation, the long-acting version of *Sandostatin* which represents a majority of our *Sandostatin* sales, expire in 2014 and beyond in the US, but expired in July 2010 in key markets outside the US.
- *Exjade.* Patent protection for the active ingredient in *Exjade* will expire in 2019 in the US and in 2021 in other markets.
- *Afinitor*/*Votubia* and *Zortress*/*Certican.* Patent protection for everolimus, the active ingredient in these products, and licensed to Abbott and sublicensed to Boston Scientific for use in drug-eluting stents, is expected to expire in 2020 in the US and in 2018–2019 in Europe and other major countries.

Primary Care

Primary Care

- *Arcapta*/*Onbrez.* Patent protection for the active ingredient of *Onbrez* (*Arcapta* in the US) is expected to expire in 2025 in the US (including patent term extension), in 2024 in Europe, and in 2020 in various other markets.
- *Diovan*/*Co-Diovan*/*Diovan HCT.* We have patent protection on valsartan, the active ingredient used in our best-selling products *Diovan* and *Co-Diovan*/*Diovan HCT*, until September 2012 in the US (including pediatric extension), and until 2013 for *Diovan* and 2016 for *Co-Diovan* in Japan (including patent term extensions). In the major countries of the EU, patent protection for *Diovan*, including patent term and pediatric extensions, expired in November 2011, with further patent term extensions for *Co-Diovan* granted until September 2012 in Italy, Belgium, Finland, Greece, Luxembourg, Norway, and the Netherlands. Patent litigations are ongoing against generic manufacturers in Europe and Asia.
- *Exforge. Exforge* is a single-pill combination of amlodipine besylate and valsartan. The valsartan patents expire from 2011 to13 (see above), except that, in Japan, the valsartan patent was extended for the *Exforge* product only to 2015. The patent on amlodipine besylate has expired. The patent covering the *Exforge* product (the combination of amlodipine besylate and valsartan) will expire in 2019 and has been challenged in both the US and Europe. In the US, under a license agreement with a generics manufacturer, the product is expected to face generic competition in October 2014. We have regulatory exclusivity for the data generated for *Exforge* in Europe until 2017 and in Japan until 2014. However, there is a risk that generic manufacturers may circumvent regulatory exclusivity and gain approval of a combination valsartan-amlodipine product in Europe before 2017.
- *Tekturna*/*Rasilez* and combination products. Patent protection for aliskiren, the active ingredient of *Tekturna*/*Rasilez*, and various single-pill combination products, will expire in 2018 in the US (not including pediatric extension) and between 2015 and 2020 in other markets.
- *Galvus* and *Eucreas*. Patent protection for vildagliptin, the active ingredient of *Galvus*, and the patented active ingredient in *Eucreas*, is estimated to expire, with extensions, in 2019-24.

Established Medicines

- *Voltaren*/*Cataflam.* Patent protection for the active ingredient in *Voltaren* has expired worldwide.
- *Ritalin LA*/*Focalin XR.* There is no patent protection for the active ingredient in *Ritalin* or *Focalin*. A number of patents covering the formulation will expire in 2015 and 2019. Several generic manufacturers have filed applications to market generic versions of *Ritalin LA* and *Focalin XR* in the US. Some of these patent litigations have been settled. Litigation against several generic manufactures remains ongoing in the US.

Specialty Care

Ophthalmology

- *Lucentis.* Patent protection for the active ingredient in *Lucentis* expires in 2018-22 in the EU and Japan. We do not have rights to market the product in the US. In December 2009, MedImmune filed a patent infringement suit against us in the UK and elsewhere in Europe, alleging that *Lucentis* infringes MedImmune's patents. MedImmune's European patents expired in 2011, but have been extended to 2016 in several European countries, including Italy, Germany, the UK, and France, and may be extended elsewhere in Europe. We have filed countersuits throughout Europe alleging non-infringement and invalidity. For more information regarding the *Lucentis* litigation see "Item 18. Financial Statements—note 20".

Neuroscience

- *Gilenya.* Patent protection for fingolimod, the active ingredient in *Gilenya* (licensed from Mitsubishi Tanabe Pharma Corporation), is expected to expire in 2019 in the US (including a 5-year patent term extension) and in 2018 in Europe (including a 5-year patent term extension). In Europe, we have regulatory exclusivity for the data generated for *Gilenya* until 2021, which could possibly be extended by one year. Patent protection for the commercial formulation of *Gilenya* will expire in 2024 in most major markets, including the EU and Japan. In addition, a patent application is pending in the US for the commercial formulation of *Gilenya* which, if granted, would expire in 2024.
- *Exelon.* Patent protection for the active ingredient in *Exelon*, granted to Proterra and licensed to Novartis, will expire in 2012 in the US and expired in 2011 in most other major markets. We hold a patent on a specific isomeric form of the active ingredient used in *Exelon* which expires in 2012-14 in major markets. *Exelon* Patch is further covered by a formulation patent expiring in 2019 in major markets. We settled litigation with several generic manufacturers who had filed applications to market generic versions of *Exelon* capsules in the US and had challenged our patents covering capsule formulations. Under the terms of the settlement agreements, Novartis granted these generic manufacturers licenses to the challenged US patents. As a result, generic versions of *Exelon* capsules are now on the market. The agreements do not permit the generic manufacturers to launch a generic version of the *Exelon* Patch prior to the patent expiration date. In September 2011, however, two other generic manufacturers filed applications to market generic versions of the *Exelon* Patch in the US, and challenged the patents covering the Patch. We filed infringement lawsuits against both of these manufacturers. In some European countries generic manufacturers have obtained marketing approvals for an oral *Exelon* formulation. In June 2010, several generic manufacturers in Spain were enjoined from selling generic versions of the oral formulation. In France, a generic manufacturer launched a generic oral formulation in July 2011 and Novartis sued for patent infringement. Challenges to the remaining patent covering the oral form in Europe (the patent on the specific isomeric form) are ongoing in several European countries.
- *Extavia.* Patent protection for the active ingredient in *Extavia* has expired. In May 2010, Biogen Idec filed a patent infringement suit in the US against Novartis, alleging that *Extavia* infringes its patent. The recently-granted patent will expire in September 2026. The litigation is ongoing.
- *Comtan.* Patent protection for entacapone, the active ingredient in *Comtan*, which we licensed from Orion, will expire in the US in 2013 and in Europe in 2012. Other patents, such as a polymorph patent, have also been granted. US Litigation concerning the patent on entacapone by Orion against two generic manufacturers who have challenged these patents has been settled. Under the terms of the settlement agreements, the first-to-file generic challenger may launch a generic version of *Comtan* in September 2012, prior to the expiration of the US entacapone compound patent. The second generic challenger can launch a generic version of *Comtan* in the US in April 2013. Suit against a third generic manufacturer is ongoing in the US. Novartis was not a party to any of these litigations. In Europe, several generic manufacturers have obtained marketing authorizations.
- *Stalevo.* One of the active ingredients in *Stalevo* is entacapone, the active ingredient in *Comtan.* Patent protection for entacapone will expire in 2012-13 (see above). *Stalevo* is protected by additional patents expiring up to 2020. Patent litigation by Orion in the US against generic manufacturers who have challenged the patent on entacapone and *Stalevo* formulation patents has been settled, allowing the generic challengers to launch generic versions of *Stalevo* in April 2012, prior to the expiration of the entacapone compound patent. Novartis was not a party to the litigation.

Integrated Hospital Care

- *Ilaris.* Patent protection for the active ingredient in *Ilaris* is expected to expire in 2024 in the US and in 2024 in Europe.
- *Neoral/Sandimmune.* Patent protection for the cyclosporin ingredient of *Neoral/Sandimmune* has expired worldwide.
- *Myfortic.* There is no patent protection for the active ingredient in *Myfortic*. Patents covering the formulation will expire in 2017. Several generic manufacturers have filed applications to market generic versions of *Myfortic* in the US. One of the resulting patent litigations has been settled. Litigation against several other generic manufacturers is ongoing in the US.

Critical Care

- *Xolair.* Patent protection for the active ingredient in *Xolair* will expire in 2018 in the US, in 2017 in Europe, and in 2012 in other markets.
- *Tobi Podhaler.* There is no patent protection for the active ingredient tobramycin. Patents covering the commercial product will expire in 2022 in the US and EU. Additional patent applications are also pending with respect to the commercial product in the US and the EU. If the last-filed of these applications were granted, then that patent would expire in 2025. In addition, in Europe, the product is entitled to Orphan Drug Status until 2021 for the current approved indication.

Compounds in Development

We file patent applications on our Compounds in Development during the course of the development process. The length of the term of any patents on our Compounds in Development cannot be known with certainty until after a compound is approved for marketing by a health authority. This is so because patent applications for many of the compounds will be pending during the course of the development process, but not yet granted. In addition, while certain patents may be applied for early in the development process, such as for the compound itself, it is not uncommon for additional patent applications to be applied for throughout the development process, such as for formulations, or additional uses. Further, in certain countries, data exclusivity and other regulatory exclusivity periods may be available, and may impact the period during which we would have the exclusive right to sell a product. These exclusivity periods generally run from the date the products are approved, and so their expiration dates cannot be known with certainty until the product approval dates are known. Finally, in the US and other countries, pharmaceutical products are eligible for a patent term extension for patent periods lost during product development and regulatory review. The law recognizes that product development and review by the FDA and other health authorities can take an extended period, and permits an extension of the patent term for a period related to the time taken for the conduct of clinical trials and for the health authority's review. However, the length of this extension and the patents to which it applies cannot be known in advance, but can only determined after the product is approved.

Subject to these uncertainties, we provide the following information regarding our Compounds in Phase III Clinical Development, if any, which have been submitted for registration to the FDA or the EU's EMA:

- INC424. Assuming approval in 2012, patent protection for INC424 would expire in 2027 in the EU. If INC424 is approved in years after 2012, it may be eligible for a Supplemental Patent Certification that may extend the patent term for a period of time which depends upon the year in which the product is approved and the impact of the overall cap on such extensions in the EU of 15 years from the approval date. US rights to INC424 are held by Incyte Corporation.
- NVA237. There is no patent protection on the active ingredient in NVA237. A number of patents covering the formulations, commercial product and uses of this product would expire by 2025. In addition, we expect that this product would be entitled to regulatory exclusivity for the data generated for approval, for a period of 10 years from the date of approval in the EU; for 3 years from the date of approval in the US; and for 8 years from the date of approval in Japan.
- SOM230. SOM230 is subject to patent protection in the US until 2026. In the EU, SOM230 is subject to patent protection until 2021, and is eligible for a Supplemental Patent Certification that may extend the patent term for a 5 year period from the date of approval.

The loss of patent protection can have a significant adverse impact on our Pharmaceuticals Division. There is also a risk that some countries, particularly countries in the developing world, may seek to impose limitations on the

availability of patent protection for pharmaceutical products, or on the extent to which such protections may be enforced. In addition, even though we may own or license patents protecting our products, and conduct pre-launch freedom-to-operate analyses, a third party may nevertheless claim that one of our products infringes an unlicensed third-party patent. In addition, despite data exclusivity, a competitor could opt to incur the costs of conducting its own clinical trials and preparing its own regulatory application, and avoid data exclusivity altogether. As a result, there can be no assurance that our efforts to protect our intellectual property will be effective, or that we will be able to avoid substantial adverse effects from the loss of patent protection in the future.

ALCON

Our Alcon Division is a leader in the research, development, manufacturing and marketing of eye care products worldwide. As of December 31, 2011, the Alcon Division employed 22,987 full-time equivalent associates worldwide in 75 countries. In 2011, the Alcon Division had consolidated net sales of $10.0 billion representing 17% of total Group net sales.

Alcon is a global leader in eye care and with the April 2011 completion of the merger of Alcon into Novartis, eye care is now our fifth growth platform alongside innovative pharmaceuticals, generics, vaccines and diagnostics, and consumer health. The merger united the strengths of Alcon, CIBA Vision and Novartis Ophthalmics into one eye care business. See "Item 5. Operating and Financial Review and Prospects—Item 5.A Operating Results—Acquisitions, Divestments and Other Significant Transactions—Acquisitions in 2011—Corporate—Alcon, Inc." Our Alcon Division offers an extensive breadth of products serving the full lifecycle of patient needs across eye diseases, vision conditions and refractive errors and is our second largest Division based on sales.

To meet the needs of ophthalmologists, surgeons, optometrists, opticians and physician specialists, Alcon operates with three businesses: Surgical, Ophthalmic Pharmaceuticals and Vision Care. Alcon sells products in 180 markets, and runs operations in 75 countries. Each business operates with specialized sales forces and marketing support.

Alcon's dedication to research and development is important to our growth plans. Our Alcon Division has nearly 2,000 people dedicated to research and development. In addition, our Alcon Division will work together with the Novartis Institutes for BioMedical Research (NIBR), our global pharmaceutical research organization. This collaboration is expected to allow our Alcon Division to leverage the resources of NIBR in an effort to discover expanded ophthalmic research targets and to develop chemical and biologic compounds for the potential development in diseases of the eye, with a particular focus on diseases such as glaucoma and macular degeneration.

Alcon Division Products

Surgical

Our Alcon Division's Surgical business is the market leader in global ophthalmic surgical product revenues, according to Market Scope, offering ophthalmic surgical equipment, instruments, disposable products and intraocular lenses for surgical procedures that address cataracts, vitreoretinal conditions, glaucoma and refractive errors.

Alcon's Surgical portfolio includes the *Infiniti* vision system for cataract procedures, the *Constellation* vision system for retinal operations, and the *AcrySof* family of intraocular lenses (IOLs), including the *AcrySof* IQ, *AcrySof* IQ *ReSTOR, AcrySof IQ Toric* and *AcrySof IQ ReSTOR Toric* IOLs. In 2011, our Alcon Division launched the *LenSx* femtosecond laser, an emerging technology in cataract surgery which increases the precision and reproductibility for corneal incisions, capsulorhexis and lens fragmentation steps of the procedure. In addition, Alcon provides advanced viscoelastics, surgical solutions, surgical packs and other disposable products for cataract and vitreoretinal surgery.

Ophthalmic Pharmaceuticals

Our Alcon Division's Ophthalmic Pharmaceuticals business combines Alcon's broad range of pharmaceuticals with selected ophthalmic products (excluding *Lucentis*) previously marketed by the Novartis Pharmaceuticals Division. The products treat chronic and acute diseases of the eye including glaucoma and allergies as well as anti-infective/anti-inflammatory and dry eye treatments. Our Alcon Division's Ophthalmic Pharmaceuticals business also oversees the line of professionally driven over-the-counter brands in artificial tears

and ocular vitamins. Product highlights within our Alcon Division's Ophthalmic Pharmaceuticals portfolio include *Travatan Z* solution and *DuoTrav* solution for the treatment of elevated intraocular pressure associated with glaucoma; *Vigamox* solution for bacterial conjunctivitis; *Pataday* solution for ocular itching associated with allergic conjunctivitis; and *Nevanac* suspension for eye inflammation following cataract surgery.

In April 2011, Alcon's portfolio of generic ophthalmic medicines sold through its Falcon business unit primarily in the US, was integrated into our Sandoz Division. Alcon will continue to manufacture the Falcon generics products and supply them to Sandoz. See "—Sandoz."

Vision Care

Our Vision Care business combines the portfolio of contact lenses and lens care products formerly sold by our former CIBA Vision Business Unit, with Alcon's contact lens care solution portfolio. This includes Alcon's *Opti-Free* line of multi-purpose disinfecting solutions, and CIBA Vision's *Clear Care* and *AOSept Plus* hydrogen peroxide lens care solutions, as well as CIBA Vision's broad portfolio of silicone hydrogel, daily disposables and color contact lenses, offered respectively within the *Air Optix*, *Dailies* and *Freshlook* brands. Through the integration of CIBA Vision products, Alcon is now one of the largest manufacturers across contact lenses and lens care products.

Recently Launched Products

Alcon launched a number of significant products in 2011, including:

- *Dailies Total 1* lenses—Water gradient daily disposable silicone hydrogel contact lenses launched in Benelux and Nordic countries in Europe. *Dailies Total 1* represents the first new contact lens brand launched under the new Alcon Division.
- *Opti-Free EverMoist* Multi Purpose Disinfecting Solution launched in Europe and Australia. The same product was launched in the US as *Opti-Free PureMoist* Multi Purpose Disinfecting Solution.
- *LenSx* laser—femtosecond laser launched globally in more than 16 countries, providing surgeons an image-guided laser that predictably and precisely performs several of the most challenging aspects of cataract surgery to deliver consistent refractive outcomes.
- *AcrySof IQ ReSTOR Toric* lens—advanced technology intra-ocular lens (ATIOL) launched in countries that recognize the CE Mark. This lens combines the multifocal technology of the *AcrySof IQ ReSTOR* with the *AcrySof IQ Toric* IOL providing cataract patients an IOL that delivers quality vision at all distances and corrects their astigmatism.
- *AcrySof IQ Toric T6-T9* lens—CE-marking and FDA approval of intraocular lens for correction of astigmatism in the 2D-4D range.
- *Travatan* BAK-free solution—further expands Alcon´s global benzalkonium chloride (BAK) free glaucoma product portfolio. The BAK-free version of *Travatan* is formulated with Polyquad, an anti-microbial preservative which has demonstrated to be safe and gentle to the ocular surface. *Travatan* BAK-free is now available in the EU, Australia, Malaysia, Korea, Pakistan, Taiwan, Singapore and Argentina.
- *DuoTrav* BAK-free solution—further expands Alcon's global benzalkonium chloride (BAK) free glaucoma product portfolio. The BAK-free version of *DuoTrav* is formulated with Polyquad, an anti-microbial preservative which has demonstrated to be safe and gentle to the ocular surface. *DuoTrav* BAK-free was launched in the EU, Brazil, Venezuela, Argentina, Malaysia, Singapore and Korea.
- *Moxeza* solution—US approval for a new formulation using the active ingredient of *Vigamox*, for bacterial conjunctivitis.
- *Systane Balance* eye drops—US and EU approval of new lubricant eye drops for patients with dry eye associated with meibomian gland dysfunction.

Key Marketed Alcon Products

The following tables set forth certain key marketed products in our Alcon Division. While we intend to sell our marketed products throughout the world, not all products and indications are currently available in every country.

Surgical

Alcon's Surgical portfolio includes cataract, vitreoretinal, refractive error and glaucoma equipment and devices. In 2011, Alcon achieved the number one selling position globally in intraocular lenses, cataract and vitreoretinal equipment and the number two selling position globally in refractive error equipment, according to Market Scope.

Cataract	*Infiniti* vision system with the *OZil* torsional hand piece for cataract procedures *Acrysof* family of intraocular lenses includes but is not limited to: *Acrysof IQ ReSTOR, Acrysof IQ Toric* and *Acrysof IQ ReSTOR Toric* advanced technology intraocular lenses that correct cataracts with presbyopia and/or astigmatism. *LenSx* Laser used for specific steps in the cataract surgical procedure
Vitroretinal	*Constellation* vision system for vitreoretinal operations *Constellation Ultravit* vitrectomy probe *Vitrectomy Probes* in 23G, 25+ *Purepoint* Laser System *Grieshaber* surgical instruments *Edgeplus* Blade Trocar Cannula System
Refractive	*Allegretto Wave Eye-Q* Excimer Laser for LASIK vision correction *Wavelight FS200* laser for LASIK vision correction *Wavelight EX500* laser for LASIK vision correction *Acrysof Cachet* phakic intraocular lens that corrects moderate to high myopia
Glaucoma	*EX-PRESS Glaucoma Filtration Device*

In addition, Alcon provides advanced viscoelastics, surgical solutions, surgical packs and other disposable products for cataract and vitreoretinal surgery.

Ophthalmic Pharmaceuticals

Alcon is number one in dollar market share globally with its allergy and ocular fluoroquinolone anti-infective products and the number two position globally for glaucoma treatments, according to IMS Health. In addition, Alcon offers the number one selling portfolio to treat ear infections, led by *Ciprodex*® Otic Suspension, according to IMS Health.

Glaucoma	*Travatan* and *Travatan Z* Ophthalmic Solutions to lower intraocular pressure *Azopt* Ophthalmic Suspension to lower intraocular pressure *Duotrav* Ophthalmic Solution to lower intraocular pressure (outside US markets) *Azarga* Ophthalmic Suspension to lower intraocular pressure (outside US markets)
Anti-Infectives	*Vigamox* and *Moxeza* Ophthalmic Solution for treatment of bacterial conjunctivitis
Anti-Inflammation	*Nevanac* Ophthalmic Suspension to treat pain following cataract surgery *Durezol* Emulsion to treat pain and inflammation associated with eye surgery *TobraDex* and *TobraDex ST* Ophthalmic Suspensions, combination anti-infective/anti-inflammatory products that target ocular conditions for which a corticosteroid is indicated and a bacterial infection or risk of bacterial infection exists
Dry Eye	The *Systane* family of over-the-counter dry eye products: *Systane Balance* Lubricant Eye Drops *Systane Ultra* Lubricant Eye Drops *Systane* Lubricant Eye Drops *Systane* Gel Drops

Allergy	*Patanol* and *Pataday* Ophthalmic Solutions for itching associated with allergic conjunctivitis *Patanase* nasal spray for seasonal nasal allergy symptoms
Ear Infections	*Ciprodex** Otic Suspension to treat middle and outer ear infections
Ocular Nutrition	*ICaps* eye vitamin dietary supplements provide essential dietary ingredients to support eye health

* CiproDex® is a registered trademark of Bayer, AG.

The addition of the Novartis ophthalmics product line, with the exception of *Lucentis*, further enhanced Alcon's Ophthalmic Pharmaceuticals product offerings. The Novartis ophthalmics brands transferred to Alcon, effective July 1, 2011 (not all products and indications are currently available in every country and are subject to local regulatory requirements and timing—from a segment reporting perspective these products have been retroactively restated to the Alcon segment from January 1, 2009) were:

Glaucoma	*Nyogel* reduction of intraocular pressure
Anti-Infection	*Okacin* ophthalmic solution for treatment of bacterial conjunctivitis (Turkey only)
Anti-Inflammation	*Voltaren Ophtha* Treatment of postoperative inflammation after cataract surgery, temporary relief of pain and photophobia after refractive surgery
Dry Eye	Lubricants for eye dryness, discomfort or ocular fatigue: *Genteal* *Viscotears* *Oculotect* (outside US markets) *Hypotears*
Ocular Allergy	*Zaditor* Antihistamine Eye Drops for temporary relief of itchy eyes associated with eye allergies (over-the-counter in the US) *Zaditen* Ophtha an H1-antagonist to fight allergic conjunctivitis *Livostin* an H1-antagonist to fight allergic conjunctivitis (Canada only)
Other Products	*Lid-Care* lid cleansing solution *Vitalux* nutrient supplements help patients with age-related macular degeneration maintain their vision (outside US markets) *Antikatarata* supplementary treatment of lens opacities (Russia only)

Vision Care

Through the integration of CIBA Vision products, Alcon is now one of the largest manufacturers of contact lenses and lens care products (not all products and indications are currently available in every country and are subject to local regulatory requirements and timing).

Contact Lenses	*Air Optix* family of silicone hydrogel contact lenses *Dailies* family of daily disposable contact lenses *FreshLook* family of color contact lenses
Contact Lens Care	*Opti-Free EverMoist* MPDS (*Opti-Free PureMoist* in US) *Opti-Free RepleniSH* Multi-Purpose Disinfecting Solution (MPDS) *Opti-Free Express* MPDS *Clear Care* Cleaning and Disinfecting Solution (*AOSept Plus* outside of North America)

Alcon Products in Development

Franchise	Project/Compound	Condition	Planned filing dates	Current phase
Surgical	*AcrySof IQ ReSTOR* IOL (new design)	Cataract	US 2013 EU 2012 Jpn 2013	Advanced development
	AcrySof IQ ReSTOR Toric IOL (new design)	Cataract	US 2014 EU 2012 Jpn 2014	Advanced development
	Next generation Phaco system	Cataract	US 2012 EU 2013 Jpn 2013	Advanced development
	AcrySof IQ ReSTOR Toric IOL	Cataract	US 2013 Jpn 2014	Advanced development
	AcrySof IQ ReSTOR Toric IOL diopter range expansion	Cataract	US 2013 Jpn 2014	Advanced development
	AcrySof IQ Toric IOL low diopter range expansion	Cataract	US 2013 Jpn 2014	Advanced development
	AcrySof Cachet angle-supported phakic lens	Refractive	US 2012[(1)] Jpn 2013	Advanced development
	Infiniti system upgrade	Cataract	US Filed Jpn 2012	Filed Advanced development
	Allegretto EX-500 laser, new indication	Refractive	US 2013	Advanced development
Ophthalmic Pharmaceuticals	*Azarga* solution	Glaucoma	Jpn 2012	Phase III
	New Combination	Glaucoma	US 2012 EU 2013	Phase III
	Travoprost, new formulation	Glaucoma	US 2013 EU 2013 Jpn 2013	Phase III
	Nepafenac, new formulation	Anti-inflammatory	U.S 2011 EU 2012	Filed Phase III
	Nepafenac, new indication	Anti-inflammatory	EU 2011	Filed
	Durezol emulsion, new indication	Anti-inflammatory	US 2011	Filed
	AL-2354A	Dry eye	US 2012	Phase III
	AL-43546	Dry eye	Jpn 2014	Phase III
	Olopatadine, new formulation	Ocular allergy	US 2014 or later EU 2014 or later	Phase III
	Cilodex AL-60371	Otic infections Otic infections	EU 2011 US 2013	Filed Phase III

Franchise	Project/Compound	Condition	Planned filing dates	Current phase
Vision Care	*Dailies Total 1* lens	Contact lens	US 2011 Jpn 2012	Filed Advanced development
	New Color Lens Design	Contact lens	EU 2011 Jpn 2011	Advanced development
	New Toric Lens Design	Contact lens	US 2012 E.U 2012 Jpn 2014	Advanced development
	New Multi-focal Design	Contact lens	US 2013 EU 2013 Jpn 2013	Advanced development
	New Color Lens Design	Contact lens	US 2012 EU 2012	Advanced development
	New lens solution	Lens solution	US 2013 EU 2013 Jpn 2014	Advanced development
	Lens comfort drop	Lens solution	US 2012 EU 2012	Advanced development

(1) This application was withdrawn in 2011 per FDA recommendation and will be re-filed in 2013 with complete 5-year data.

Principal Markets

The principal markets for our Alcon Division include the US, Americas (except the US) and Europe. The following table sets forth the aggregate 2011 net sales of the Alcon Division by region:

Alcon Division	2011 Net Sales to third parties	
	$ millions	%
United States	3,810	38.3
Americas (except the United States)	1,106	11.1
Europe	2,835	28.4
Rest of the World	2,207	22.2
Total	**9,958**	**100**

Sales of certain eye care Ophthalmic Pharmaceuticals products, including allergies, anti-inflammatory and dry eye, are subject to seasonal variation. Sales of the majority of our other products are not subject to material changes in seasonal demand.

Research and Development

In 2011, the Alcon Division invested $892 million ($869 million excluding amortization and impairment charges) in research and development, which amounted to 9% of the Division's net sales. The Alcon Division invested $352 million ($351 million excluding amortization and impairment charges) in research and development in 2010.

The Alcon Division has approximately 2,000 associates dedicated to research and development, working to address diseases and conditions that affect vision, such as cataracts, glaucoma, retina diseases, dry eye, infection, ocular allergies and refractive error. Our Alcon Division plans to invest more than $5 billion over the next five years to drive research and new product development in eye care. Alcon's pipeline strategy is built around a

proof-of-concept qualification process, which quickly identifies opportunities that have the best chance for technical success and advances those projects, while terminating others with a low probability of success.

The Novartis Institutes for BioMedical Research (NIBR) is the Novartis global pharmaceutical research organization that works to discover innovative medicines that treat disease and improve human health. See "—Pharmaceuticals—Research and Development." For Alcon's pharmaceutical business, NIBR will engage in research activities in an effort to discover expanded ophthalmic research targets and to develop chemical and biologic compounds for the potential development in diseases of the eye, with a particular focus on diseases such as glaucoma and macular degeneration.

Research and development activities for Alcon's surgical business are focused on expanding intraocular lens capabilities to improve refractive outcomes and developing instruments for cataract, vitreoretinal and corneal refractive surgeries. The Vision Care business benefits from the addition of CIBA Vision's contact lenses and lens care products to Alcon's existing lens care portfolio. Research and development activities for the combined business focuses on new lens materials, coatings and designs to improve patient comfort, and on lens care solutions that provide the safety, disinfecting and cleaning power needed to help maintain ocular health.

Production

We manufacture our Alcon Division's pharmaceutical and certain contact lens care products at seven facilities in the United States, Belgium, France, Spain, Brazil and Mexico. Additionally, Alcon recently completed construction on its new pharmaceutical plant in Singapore, which is targeted to start up in mid-2012. Our Alcon Division's surgical equipment and other surgical medical devices are manufactured at ten facilities in the United States, Belgium, Switzerland, Ireland, Germany and Israel. Our Alcon Division's contact lens and certain lens care production facilities are also in the US, Canada, Germany, Singapore, Malaysia and Indonesia.

The goal of our supply chain strategy is to efficiently produce and distribute high quality products. The manufacture of our products is heavily regulated by governmental health authorities around the world, including the FDA. In addition to regulatory requirements, many of our products involve technically complex manufacturing processes or require a supply of highly specialized raw materials. For some products and raw materials, we may also rely on a single source of supply.

We have implemented a global manufacturing strategy to maximize business continuity in case of such events or other unforeseen catastrophic events. However, there can be no guarantee that we will be able to successfully manage such issues when they arise.

The manufacture of our products is heavily regulated by governmental health authorities around the world, including the FDA. Like our competitors, our Alcon Division has faced manufacturing issues, and has received Warning Letters relating to such manufacturing issues.

For example, in late December 2010, CIBA Vision was issued a Warning Letter from the FDA regarding its Cidra, Puerto Rico manufacturing facility dedicated to producing CIBA Vision specialty soft contact lenses. CIBA Vision responded to the FDA concerns which were related to the need for additional documentation to support compliance in the areas of validation, corrective and preventative actions. In the second quarter of 2011, CIBA Vision discontinued its specialty soft contact lenses and closed its manufacturing facility in Cidra, Puerto Rico.

Marketing and Sales

Our Alcon Division conducts sales and marketing activities around the world in 75 countries organized under five operating regions (US, Europe/Middle East/Africa, Latin America/Caribbean/Canada, Asia and Japan). The global sales force is organized around the Surgical, Ophthalmic Pharmaceuticals and Vision Care businesses.

Most of our global Alcon marketing efforts are supported by advertising in trade publications and by marketing and sales representatives attending regional and national medical conferences. Marketing efforts are reinforced by targeted and timely promotional materials and direct mail to eye care practitioners in the office, hospital or surgery center setting. Technical service after the sale is provided and an integrated customer relationship management system is in place in many markets. Where applicable in our Pharmaceutical and Vision Care business, direct-to-consumer marketing campaigns are executed to promote selected products.

While our Alcon Division markets all of its products by calling on medical professionals, direct customers and distribution methods differ across business lines. Although physicians write prescriptions, distributors, wholesalers, hospitals, government agencies and large retailers are the main direct customers for Alcon

ophthalmic pharmaceutical products. Alcon surgical products are sold directly to hospitals and ambulatory surgical centers, although Alcon sells through distributors in certain markets outside the US. In most countries, contact lenses are available only by prescription. Our contact lenses can be purchased from eye care professionals, optical chains and large retailers, subject to country regulation. Lens care products can be found in major drugstores, food, mass merchandising and optical retail chains globally, subject to country regulations. In addition, mail order and Internet sales of contact lenses are becoming increasingly important channels in major markets worldwide.

As a result of the changes in healthcare economics, managed care organizations have become the largest group of payors for healthcare services in the US. In an effort to control prescription drug costs, almost all managed care organizations use a formulary that lists specific drugs that can be prescribed and/or the amount of reimbursement for each drug. We have a dedicated managed care sales team that actively seeks to optimize formulary positions for our products.

Competition

The eye care industry is highly competitive and subject to rapid technological change and evolving industry requirements and standards. Companies within this industry compete on technological leadership and innovation, quality and efficacy of their products, relationships with eye care professionals and healthcare providers, breadth and depth of product offering and pricing. The presence of these factors varies across our Alcon Division's product offerings, which provides a broad line of proprietary eye care products and competes in all major product categories in the eye care market, with the exception of eyeglasses.

Even if our principal competitors generally do not have a comparable range of products, they can, and often do, form strategic alliances and enter into co-marketing agreements to achieve comparable coverage of the ophthalmic market. Particularly in the US, our branded OTC products compete against "store brand" products that are made with similar active ingredients as Alcon's. These products do not carry our Alcon Division's trusted brand names, but they also do not carry the burden of the expensive advertising and marketing which helped to establish a demand for the product. As a result, the store brands may be sold at lower prices. In recent years, consumers have increasingly begun to purchase store brand OTC products instead of branded products.

Regulation

Our Ophthalmic Pharmaceuticals products are subject to the same regulatory procedures as are the products of our Pharmaceuticals Division. See "—Pharmaceuticals—Regulation."

Our Surgical and Vision Care products are regulated as medical devices in the US and the EU. These jurisdictions each have risk-based classification systems that determine the type of information which must be provided to the local regulators in order to obtain the right to market a product. In the US, safety and effectiveness information for Class II and III devices must be reviewed by the FDA. There are two review procedures: a Pre-Market Approval (PMA) and a Pre-Market Notification (510(k)) submission. Under a PMA, the manufacturer must submit to the FDA supporting evidence sufficient to prove the safety and effectiveness of the device. The FDA review of a PMA usually takes 180 days from the date of filing of the application. Under Pre-Market Notification (510(k)), the manufacturer submits notification to the FDA that it intends to commence marketing the product, with data that establishes the product as substantially equivalent to another product already on the market. The FDA usually determines whether the device is substantially equivalent within 90 days.

In the EU, the CE marking is required for all medical devices sold. By affixing the CE marking, the manufacturer certifies that a product is in compliance with provisions of the EU's Medical Device Directive. Most such products are subject to a self-certification process by the manufacturer, which requires the manufacturer to confirm that the product performs to appropriate standards. This allows the manufacturer to issue a Declaration of Conformity and to notify competent authorities in the EU that the manufacturer intends to market the product. In order to comply with European regulations, our Alcon Division maintains a full Quality Assurance system and is subject to routine auditing by a certified third party (a "notified body") to ensure that this quality system is in compliance with the requirements of the EU's Medical Device Directive as well as the requirements of the ISO quality systems' standard ISO 13485.

Intellectual Property

We attach great importance to patents, trademarks, copyrights and know-how in order to protect our investment in research and development, manufacturing and marketing. It is our policy to seek the broadest possible protection for significant product developments in all major markets. Among other things, patents may cover the products themselves, including the product's active substance and its formulation. Patents may also cover the processes for manufacturing a product, including processes for manufacturing intermediate substances used in the manufacture of the products. Patents may also cover particular uses of a product, such as its use to treat a particular disease, or its dosage regimen.

The protection offered by such patents extends for varying periods depending on the legal life of patents in the various countries. The protection afforded, which may also vary from country to country, depends upon the type of patent and its scope of coverage. We monitor our competitors and vigorously challenge infringements of our intellectual property.

Worldwide, all of our major products are sold under trademarks that we consider in the aggregate to be important to our businesses as a whole. We consider trademark protection to be particularly important in the protection of our investment in the sales and marketing of our Surgical, Pharmaceutical and Vision Care businesses. The scope and duration of trademark protection varies widely throughout the world. In some countries, trademark protection continues only as long as the mark is used. Other countries require registration of trademarks and the payment of registration fees. Trademark registrations are generally for fixed, but renewable, terms.

We rely on copyright protection in various jurisdictions to protect the exclusivity of the code for the software used in our surgical equipment. The scope of copyright protection for computer software varies throughout the world, although it is generally for a fixed term which begins on the date of copyright registration.

SANDOZ

Our Sandoz Division is a world leader in developing, manufacturing and marketing generic pharmaceutical products, follow-on biopharmaceutical products and drug substances that are not protected by valid and enforceable third-party patents. As of December 31, 2011, affiliates of the Sandoz Division employed 24,377 full-time equivalent associates worldwide in approximately 130 countries. In 2011, the Sandoz Division achieved consolidated net sales of $9.5 billion, representing 16.2% of the Group's total net sales.

The Sandoz Division is active in Retail Generics, Anti-Infectives, and Biopharmaceuticals & Oncology Injectables (the latter following the acquisition of EBEWE Pharma, completed in September 2009). In Retail Generics, we develop, manufacture and market active ingredients and finished dosage forms of pharmaceuticals, as well as supplying active ingredients to third parties. In Anti-Infectives, we develop and manufacture active pharmaceutical ingredients and intermediates—mainly antibiotics—for use by Retail Generics and for sale to third-party customers. In Biopharmaceuticals, we develop, manufacture and market protein- or other biotechnology-based products (known as biosimilars or follow-on biologics) and sell biotech manufacturing services to other companies, while in Oncology Injectables we develop, manufacture and market primarily cytotoxic products for the hospital market.

According to IMS Health, Sandoz is the No. 2 company in worldwide generic sales. Also according to IMS Health, Sandoz Biopharmaceuticals is a leader in biosimilars, with three marketed medicines accounting for approximately half of the total biosimilar market segment in the combined markets of North America, Europe, Japan and Australia. In addition, it has a pipeline of eight to ten biosimilar molecules including biosimilar rituximab (Rituxan®/Mabthera®) and other monoclonal antibodies at various stages of development. The acquisition of EBEWE Pharma in 2009 and the launch of generic enoxaparin sodium (Lovenox®) in the US in 2010 have also helped Sandoz to achieve a global leadership position in generic injectables, based on IMS Health figures. In addition, Sandoz remains one of the leading manufacturers of antibiotics worldwide.

Sandoz has three strategic priorities: to be first-to-market as originators' substance patents expire or become unenforceable, to be cost competitive by leveraging economies of scale in development and production, and to differentiate Sandoz based on its extensive global reach and advanced technical expertise in the development, manufacturing and marketing of differentiated generics and biosimilars.

Following the July 2010 launch of Sandoz' generic enoxaparin (Lovenox)—the largest-ever launch in the US of a generic hospital medication—Retail Generics recorded more than $1 billion net sales in its first 12 months on the market. In September, Amphastar Pharmaceuticals announced FDA approval for its generic enoxaparin product. But in October 2011, Sandoz and its collaboration partner Momenta Pharmaceuticals obtained a preliminary injunction preventing Amphastar from launching its product. Growth in the US, the single largest market for Sandoz, was also driven by the late 2010 launch of Sandoz's gemcitabine (Gemzar®) authorized generic, as well as 2011 launches including generic docetaxel (Taxotere®), higher-strength generic amlodipine-benazepril (*Lotrel*), generic meropenem (Merem®) injection, and the formation of a women's health portfolio with generic Seasonale®, Nordette®, Yaz® and Yasmin®. The inclusion of Alcon's Falcon generics business in the US also added $293 million, contributing 3.4% to global Sandoz sales growth in 2011. Key product launches in various European countries included generic docetaxel, generic anastrazole (Arimidex®), and valsartan/covalsartan (an early entry generic version of Novartis Pharmaceuticals' *Diovan*/*Co-Diovan*). Anti-Infectives

experienced continued volume growth, with key products globally including amoxicillin/clavulanic acid, ceftriaxone, azithromycin and cefdinir.

In Biopharmaceuticals, Sandoz continued to roll out important follow-on products and to drive its contract manufacturing base business. Recombinant growth hormone *Omnitrope,* which was first launched in the EU and US in 2006 and 2007 respectively, received FDA approval for additional indications, and was launched in 2011 in countries including Mexico and Brazil. The recent rollout of high-dosage oncology formulations continued to drive growth of anemia medicine *Binocrit* in several European countries, complementing the base nephrology business. Neutropenia medication *Zarzio,* which was approved EU-wide in 2009, continued to grow rapidly, and overtook reference product Neupogen® in countries including Sweden and the UK. The Sandoz biosimilar development pipeline also made substantial progress in 2011, which saw the start of two Phase III clinical trial programs for rituximab and for biosimilar filgrastim—Neupogen®—in the US.

In May 2011, Sandoz combined its existing Biopharmaceuticals and Oncology Injectables businesses into a single operational business, to optimize customer relationships and further simplify internal processes in the oncology sector. The Oncology Injectables business, which was formed by the 2009 acquisition of Austrian-based oncology injectables specialist EBEWE Pharma, is now fully organized on a global basis and offers customers a broad differentiated portfolio of more than 25 marketed products plus a strong pipeline for future growth.

In April 2010, Sandoz announced a definitive agreement to acquire Oriel Therapeutics, a privately held US pharmaceuticals company. The deal was finalized in June 2010, and Oriel has been integrated as a separate development unit within Sandoz. Oriel focuses on developing respiratory products with known pathways as generic alternatives to patented drugs for asthma and chronic obstructive pulmonary disease (COPD). Regulatory approvals of these medicines would enable Sandoz to increase access to affordable, high-quality therapeutic alternatives for these increasingly prevalent medicines. The acquisition also offers Sandoz access to Oriel's novel FreePath™ drug delivery technology, as well as its proprietary Solis™ disposable dry powder inhaler.

Recently Launched Products

Sandoz launched a number of important products in 2011, including:

- Docetaxel, a generic version of cytotoxic Taxotere®, was launched in the US.
- High-strength dosage forms of amlodipine-benazepril, a generic version of the Pharmaceuticals Division's *Lotrel*, were launched in the US.
- Meropenem, a generic version of broad-spectrum antibiotic Merem®, was launched in the US.
- *Introvale, Altavera, Loryna* and *Syeda*, generic versions of women's healthcare products Seasonale®, Nordette®, Yaz® and Yasmin®, were launched in the US.
- Anastrazole, a generic version of breast cancer medication Arimidex®, was launched in Germany.
- Valsartan/valsartan HCT, generic versions of the Pharmaceuticals Division's *Diovan*/*CoDiovan*, were launched as early entry generics in Germany, and were also launched in Canada, Spain, Hungary, Finland (valsartan HCT) and Switzerland.
- Esomeprazole, a generic version of proton pump inhibitor Nexium®, was launched in countries including France, Spain, Italy, and the Netherlands
- Atorvastatin, a generic version of statin Lipitor®, was launched in several countries including Romania, the Czech Republic, and Slovakia
- Rosuvastatin, a generic version of statin Crestor®, was launched in several countries including Brazil and Mexico
- *Omnitrope*, a follow-on version of the recombinant human growth hormone Genotropin®, was launched in Mexico and Brazil.

Key Marketed Products

The following tables describe key marketed products for Sandoz (availability varies by market):

Retail Generics

Product	Originator Drug	Description
Enoxaparin sodium injection	Lovenox®	Anti-coagulant
Amoxicillin/clavulanic acid	Augmentin®	Anti-infective
Omeprazole	Prilosec®	Ulcer and heartburn treatment
Lansoprazole	Prevacid®	Proton pump inhibitor
Acetylstein	Fluimicil®	Respiratory system
Fentanyl	Duragesic®	Analgesic
Tacrolimus	Prograf®	Transplantation
Gemcitabine	Gemzar®	Cytotoxic
Simvastatin	Zocor®	Cholestorol lowering treatment
Linex (lactobacillus)	n/a	Dietary supplement

Anti-Infectives

Active Ingredients	Description
Oral and sterile penicillins	Anti-infectives
Oral and sterile cefalosporins	Anti-infectives
Clavulanic acid and mixtures with clavulanic acid	ß-lactam inhibitors
Classical and semisynthetic erythromycins	Anti-infectives
Tiamuline	Anti-infectives
Lovastatin, Simvastatin, Pravastatin	Statins
Vancomycin	Anti-infectives
Thyroxine	Hormones

Intermediates	Description
Various cephalosporin intermediates	Anti-infectives
Erythromycin base	Anti-infectives
Various crude compounds produced by fermentation	Cyclosporine, ascomysine, rapamycine, mycophenolic acid, etc.

Biopharmaceuticals

Product	Originator Drug	Description
Omnitrope	Somatropin®	Recombinant human growth hormone
Binocrit and *Epoetin alfa Hexal*	Eprex®/Erypo®	Recombinant protein used for anemia
Zarzio and *Filgrastim Hexal*	Neupogen®	Recombinant protein used in oncology

Oncology Injectables

Product	Originator Drug	Description
Carboplatin	Paraplatin®	Ovarian, lung, head-neck and cervix cancer
Epirubicin	Farmorubicin®	Breast, lung, ovarian, gastric and bladder cancer, and others
Gemcitabine	Gemzar®	Bladder, pancreas, lung, ovarian, and breast cancer
Methotrexate	Folex®, Rheumatrex®	Arthritis; breast, lung, cervix and ovarian cancer, and others
Oxaliplatin	Eloxatin®	Colorectal and colon cancer
Paclitaxel	Taxol®	Breast, lung and ovarian cancer, Kaposi sarcoma
Docetaxel	Taxotere®	Breast, ovarian and non-small cell lung cancer

Principal Markets

The two largest generics markets in the world—the US and Europe—are the principal markets for Sandoz, although we are active in more than 130 countries. This table sets forth aggregate 2011 net sales by region:

Sandoz	2011 Net Sales to third parties	
	$ millions	%
United States	3,300	34.8
Americas (except the United States)	664	7.0
Europe	4,445	46.9
Rest of the World	1,064	11.3
Total	**9,473**	**100**

Many Sandoz products are used for chronic conditions that require patients to consume the product over long periods of time, from months to years. Sales of our anti-infective products are subject to seasonal variation. Sales of the vast majority of our other products are not subject to material changes in seasonal demand.

Production

We manufacture our Sandoz products at more than 30 production facilities around the world. Among these, our principal production facilities are located in Barleben, Germany; Kundl and Unterach, Austria; Mengeš and Ljubljana, Slovenia; Broomfield, Colorado; Wilson, North Carolina; Stryków, Poland; Kalwe and Mahad, India; Boucherville, Canada; Cambé and Taboão, Brazil; Gebze and Syntex, Turkey. In December 2010, Novartis announced the signing of a Memorandum of Understanding, confirming its intention to build a new, full-scale pharmaceutical manufacturing plant in St. Petersburg, Russia. Construction began in 2011 and the plant is expected to produce approximately 1.5 billion units per year (oral solid dosage forms), of which the majority is anticipated to be generic products. Total Novartis Group investment in the plant is expected to be approximately $140 million.

Active pharmaceutical ingredients are manufactured in our own facilities or purchased from third-party suppliers. We maintain state-of-the-art and cost-competitive processes within our own production network. Those processes include fermentation, chemical syntheses and precipitation processes, such as sterile processing. Many follow-on biologics are manufactured using recombinant DNA derived technology by which a gene is introduced into a host cell, which then produces the human protein. This manufacturing process requires sophisticated technical expertise. We are constantly working to improve current and to develop new manufacturing processes.

Where possible, our policy is to maintain multiple supply sources so that the business is not dependent on a single or limited number of suppliers, and competitive material sourcing can be assured. However, our ability to do so may at times be limited by regulatory or other requirements. We monitor market developments that could have an adverse effect on the supply of essential active pharmaceutical ingredients. All active pharmaceutical ingredients we purchase must comply with high quality standards.

We obtain agricultural, chemical and other raw materials from suppliers around the world. The raw materials we purchase are generally subject to market price fluctuations. We seek to avoid these fluctuations, where possible, through the use of long-term supply contracts. We also proactively monitor markets and developments that could have an adverse effect on the supply of essential materials. All raw materials we purchase must comply with our quality standards.

The goal of our supply chain strategy is to produce and distribute high-quality products efficiently. The manufacture of our products is heavily regulated by governmental health authorities around the world, including the FDA. In addition to regulatory requirements, many of our products involve technically complex manufacturing processes or require a supply of highly specialized raw materials. For some products and raw materials, we may also rely on a single source of supply.

In November 2011, we received a Warning Letter from the FDA with respect to three of our Sandoz Division's facilities—in Broomfield, Colorado, Wilson, North Carolina, and Boucherville, Canada—which remains unresolved. The letter followed inspections at all three sites in the course of 2011, and raised concerns regarding these facilities' compliance with FDA cGMP regulations. The FDA observations in the letter related primarily to general documentation, validation and investigation practices. It states that until the FDA confirms that the deficiencies have been corrected, the FDA can recommend disapproval of any pending applications or supplements listing Novartis affiliates as a drug manufacturer. In addition, FDA may refuse requests to issue export certificates to our Sandoz US affiliate, or import certificates to our Sandoz Canada affiliates. The letter further states that other federal agencies may take the Warning Letter into account when considering the award of contracts. Sandoz is collaborating with the FDA to promptly correct all concerns raised in the Warning Letter, and to ensure that our products are safe and effective and meet highest quality standards. However, if we fail to fully resolve the issues raised in the Warning Letter then we could be subject to legal action without further notice including, without limitation, seizure and injunction.

We have implemented a global manufacturing strategy to maximize business continuity in case of business interruptions or other unforeseen catastrophic events. However, there can be no guarantee that we will be able to successfully manage such issues when they arise.

Marketing and Sales

The Retail Generics business of Sandoz sells a broad portfolio of generic pharmaceutical products to wholesalers, pharmacies, hospitals and other healthcare outlets. Sandoz adapts its marketing and sales approach to local decision making processes, depending on the structure of the market in each country.

In response to rising healthcare costs, many governments and private medical care providers, such as health maintenance organizations, have instituted reimbursement schemes that favor the substitution of generic products for bioequivalent patented pharmaceutical products. In the US, statutes have been enacted by virtually all states that permit or require pharmacists to substitute a less expensive generic product for the brand-name version of a drug that has been prescribed to a patient. Generic use is growing in Europe, but penetration rates in many EU countries are below those in the US because reimbursement practices do not create efficient incentives for substitution. Legislative or regulatory changes can have a significant impact on our business in a country. In Germany, for example, the generic market is in transition as healthcare reforms increasingly shift decision making from physicians to insurance funds. A new German Pharmaceutical Law (AMNOG), introduced in January 2011, has driven implementation of the "single-molecule" tender contract system by promoting automatic substitution at pharmacy level.

Our Anti-Infectives business supplies Retail Generics and the pharmaceutical industry worldwide with active pharmaceutical ingredients and intermediates, mainly in the field of antibiotics.

Our Biopharmaceuticals business operates in an emerging business environment. Regulatory pathways for approving biosimilar products are either relatively new or still in development, and policies have not yet been fully defined or implemented for the automatic substitution and reimbursement of biosimilars in many markets, including the US. As a result, in many of these markets, including the US, our biosimilar products are marketed as branded competitors to the originator products.

Our Oncology Injectables business supplies hospitals worldwide primarily with cytotoxic products for use in oncology treatment.

Competition

The market for generic products is characterized by increasing demand for high-quality pharmaceuticals that can be marketed at lower costs due to comparatively minimal initial research and development investments. Increasing pressure on healthcare expenditures and numerous patent and data exclusivity period expirations have created a favorable market environment for the generics industry. This positive market trend, however, brings increased competition among the companies selling generic pharmaceutical products, leading to ongoing price pressure on generic pharmaceuticals.

In addition, research-based pharmaceutical companies have responded to increased competition from generic products by licensing their patented products to generic companies (the so-called "authorized generic"). By doing so, research-based pharmaceutical companies participate in the conversion of their patented product once generic conversion begins. Consequently, generic companies that were not in a position to compete on a specific product may enter the generic market using the innovator's product. In the US, the authorized generic is not subject to the US Hatch-Waxman Act rules regarding exclusivity (See "—Regulation"). The company that launches an authorized generic typically launches its product at the same time as the generic exclusivity holder. This tends to reduce the value of the exclusivity for the company that invested in creating the first generic. Furthermore, certain research-based companies continually seek new ways to protect their market franchise and to decrease the impact of generic competition. For example, some research-based pharmaceutical companies have reacted to generic competition by decreasing the prices of their patented product, thus possibly limiting the profit that the generic companies can earn on the competing generic product.

Development and Registration

Before a generic pharmaceutical may be marketed, intensive technical as well as clinical development work must be performed to demonstrate, in bio-availability studies, the bio-equivalency of the generic product to the reference product. Nevertheless, research and development costs associated with generic pharmaceuticals generally are much lower than those of the originator pharmaceuticals, as no clinical trials on dose finding and efficacy must be performed by the generic company. As a result, pharmaceutical products for which the patent and data exclusivity period has expired can be offered for sale at prices often much lower than those of products protected by patents and data exclusivity, which must recoup substantial basic research and development costs through higher prices over the life of the product's patent and data exclusivity period.

For follow-on biologic products, the regulatory pathways for approving such products are still in development, or pending final implementation, in many countries outside Europe. However, at least for certain biopharmaceutical products, a certain number of carefully targeted clinical trials in patients to determine safety and efficacy do appear to be required. Sandoz has successfully registered and launched the first biosimilar (or biosimilar type) product in Europe, the US, Canada, Japan, Taiwan, Australia and several Latin American countries, as well as two further products in Europe.

Currently, the affiliates of the Sandoz Division employ more than 2,800 Development and Registration staff who explore alternative routes for the manufacture of known compounds and develop innovative dosage forms of well-established medicines. These associates are based worldwide, including major facilities in Holzkirchen and Rudolstadt, Germany; Kundl, Schaftenau and Unterach, Austria; Mengeš and Ljubljana, Slovenia; Kalwe, India; Boucherville, Canada; Broomfield, Colorado and East Hanover, New Jersey (transferred from Wilson, NC, and formally opened in June 2010). In 2011, Sandoz invested $640 million ($618 million excluding impairment and amortization and impairment charges) in product development, which amounted to 6.8% of the division's net sales. Sandoz invested $658 million ($636 million excluding impairment and amortization charges) and $613 million ($603 million excluding impairment and amortization charges) in 2010 and 2009 respectively.

Regulation

The Hatch-Waxman Act in the US (and similar legislation in the EU and in other countries) eliminated the requirement that generic pharmaceutical manufacturers repeat the extensive clinical trials required for originator products, so long as the generic version could be shown in bioavailability studies to be of identical quality and purity, and to be therapeutically equivalent to the reference product.

In the US, the decision whether a generic pharmaceutical is bioequivalent to the original patented product is made by the FDA based on an Abbreviated New Drug Application (ANDA) filed by the generic product's

manufacturer. The process typically takes nearly two years from the filing of the ANDA until FDA approval. However, delays can occur if issues arise regarding the interpretation of bioequivalence study data, labeling requirements for the generic product, or qualifying the supply of active ingredients. In addition, the Hatch-Waxman Act requires a generic manufacturer to certify in certain situations that the generic product does not infringe on any current applicable patents on the product held by the innovator, or to certify that such patents are invalid or the product is non-infringing. This certification often results in a patent infringement lawsuit being brought by the patent holder against the generic company. In the event of such a lawsuit, the Hatch-Waxman Act imposes an automatic 30-month delay in the approval of the generic product in order to allow the parties to resolve the intellectual property issues. For generic applicants who are the first to file their ANDA containing a certification claiming non-infringement or patent invalidity, the Hatch- Waxman Act provides those applicants with 180 days of marketing exclusivity to recoup the expense of challenging the innovator patents. However, generic applicants must launch their products within certain time frames or risk losing the marketing exclusivity that they had gained by being a first-to-file applicant.

In the EU, decisions on the granting of a marketing authorization are made either by the EMA under the Centralized Procedure, or by a single Member State under the national or decentralized procedure. See "—Pharmaceuticals—Regulation—European Union." Companies may submit Abridged Applications for approval of a generic medicinal product based upon its "essential similarity" to a medicinal product authorized and marketed in the EU following the expiration of the product's data exclusivity period. In such cases, the generic company is able to submit its Abridged Application based on the data submitted by the medicine's innovator, without the need to conduct extensive Phase III clinical trials of its own. For all products that received a marketing authorization in the EU after late 2005, the Abridged Application can be submitted throughout the EU. However, the data submitted by the innovator in support of its application for a marketing authorization for the reference product will be protected for ten years after the first grant of marketing authorization in all Member States, and can be extended for an additional year if a further innovative indication has been authorized for that product, based on pre-clinical and clinical trials filed by the innovator that show a significant clinical benefit in comparison to the existing therapies.

Intellectual Property

Wherever possible, our generic products are protected by our own patents. Among other things, patents may cover the products themselves, including the product's active substance and its formulation. Patents may also cover the processes for manufacturing a product, including processes for manufacturing intermediate substances used in the manufacture of the products. Patents also may cover particular uses of a product, such as its use to treat a particular disease or its dosage regimen. It is our policy to seek the broadest possible protection for significant product developments in all major markets.

We take all reasonable steps to ensure that our generic products do not infringe valid intellectual property rights held by others. Nevertheless, originating companies commonly assert patent and other intellectual property rights in an effort to delay or prevent the launch of competing generic products. As a result, we can become involved in significant litigation regarding our generic products. If we are unsuccessful in defending these suits, we could be subject to injunctions preventing us from selling our generic products, or to damages, which may be substantial.

VACCINES AND DIAGNOSTICS

Our Vaccines and Diagnostics Division is a leader in the research, development, manufacturing and marketing of vaccines and diagnostic tools used worldwide. As of December 31, 2011, the Vaccines and Diagnostics Division employed 6,122 full-time equivalent associates worldwide in 30 countries. In 2011, the Vaccines and Diagnostics Division had consolidated net sales of $2.0 billion representing 3.4% of total Group net sales.

Novartis Vaccines' products include influenza, meningococcal, pediatric, adult and travel vaccines. Novartis Diagnostics is dedicated to preventing the spread of infectious diseases through the development and marketing of nucleic acid technology blood-screening products, and is also creating innovative diagnostics to detect, prevent, and predict disease and improve medical outcomes.

The current product portfolio of our Vaccines and Diagnostics Division includes more than 20 marketed products. In addition, the division's portfolio of development projects includes more than 15 potential new products in various stages of clinical development.

Influenza vaccines are a core franchise of the Division. Today we are among the world's largest producers of influenza vaccines. Influenza vaccination is one of the most effective public health interventions, sparing millions of people from complications, including death, from this infectious disease.

Young children and older adults are among the most vulnerable to the disease. *Fluad*, our adjuvanted seasonal influenza vaccine, has been used for more than a decade to enhance the immune response in older adults, helping to overcome their naturally occurring immune vulnerability and enabling effective protection against influenza. In October 2011, The New England Journal of Medicine published Phase III clinical trial data showing that *Fluad* had superior clinical efficacy to conventional non-adjuvanted vaccines against all circulating strains of influenza in children aged 6 months to 6 years and demonstrated a safety profile comparable to conventional non-adjuvanted influenza vaccines.

In 2011, we were the first vaccine manufacturer to deliver its seasonal influenza vaccine to the US, and shipped over 30 million doses to US customers for the 2011/2012 season. Early delivery meant that healthcare professionals would have the ability to provide the earliest possible protection against influenza.

Novartis remains dedicated to working with the World Health Organization and other stakeholders to support global pandemic preparedness, including affordable and equitable access to pandemic vaccines for developing countries.

The Novartis meningococcal franchise is expected to be a cornerstone of future growth for the division. Meningococcal disease causes approximately 50,000 deaths a year globally. Because almost all cases of infection are caused by five serogroups—A, B, C, W-135 and Y—and the distribution of strains varies greatly over time and location, we are working to deliver vaccines with broad coverage and the potential to protect all age groups at risk.

Menveo (MenACWY-CRM), a quadrivalent conjugate vaccine for the prevention of the A, C, Y and W-135 strains of meningococcal meningitis, was approved in 2010 in the US for use in individuals 11-55 years old and in the EU for individuals 11 years and up. Our *Menveo* development program is underway to expand the age range for which *Menveo* is indicated to cover persons from age 2 months in the US and EU. In June 2011, the FDA accepted for review a supplemental Biologics License Application to expand the *Menveo* indication to include infants and toddlers from 2 months of age.

Bexsero, the Novartis investigational multicomponent meningococcal serogroup B vaccine (4CMenB), has shown the potential to be the first vaccine to provide broad coverage against meningococcal B disease. In June 2011, We released new data from a pivotal Phase III clinical study in more than 1,800 infants which showed that *Bexsero* induced a robust immune response against meningococcal serogroup B when given alone or when co-administered with other routine vaccines. These data are included in the comprehensive clinical program with *Bexsero* in more than 8,000 infants, toddlers, adolescents and adults which served as the basis of the registration file submitted to the EMA in December 2010. *Bexsero* has also been submitted for approval to health authorities in Canada, Brazil and Australia.

Novartis Vaccines continued to expand geographically through the completion of the acquisition of an 85% stake in the vaccines company Zhejiang Tianyuan Bio-Pharmaceutical Co., Ltd., announced in March. Zhejiang Tianyuan offers marketed vaccine products in China. The division also achieved significant milestones in Brazil, building on its 2009 agreement with the Fundação Ezequiel Dias in Brazil for meningitis C vaccine technology transfer. This agreement has helped the vaccine be made available to all children in the country under two as part of a national immunization program which began in 2010.

The Diagnostics business maintains its market leadership in blood safety. Our *Procleix* portfolio of highly sensitive nucleic acid-based tests and automation platforms, developed in collaboration with Gen-Probe, Inc. are used in markets around the world to screen donated blood for HIV-1, Hepatitis types B and C, and West Nile Virus.

In 2011, we initiated US FDA review of *Procleix Ultrio Plus* Assay, our most sensitive 3-in-1 assay for single-test detection of HIV-1, Hepatitis B, and Hepatits C viruses in donated blood. We continue to expand our line of nucleic acid testing products in global markets through a combination of regulatory approvals and ongoing investment in new assays and next-generation automation platforms. Our pipeline includes the *Procleix* Panther® system and *Procleix Elite* 4-in-1 assay for HIV-1, HIV-2, Hepatitis B, and Hepatitis C virus in a single test, as well as a duplex Parvo B-19 virus and Hepatitis A virus intended to support in-process testing for plasma fractionators. The use of our products is growing in new markets. In 2011, blood banks in China, Indonesia, and Mexico, and other parts of the world adopted our fully integrated and automated platforms.

Vaccines and Diagnostics Division Products

The summary and the tables that follow describe key marketed products and potential products in development in our Vaccines and Diagnostics Division. Subject to required regulatory approvals and, in certain instances, contractual limitations, we intend to sell our marketed products throughout the world. However, our Vaccines and Diagnostics Division products are not currently available in every country. Regarding our products in development, these products and indications are in various stages of development throughout the world. For some products, the development process is ahead in the US; for others, development in one or more other countries or regions is ahead of that in the US. Due to the uncertainties associated with the development process, and due to regulatory restrictions in some countries, it may not be possible to obtain regulatory approval for any or all of the new products referred to in this Form 20-F. See "—Regulation" for further information on the approval process.

Key Marketed Vaccine Products

Product	Indication
Influenza Vaccines	
Agrippal	A surface antigen, inactivated, seasonal influenza vaccine for adults and children above six months of age.
Fluad	A surface antigen, inactivated, seasonal influenza vaccine containing the proprietary *MF59* adjuvant for the elderly
Fluvirin	A surface antigen, inactivated, seasonal influenza vaccine for adults and children four years of age and up
Optaflu	Cell culture-based, surface antigen, inactivated, influenza vaccine for adults 18 years of age and up
Meningococcal Vaccines	
Menjugate	Meningococcal C vaccine for children 2 months of age and up
Menveo	Meningococcal A, C, W-135 and Y vaccine for children, adolescents and adults between 2 and 55 years of age (11+ in the EU)
Travel Vaccines	
Encepur Children *Encepur* Adults	Tick-borne encephalitis vaccine for children 1-11 years of age and for adults 12+ years of age
Ixiaro[1]	Prophylactic vaccine against Japanese encephalitis virus
Rabipur/*Rabavert*	Vaccine for rabies, which can be used before or after exposure (typically animal bites)
Pediatric Vaccines	
Polioral	Live, attenuated, oral poliomyelitis vaccine (Sabin) containing attenuated poliomyelitis virus types 1, 2 and 3 from birth
Quinvaxem[2]	Fully liquid pentavalent vaccine combining antigens for protection against five childhood diseases: diphtheria, tetanus, pertussis (whooping cough), hepatitis B and Haemophilus influenzae type b for children above 6 weeks of age

(1) In collaboration with Intercell.

(2) In collaboration with Crucell.

Vaccine Key Products in Development

Therapeutic Area	Project/Compound	Potential Indication/ Disease Area	Planned filing dates/ Current phase
Influenza	*Optaflu*	Cell culture-based surface antigen, inactivated, seasonal influenza vaccine	EU registered; US Phase III
	Fluad	A surface antigen, inactivated, seasonal influenza vaccine containing the proprietary *MF59* adjuvant in development for adults 65+ years of age in the US, and for children up to 8 years of age in the EU	EU filed (pediatric) US Phase III (elderly)
	AgriFlu pediatric	A surface antigen inactivated seasonal influenza vaccine in development for children 6 months—18 years of age in the US	Registered, US Phase III
	Aflunov	A (H5N1) influenza vaccine containing the proprietary *MF59* adjuvant for pre-pandemic use in subjects 18 years of age and up	US Phase II
	H5N1 FCC	Cell-culture-based A (H5N1) influenza vaccine for pre-pandemic use (age range to be defined) for the US	Phase II
Meningococcal . . .	*Menveo*	Quadrivalent meningococcal vaccine for strains A, C, Y and W-135 for infants, adolescents and adults	Registered (children, adolescents & adults) (US & EU) US filed/EU Phase III (infants)
	Bexsero	Multicomponent meningococcal serogroup B vaccine for infants, adolescents and adults	EU, Canada and Brazil submitted, US Phase II
	MenABCWY	Meningococcal vaccine for strains A, B, C, Y and W-135	Phase II
P aeruginosa		Prophylactic vaccine for P aeruginosa infections[(1)]	Phase II
HIV[(1)]		Prophylactic HIV vaccine	Phase I
GBS		Prophylactic Group B Streptococcus (GBS) vaccine	Phase II
CMV[(2)]		Prophylactic vaccine for cytomegalovirus	Phase I
S Pneumoniae		Prophylactic vaccine for streptococcus pneumoniae	Phase I
C. Difficile[(3)]		Prophylactic vaccines for C. Difficile	Phase I

(1) In collaboration with National Institutes of Health.

(2) In collaboration with AlphaVax.

(3) In collaboration with Intercell.

Key Marketed Diagnostics Products

Product	Product Description
Procleix System	Semi automated modular instrument solution supporting duplex and Ultrio NAT assays
Procleix Tigris® System	Fully integrated and automated instrument solution for NAT blood screening
Procleix SP System	Fully automated liquid-handling instrument for pooling and creation of archive plates
Procleix Duplex Assay	NAT assay to detect HIV-1, HCV in donated blood through a single test
Procleix WNV Assay	First NAT assay approved by the FDA to detect West Nile virus in donated blood
Procleix Ultrio Assay	First NAT assay to detect HIV-1, HCV and HBV in donated blood through a single test
Procleix Ultrio Plus Assay	Our most sensitive NAT assay to detect HIV-1, HCV and HBV in donated blood through a single test

Diagnostics Key Products in Development

Therapeutic Area	Product	Product Description	Planned filing dates/ Current phase
Blood Screening	*Parvo/HAV test*	NAT test designed to detect Hepatitis A virus and Parvo B19 virus	Development
	Dengue test	NAT test designed to detect the Dengue virus	Discovery
	Procleix Panther System	Fully automated NAT blood screening instrument	Development
	Procleix Xpress System	Automated weight-free pooling and archiving solution	Development
	Procleix NAT Manager Software	*Procleix* data and information management system	Development
Infectious Disease		Accurate and early pathogen detection	Discovery
Predictive Health	*Maternal/Fetal Screening*	Tests to replace invasive pre-natal diagnostics	Discovery

Principal Markets

The principal markets for our Vaccines and Diagnostics Division include the US and Europe. The following table sets forth the aggregate 2011 net sales of the Vaccines and Diagnostics Division by region:

Vaccines and Diagnostics	2011 Net Sales to third parties	
	$ millions	%
United States	737	36.9
Americas (except the United States)	218	10.9
Europe	668	33.5
Rest of the World	373	18.7
Total	**1,996**	**100**

Sales of certain vaccines, including influenza and tick borne encephalitis vaccines, are subject to seasonal variation. Sales of the majority of our other products are not subject to material changes in seasonal demand.

Research and Development

In 2011, the Vaccines and Diagnostics Division invested $523 million ($495 million excluding amortization and impairment charges) in research and development, which amounted to 26% of the division's net sales. In 2010 and 2009 the Vaccines and Diagnostics Division invested $523 million ($506 million excluding amortization and impairment charges) and $508 million ($465 million excluding amortization and impairment charges) in research and development, respectively.

While research and development costs for vaccines traditionally have not been as high as for pharmaceuticals, a robust clinical program including Phase I to Phase III must be performed by the manufacturer to obtain a license for commercialization. See "—Pharmaceuticals—Compounds in Development" and "—Pharmaceuticals—Research and Development." Similarly, our NAT blood screening research and development efforts, which we perform in collaboration with Gen-Probe, Inc., as well as our other diagnostic research and development efforts, require extensive and expensive research and testing of potential products. At each step, there is a substantial risk that we will not achieve our goals. In such an event, we may decide or be required to abandon a product or program in which we have made a substantial investment.

Production

We manufacture our vaccines products at six facilities in Europe, the US and Asia. Our principal production facilities are located in Liverpool, UK; Marburg, Germany; Siena and Rosia, Italy, Ankleshwar, India, and Holly Springs, North Carolina. We continue to invest and upgrade our existing sites to ensure that previously initiated remediation efforts are completed and meet quality standards. In addition, certain conjugation and chemistry activities for vaccines are performed at our Emeryville, California site. At our Emeryville site we manufacture antigens and associated conjugates as both intermediates, and in final kits for diagnostics and blood donation screening around the world. We are the world leader in GMP production of HCV antigens used for blood donation screening. Companies in these markets, including our long-standing collaboration partners Ortho Clinical Diagnostics purchase these products which we manufactured for use in their blood testing assays. Our NAT products for blood screening are manufactured by Gen-Probe, Inc., with sales, marketing, and distribution by Novartis Diagnostics.

Each year new seasonal influenza vaccines need to be produced in order to help induce protection against the current circulating strains of the virus, which can change from year to year. Global surveillance of influenza viruses is conducted throughout the year by the World Health Organization (WHO) Influenza Surveillance Network, which provides information on currently circulating strains and identifies the appropriate strains to be included in next season's influenza vaccine. Each year, the EMA and the US Centers for Disease Control then confirm the vaccine composition for the coming season for the northern hemisphere and the Australian Therapeutic Goods Administration for the southern hemisphere. There can be no guarantee that the division will succeed in producing and having approved an updated flu vaccine within the timeframes necessary to commercialize the vaccine for the applicable flu season.

The goal of our supply chain strategy is to produce and distribute high quality products efficiently. The manufacture of our products is heavily regulated by governmental health authorities around the world, including the FDA. In addition to regulatory requirements, many of our products involve technically complex manufacturing processes or require a supply of highly specialized raw materials. For some products and raw materials, we may also rely on a single source of supply.

We have implemented a global manufacturing strategy to maximize business continuity in case of such events or other unforeseen catastrophic events. However, there can be no guarantee that we will be able to successfully manage such issues when they arise.

Marketing and Sales

Our main Vaccines marketing and sales organizations are based in Switzerland, Germany, UK, Italy and the US. We are also seeking to expand operations in India, Europe and Latin America. In March, we completed the previously-announced acquisition of an 85% stake in the Chinese vaccines company Zhejiang Tianyuan Bio-Pharmaceutical Co., Ltd.

In the US, we market influenza, meningoccocal, Japanese Encephalitis and rabies vaccines through a network of wholesalers and distributors as well as direct to key customers. Direct sales efforts are focused on public health and distributor channels, and on non-traditional channels, such as employers, chain drug headquarters and service providers.

The Diagnostics marketing and sales efforts are primarily focused on blood banks, with some marketing efforts focused on the development of new clinical diagnostics. With about 40% of the 90 million blood donations made worldwide each year not being tested with nucleic acid screening, the company will continue to focus on increasing its adoption in emerging markets of the world.

Competition

The global market for products of the type sold by our Vaccines and Diagnostics Division is highly competitive, and we compete against other major international corporations with substantial financial and other resources. Competition within the industry is intense and extends across a wide range of commercial activities, including pricing, product characteristics, customer service, sales and marketing, and research and development.

There is no guarantee that any product, even with patent protection, will remain successful if another company develops a new product offering significant improvements over existing products.

Regulation

Our vaccines products are subject to essentially the same regulatory procedures as are the products of our Pharmaceuticals Division. See "—Pharmaceuticals—Regulation." In the US, a company seeking approval of a vaccine submits a Biologics License Application (BLA) for the vaccine, rather than an NDA. Subsequently, the BLA follows substantially the same path for approval as does an NDA. In addition, annual license applications for seasonal flu vaccines must be submitted every year.

Our diagnostics products are regulated as medical devices in the US and the EU. See "—Alcon—Regulation." However, in the US, for specific diagnostics products that are sold into blood banks, or sold for diagnosis of HIV-1 infection, applications are submitted for review by the FDA's Center for Biologics Evaluation and Research (CBER). Under such review, the product is considered a biologic until such time as approval is received, at which time the product becomes a medical device. For products used specifically for screening of blood donors, or biologic reagents sold for further manufacturing use, the medical device is subject to Licensure by CBER. The submission for this purpose follows the same requirements as Vaccines; a Biologic License Application is submitted to CBER. CBER usually takes 240 days to review a BLA. In the EU, Diagnostics products are specifically covered by the EU In Vitro Diagnostic (IVD) Directive. Under that Directive, certain products are subject to review and prior approval by a "notified body." Others are subject to the manufacturer self-certification process.

Intellectual Property

We attach great importance to patents, trademarks, and know-how in order to protect our investment in research and development, manufacturing and marketing. It is our policy to seek the broadest possible protection for significant product developments in all major markets. Among other things, patents may cover the products themselves, including the product's active substance and its formulation. Patents may also cover the processes for

manufacturing a product, including processes for manufacturing intermediate substances used in the manufacture of the products. Patents may also cover particular uses of a product, such as its use to treat a particular disease, or its dosage regimen.

The protection offered by such patents extends for varying periods depending on the legal life of patents in the various countries. The protection afforded, which may also vary from country to country, depends upon the type of patent and its scope of coverage. We monitor our competitors and vigorously challenge infringements of our intellectual property.

CONSUMER HEALTH

Consumer Health is a world leader in the research, development, manufacturing and marketing of a wide range of competitively differentiated products that restore, maintain or improve the health and well-being of consumers, as well as pets and livestock. The business of Consumer Health is conducted by a number of affiliated companies throughout the world. Consumer Health consists of the following two divisions:

- OTC (over-the-counter medicines)
- Animal Health

Each division has its own research, development, manufacturing, distribution and selling capabilities. However, neither division is material enough to the Group to be separately disclosed as a segment. As of December 31, 2011, the affiliates of Consumer Health employed 8,290 full-time equivalent associates worldwide. In 2011, the affiliates of Consumer Health achieved consolidated net sales of $4.6 billion, which represented 7.9% of the Group's total net sales.

The divisions of Consumer Health place considerable emphasis on the development of strong, consumer-oriented and trustworthy brands. To deliver accelerated sales growth and to achieve leadership positions in the fields in which we compete, the divisions of Consumer Health seek to give voice to the consumer and to determine the needs and desires of consumers.

In the dynamic world of consumer healthcare, consumers are becoming more knowledgeable about health and the benefits of self-medication. The success of each division depends upon its ability to anticipate and meet the needs of consumers and health professionals worldwide.

The following is a description of the two Consumer Health divisions:

- OTC (over-the-counter medicines) is a world leader in offering products for the treatment and prevention of common medical conditions and ailments, to enhance people's overall health and well-being. The business of OTC is conducted by a number of affiliated companies in more than 50 countries. The OTC business focuses on a group of strategic global brands in leading product categories that include treatments for cough/cold/respiratory (*Triaminic, Otrivin, TheraFlu*/*NeoCitran*), pain relief (*Excedrin*, *Voltaren*), digestive health (*Benefiber, Prevacid24HR, Pantoloc Control*), dermatology (*Lamisil, Fenistil*), and smoking cessation (*Habitrol*/*Nicotinell*).
- Animal Health offers products and services to save, prolong and improve animal lives, focusing on both companion and farm animals (including cultivated fish). The business of Animal Health is conducted by affiliated companies in approximately 40 countries. Animal Health has a dedicated research and development team that benefits from synergies with other Novartis businesses, most notably research in the Pharmaceuticals Division. Key products for companion animals include *Atopica* (atopic dermatitis management), *Deramaxx* and *Onsior* (pain relief), *Fortekor* (heart failure in dogs, chronic renal insufficiency in cats), and *Sentinel*/*Milbemax*/*Interceptor* (intestinal parasite control and heartworm prevention), while leading farm animal products include the therapeutic anti-infective *Denagard*, an effective broad-spectrum antimicrobial used to treat and control bacteria in swine, *CLiK,* an effective insect growth regulator used to control blowfly strike in sheep, cattle vaccines used to prevent respiratory and reproductive diseases in beef and dairy cattle, and *Zolvix*, a sheep drench representing the first new sheep anthelmintic class in 25 years. Aquaculture products include vaccines and treatments mainly used in salmon farming.

Principal Markets

The principal markets for Consumer Health are the US and Europe. The following table sets forth the aggregate 2011 net sales of Consumer Health by region:

Consumer Health	2011 Net Sales to third parties	
	$ millions	%
United States	1,405	30.3
Americas (except the United States)	480	10.4
Europe	1,964	42.4
Rest of the World	782	16.9
Total net sales	**4,631**	**100**

Sales of our OTC Division are marked by a high degree of seasonality, with our cough, cold and allergy brands significantly affected by the timing and severity of the annual cold and flu and allergy seasons. Sales of our Animal Health Division's livestock segment can also fluctuate seasonally, and can be significantly affected by climatic and economic conditions, or by changing health or reproduction rates of animal populations. Sales of most of our other products are not subject to material changes in seasonal demand.

Production

OTC: Products for our OTC Division are produced by the division's own plants, strategic third-party suppliers and other Novartis Group plants (which are predominantly owned and operated by the Pharmaceuticals Division). The primary OTC plants are located in Lincoln, Nebraska; Nyon, Switzerland; Humacao, Puerto Rico; and Jamshoro, Pakistan.

Animal Health: Approximately 80% of our production volume is manufactured by third parties and Novartis affiliates in other divisions. Animal Health has production facilities of its own located around the world, with main sites in Wusi Farm, China; Dundee and Braintree, UK; Larchwood, Iowa; Charlottetown, Canada; and Huningue, France.

While production practices may vary from division to division, we generally obtain our raw materials, intermediates and active ingredients from suppliers around the world. The raw materials, intermediates and active ingredients we purchase are generally subject to market price fluctuations. We seek to avoid these fluctuations, where possible, through the use of long-term supply contracts. We also proactively monitor markets and developments that could have an adverse effect on the supply of essential materials. All raw materials we purchase must comply with our quality standards.

The goal of our supply chain strategy is to produce and distribute high quality products efficiently. The manufacture of our products is heavily regulated by governmental health authorities around the world, including the FDA. In addition to regulatory requirements, many of our products involve technically complex manufacturing processes or require a supply of highly specialized raw materials. For some products and raw materials, we may also rely on a single source of supply.

In December 2011, we voluntarily suspended operations and shipments from the OTC Division facility located at Lincoln, Nebraska. This action was taken to accelerate maintenance and other improvement activities at the site. Subsequently, in January 2012, we voluntarily recalled certain OTC Division products, as well as an Animal Health Division product that were produced at the Lincoln facility. We plan to gradually resume operations at the Lincoln site following implementation of planned improvements and in agreement with the FDA. However, as of the date of this Form 20-F, it is not possible to determine when the plant will resume full operations. The Lincoln facility produces a variety of products with annual sales value of less than 2% of Novartis Group sales. Should we fail to complete the planned improvements at the site in agreement with FDA in a timely manner, then we may suffer a significant loss in sales.

We have implemented a global manufacturing strategy to maximize business continuity in case of business interruptions or other unforeseen catastrophic events. However, there can be no guarantee that we will be able to successfully manage such issues when they arise.

Marketing and Sales

OTC: OTC aims to be a leading global participant in fulfilling the needs of patients and consumers for self-medication healthcare. Strong, leading brands and products, innovation led by a worldwide research and development organization, and in-house marketing and sales organizations are key strengths in pursuing this objective. We engage in general public relations activities, including media advertisements, brand websites and other direct advertisements of brands, to the extent permitted by law in each country. We distribute our products through various channels such as pharmacies, food, drug and mass retail outlets.

Animal Health: Animal Health's products are mostly prescription-only treatments for both farm and companion animals. The major distribution channel is veterinarians, either directly or through wholesalers of veterinary products. Primary marketing efforts are targeted at veterinarians using such marketing tools as targeted personal selling, printed materials, direct mail, advertisements, articles in the veterinary specialty press, and conferences and educational events for veterinarians. In addition, we engage in general public relations activities and media advertising, including brand websites and other direct advertisements of brands, to the extent permitted by law in each country.

Competition

The global market for products of the type sold by Consumer Health is highly competitive, and we compete against other major international corporations with substantial financial and other resources. Competition within the industry is intense and extends across a wide range of commercial activities, including pricing, product characteristics, customer service, sales and marketing, and research and development. Particularly in the US, our branded OTC products compete against "store brand" products that are made with the same active ingredients as ours. These products do not carry our trusted brand names, but they also do not carry the burden of the expensive advertising and marketing which helped to establish a demand for the product. As a result, the store brands may be sold at lower prices. In recent years, consumers have increasingly begun to purchase store brand OTC products instead of branded products.

Research and Development

OTC: At OTC, the focus of research and development activities is primarily on analgesics, cough/cold/respiratory and digestive health treatments. OTC also works closely with the Pharmaceuticals Division to evaluate appropriate products that can be switched from prescription to OTC status. The development of line extensions to leverage brand equities is also of high importance. These extensions can take many forms including new flavors, new galenical forms and more consumer-friendly packaging.

Animal Health: Novartis Animal Health has dedicated research and development facilities in Switzerland, North America and Australia. The main focus for research is identification of potential new parasiticides and therapeutics in key areas of internal medicine. In addition, in the US and Canada, we devote resources to the quest for new vaccines for farm animals and cultivated fish. Also, our researchers exploit synergy with other Novartis businesses and collaborate with external partners to develop veterinary therapeutics and vaccines. Drug delivery projects, some in collaboration with external partners, concentrate on key treatment areas and aim to improve efficacy and ease of use.

In 2011, Consumer Health invested $296 million ($292 million excluding amortization and impairment charges) in research and development, which amounted to 6.4% of the division's net sales. Consumer Health invested $261 million ($261 million excluding amortization and impairment charges) and $252 million ($252 million excluding amortization and impairment charges) in research and development in 2010 and 2009 respectively.

Regulation

OTC: For OTC products, the primary regulatory process for bringing a product to market consists of preparing and filing a detailed dossier with the appropriate national or international registration authority and obtaining approval of the applicable health authority. See "—Pharmaceuticals—Regulation." In the US, in addition to the NDA process, which also is used to approve prescription pharmaceutical products, an OTC product may be sold if the FDA has determined that the product's active ingredient is generally recognized as safe and effective. FDA makes this determination through a regulatory process known as the OTC Drug Review. In the OTC Drug Review, the FDA has established, in a series of monographs, the conditions under which particular active ingredients may be recognized as safe and effective for OTC use. Pharmaceutical companies can market products containing these active ingredients without the necessity of filing an NDA and going through its formal

approval process, so long as the company complies with the terms of the published monograph. These processes do not apply outside the US. Outside the US, countries have their own regulatory processes for approving or allowing the sale of pharmaceutical products, including prescription, OTC, and switching from prescription to OTC status. These processes vary from country to country.

Animal Health: The registration procedures for animal medicines are similar to those for human medicines. An animal drug application for product registration must be accompanied by extensive data on target animal and user safety, environmental fate and toxicology, efficacy in laboratory and clinical studies, information on manufacturing, quality control and labeling as well as on residues and food safety if applied to food-producing animals. In the US, animal health products are generally regulated by the FDA's Center for Veterinary Medicine. Certain product categories are regulated by the Environmental Protection Agency, and vaccines are under the control of the US Department of Agriculture. In the EU, veterinary medicinal products need marketing authorization from the competent authority of a member-state (national authorization) or from the EU Commission (community authorization) following either the Centralized Procedure, Mutual Recognition Procedure or the Decentralized Procedure. See "—Pharmaceuticals—Regulation."

Intellectual Property

Our Consumer Health divisions are strongly brand-oriented. As a result, we consider our trademarks to be of utmost value. Enforceable trademarks protect most of our brands in the majority of the markets where these brands are sold, and we vigorously protect these trademarks from infringement. Our most important trademarks are used in a number of countries. Local variations of these international trademarks are employed where legal or linguistic considerations require the use of an alternative.

Wherever possible our products are protected by patents. Among other things, patents may cover the products themselves, including the product's active substance and its formulation. Patents may also cover the processes for manufacturing a product, including processes for manufacturing intermediate substances used in the manufacture of the products. Patents may also cover particular uses of a product, such as its use to treat a particular disease, or its dosage regimen. It is our policy to seek the broadest possible protection for significant product developments in all major markets.

Our Consumer Health divisions also sell products which are not currently covered by patents. Some of these products have never been patent-protected and others have lost protection due to patent expiry.

4.C Organizational Structure

See "Item 4. Information on the Company—4.A History and Development of Novartis," and "Item 4. Information on the Company—4.B Business Overview—Overview."

4.D Property, Plants and Equipment

Our principal executive offices are located in Basel, Switzerland. Our divisions and business units operate through a number of affiliates having offices, research facilities and production sites throughout the world.

We generally own our facilities. However, some sites are leased under long-term leases. Some of our principal facilities are subject to mortgages and other security interests granted to secure indebtedness to certain financial institutions. We believe that our production plants and research facilities are well maintained and generally adequate to meet our needs for the foreseeable future.

The following table sets forth our major production and research facilities.

Location/Division or Business Unit	Size of Site (in square meters)	Major Activity
Major Production facilities:		
Pharmaceuticals		
Ringaskiddy, Ireland	60,000	Drug substances, intermediates
Grimsby, UK	64,000	Drug substances, intermediates

Location/Division or Business Unit	Size of Site (in square meters)	Major Activity
Stein, Switzerland	130,000	Steriles, ampules, vials, tablets, capsules, transdermals
Basel, Switzerland—Klybeck	11,000	Drug substances, intermediates
Basel, Switzerland—Schweizerhalle	26,000	Drug substances, intermediates
Basel, Switzerland—St. Johann	28,000	Drug substances, intermediates, biopharmaceutical drug substance
Torre, Italy	52,000	Tablets, drug substance intermediates
Changshu, China	56,000	Drug substances, intermediates
Vacaville, California	7,400	biopharmaceutical drug substances
Suffern, NY	48,000	Tablets, capsules, transdermals, vials
Kurtkoy, Turkey	52,000	Tablets, capsules, effervescents
Horsham, UK	17,000	Tablets, capsules
Sasayama, Japan	26,000	Tablets, capsules, dry syrups, suppositories, creams, powders
Huningue, France	44,000	Suppositories, liquids, solutions, suspensions, biopharmaceutical drug substances
Cairo, Egypt	47,000	Tablets, creams, liquids, steriles
Singapore	29,000	Bulk tablets
Wehr, Germany	24,000	Tablets, creams, ointments
Barbera, Spain	24,000	Tablets, capsules
Resende, Brazil	16,000	Drug substances, intermediates
Chang Ping, China	17,000	Tablets, capsules, gel
Alcon		
Fort Worth, TX	219,000 (production and R&D)	Pharmaceutical
Puurs, Belgium	55,000	Pharmaceutical, Surgical, Vision Care
Singapore	50,000 (production and R&D)	Pharmaceutical, Vision Care
Duluth, GA	44,000 (production and R&D)	Vision Care
Grosswallstadt, Germany	40,000 (production and R&D)	Vision Care
Houston, Texas	36,325	Surgical

Location/Division or Business Unit	Size of Site (in square meters)	Major Activity
Johor, Malaysia	35,000	Vision Care
Pulau Batam, Indonesia	27,000	Vision Care
Des Plaines, IL	27,000	Vision Care
Huntington, West Virginia	24,600	Surgical
Irvine, California	19,500 (production and R&D)	Surgical
Sinking Spring, Pennsylvania	18,000	Surgical
Mississauga, Canada	15,000	Vision Care
Kaysersberg, France	14,800	Pharmaceutical, Vision Care
Cork, Ireland	13,650	Surgical
Sao Paulo, Brazil	8,360	Pharmaceutical, Vision Care
Erlangen, Germany	6,600 (production and R&D)	Surgical
Aliso Viejo, California	5,200	Surgical
Schaffhausen, Switzerland	4,100 (production and R&D)	Surgical
Mexico City, Mexico	2,900	Pharmaceutical, Vision Care
Pressath, Germany	2,600 (production and R&D)	Surgical
Neve Llan, Israel	1,000	Surgical
Sandoz		
Taboão da Serra, Brazil	501,000	Capsules, tablets, syrups, suspensions, drop solutions
Kundl and Schaftenau, Austria	449,000 (production and R&D facilities)	Biotech products, intermediates, active drug substances, final steps (finished pharmaceuticals)
Mengeš, Slovenia	131,000 (production and R&D facilities)	Biotech products and active drug substances
Barleben, Germany	95,000	Broad range of finished dosage forms
Ljubljana, Slovenia	83,000 (production and R&D facilities)	Broad range of finished dosage forms
Broomfield, CO	60,000	Broad range of finished dosage forms
Kalwe, India	47,000	Broad range of finished dosage forms
Mahad, India	43,000	Active drug substances
Gebze, Turkey	42,000	Broad range of finished dosage forms
Cambé, Brazil	32,000	Broad range of finished dosage forms
Wilson, NC	31,000	Broad range of finished dosage forms
Rudolstadt, Germany	37,000 (production and R&D facilities)	Inhalation technology, ophthalmics and nasal products

Location/Division or Business Unit	Size of Site (in square meters)	Major Activity
Stryków, Poland	20,000	Broad range of finished dosage forms
Kolshet, India	20,000 (production and R&D facilities)	Generic pharmaceuticals
Boucherville, Canada	14,000 (production and R&D facilities)	Injectable products
Holzkirchen, Germany	17,000 (production and R&D facilities)	Oral dispersible films, transdermal delivery systems, reservoir and matrix patches
Unterach, Austria	15,000 (production and R&D facilities)	Oncology injectables
Vaccines and Diagnostics		
Holly Springs, NC	50,000 (production facilities)	Vaccines and adjuvant
Emeryville, CA	99,000 (production and R&D facilities; includes Pharmaceuticals facilities)	Vaccines and blood testing
Siena/Rosia, Italy	99,000 (production and R&D facilities)	Vaccines
Liverpool, UK	38,000	Vaccines
Marburg, Germany	86,000 (production and R&D facilities)	Vaccines and adjuvant
Ankleshwar, India	11,000	Vaccines
Consumer Health		
OTC		
Lincoln, NE	48,000 (production and R&D facilities)	Tablets, liquids, creams, ointments, capsules, patches, powders
Nyon, Switzerland	15,000 (production and R&D facilities)	Liquids, creams, aerosols
Humacao, Puerto Rico	13,000	Tablets, capsules, medicated chocolates, softgels and medicated dissolving strips
Jamshoro, Pakistan	24,000	Tablets, liquids, creams
Animal Health		
Wusi Farm, China	39,000	Insecticides, antibacterials, acaricides, powders
Larchwood, IA	13,000 (production and R&D facilities)	Veterinary immunologicals
Dundee, UK	11,000	Liquids
Braintree, UK	6,000	Veterinary immunologicals
Huningue, France	5,000	Formulation and packaging of tablets, creams, ointments, suspensions and liquids
Charlottetown, Canada	5,000	Veterinary immunologicals for aquaculture

Location/Division or Business Unit	Size of Site (in square meters)	Major Activity
Major Research and Development Facilities:		
Pharmaceuticals		
East Hanover, NJ	177,000	General pharmaceutical products
Basel, Switzerland—St. Johann	150,000	General pharmaceutical products
Basel, Switzerland—Klybeck	140,000	General pharmaceutical products
Cambridge, MA	116,000	General pharmaceutical products
Horsham, UK	38,000	Respiratory and nervous system diseases
Emeryville, CA	(included in Vaccines and Diagnostics facilities)	Oncology
Shanghai, China	5,000	Oncology
Alcon		
Fort Worth, TX	219,000 (production and R&D)	Pharmaceutical
Singapore	50,000 (production and R&D)	Pharmaceutical, Vision Care
Duluth, GA	44,000 (production and R&D)	Vision Care
Barcelona, Spain	41,250	Pharmaceutical, Vision Care
Grosswallstadt, Germany	40,000 (production and R&D)	Vision Care
Irvine, California	19,500 (production and R&D)	Surgical
Erlangen, Germany	6,600 (production and R&D)	Surgical
Schaffhausen, Switzerland	4,100 (production and R&D)	Surgical
Pressath, Germany	2,600 (production and R&D)	Surgical
Sandoz		
Kundl and Schaftenau, Austria	449,000 (production and R&D facilities)	Biotech processes, pharmaceutical technologies
Mengeš, Slovenia	131,000 (production and R&D facilities)	Biotech products and active drug substances
Ljubljana, Slovenia	83,000 (production and R&D facilities)	Broad range of oral sterile finished dosage forms and new delivery systems
East Hanover, NJ	6,000	Broad range of finished dosage forms
Rudolstadt, Germany	37,000 (production and R&D facilities)	Finished dosage forms for inhalation and ophthalmics
Holzkirchen, Germany	17,000 (production and R&D facilities)	Broad range of dosage forms, including implants and transdermal therapeutic systems
Boucherville, Canada	14,000 (production and R&D facilities)	Injectable and ophthalmic products

Location/Division or Business Unit	Size of Site (in square meters)	Major Activity
Kolshet, India	20,000 (production and R&D facilities)	Generic pharmaceuticals
Unterach, Austria	15,000 (production and R&D facilities)	Oncology injectables
Vaccines and Diagnostics		
Emeryville, CA	99,000 (production and R&D facilities; includes Pharmaceuticals facilities)	Vaccines and blood testing
Siena/Rosia, Italy	97,000 (production and R&D facilities)	Vaccines
Marburg, Germany	45,000 (production and R&D facilities)	Vaccines
Cambridge, MA	9,000	Vaccines
Consumer Health		
OTC		
Lincoln, NE	48,000 (production and R&D facilities)	Tablets, capsules, liquids, ointments, creams and high-potent compounds, powders
Nyon, Switzerland	15,000 (production and R&D facilities)	Over-the-counter medicine products
Thane, India	2,000 (R&D facilities)	Tablets, capsules, powders, creams, ointments, oral liquids, multiparticulates
Animal Health		
St. Aubin, Switzerland	26,000	Parasiticides, therapeutics for companion and farm animals
Larchwood, IA	13,000 (production and R&D facilities)	Veterinary vaccines
Yarrandoo, Australia	3,000	Animal Health products
Victoria, Canada	3,000	Aquaculture vaccines
Basel, Switzerland	2,000	Animal Health products

In the fourth quarter of 2010, we announced a Group-wide review of our manufacturing footprint. Over the coming years, we aim to optimize the network by creating Manufacturing Centers of Excellence to best support the global operations of the Group across divisions. In addition, we aim to optimize our cost structure across divisions and enhance utilization rates at strategic sites to 80 percent of capacity. As part of this initiative, in the fourth quarter of 2010 and during 2011, the following changes were announced:

- In Liverpool, UK and Marburg, Germany, we discontinued certain manufacturing activities to consolidate our flu vaccine platforms.
- We divested the Pharmaceuticals Division's sites in Casablanca, Morocco and Huningue, France, and Sandoz Division sites in Jena, Germany and Buenos Aires, Argentina.
- We announced the discontinuation of Pharmaceuticals manufacturing in Tlalpan, Mexico and Horsham, UK, and the exit of CIBA Vision production sites in Cidra, Puerto Rico and Farnham, UK.

- We announced the discontinuation of certain manufacturing activities at our CIBA Vision site in Atlanta, Georgia, and the consolidation of Pharmaceuticals chemical operations in Switzerland, as well as closure of our chemical operations in Torre, Italy.

As a result of these activities, we have recorded charges related to exits and inventory write-offs of $269 million in 2011, and $332 million cumulatively since the program began in the fourth quarter of 2010.

Substantial progress has been made in the long-term redevelopment of our St. Johann headquarters site in Basel, Switzerland. This project, called "Campus," was started in 2001 with the aim of transforming the site into a center of knowledge with a primary emphasis on international corporate functions and research activities. At that time, changes needed to be made to the Campus, since the site had originally been designed primarily for pharmaceuticals production, but Research and Development had come to account for a greater proportion of our activities at the site. Through December 31, 2011, the total amount paid and committed to be paid on the Campus Project was $2.1 billion. We expect that, through 2015, we will spend more than $2.5 billion on the Campus and to transfer production facilities from the Campus to other sites in the Basel region. We intend to fund these expenditures from internally developed resources.

In 2007, NIBR opened a start-up facility for our new R&D center in Shanghai, China (CNIBR). In 2008, we broke ground on Phase 1 of a new facility that was originally to be home to approximately 400 R&D scientists and approximately 400 other Pharmaceuticals Division personnel. In 2009, we announced that we would expand the scope of the site and invest $1 billion over the next five years to increase the size of our operations in Shanghai. Based on a re-evaluation of the site conducted in 2010, the current Phase 1 has been extended by two buildings to fulfill the requirements for the cross-divisional Shanghai campus to house 800 offices and 400 laboratory work places. Through December 31, 2011, the total amount paid and committed to be paid on the CNIBR Project is $181 million.

In October 2010, we announced that we would invest $600 million over the next five years to build new laboratory and office space for NIBR in Cambridge, Massachusetts on an area of land close to the existing NIBR research facilities on Massachusetts Avenue. In 2011 we finalized design plans for the new buildings, received necessary zoning changes from the city of Cambridge and began preparing the site for construction.

In late 2010, we commenced a construction project on the campus of Novartis Pharmaceuticals Corporation (NPC) in East Hanover, New Jersey. This project is expected to continue through 2013. It involves construction of three new office buildings, a parking garage, and upgrades to the site entrances. The purpose of the project is to consolidate NPC personnel on one site to drive innovation, collaboration and productivity. The consolidation will also to achieve long-term cost savings resulting from the elimination of off-campus leases. We expect that through 2013 we will spend more than $545 million to complete the construction and consolidate operations onto the campus. As of December 31, 2011, the total amount paid and committed to be paid on this project was $190 million.

In June 2008, the Vaccines and Diagnostics Division broke ground on a new rabies and tick-borne encephalitis manufacturing facility in Marburg, Germany which is expected to require a total investment of approximately $330 million. Construction is complete and the facility is in the process of executing the necessary validation activities. Regulatory approvals for products are planned for 2012 and 2013. As of December 31, 2011, the total amount paid and committed to be paid on this project was $275 million.

In November 2009, the Vaccines and Diagnostics Division opened the division's new cell culture-based influenza vaccine manufacturing site in Holly Springs, North Carolina. As of December 31, 2011, the total amount spent on the project was $463 million, net of grants reimbursed by the US government. The total investment in this new facility is expected to be least $900 million, partly supported by grants from the US government and prior investments in flu cell culture technologies at the Novartis Vaccines site in Marburg, Germany.

In December 2010, Novartis announced the signing of a Memorandum of Understanding, confirming its intention to build a new full-scale pharmaceutical manufacturing plant in St. Petersburg, Russia. In June 2011 we announced the commencement of construction. The plant is expected to produce approximately 1.5 billion units per year (oral solid dosage forms), of which the majority is anticipated to be generic products. Total Novartis Group investment in the plant is expected to be approximately $140 million.

In 2011, our Alcon Division completed the construction of a new manufacturing and R&D plant in Singapore for the pharmaceutical business. The capital cost of the facility was $134 million and the plant is scheduled to produce saleable product after regulatory approval in 2012.

The Vaccines and Diagnostics Division has commenced a project for a new vaccine manufacturing facility in Recife, Brazil. The manufacturing plant is part of Novartis Vaccines' strategy to enter the Brazilian market, and is aligned with the government's goal to become self-sufficient in vaccine production. Our total investment in the facility is expected to be approximately $300 million. The technical start up of the facility is planned for approximately 2015.

Environmental Matters

We integrate core values of environmental protection into our business strategy to add value to the business, manage risk and enhance our reputation.

We are subject to laws and regulations concerning the environment, safety matters, regulation of chemicals and product safety in the countries where we manufacture and sell our products or otherwise operate our business. These requirements include regulation of the handling, manufacture, transportation, use and disposal of materials, including the discharge of pollutants into the environment. In the normal course of our business, we are exposed to risks relating to possible releases of hazardous substances into the environment which could cause environmental or property damage or personal injuries, and which could require remediation of contaminated soil and groundwater. Under certain laws, we may be required to remediate contamination at third party sites, or at certain of our properties regardless of whether the contamination was caused by us, or by previous occupants of the property.

See also "Item 3. Key Information—Risk Factors—Environmental liabilities may impact our results of operations" and "Item 18. Financial Statements—note 20."

Item 4A. Unresolved Staff Comments

Not applicable.

Item 5. Operating and Financial Review and Prospects

5.A Operating Results

This operating and financial review should be read together with the Group's consolidated financial statements in this Annual Report, which have been prepared in accordance with International Financial Reporting Standards (IFRS) as published by the International Accounting Standards Board.

OVERVIEW

Novartis provides healthcare solutions that address the evolving needs of patients and societies worldwide. Our focused, diversified portfolio of businesses is made up of six global operating divisions and reports its results in five segments:

- Pharmaceuticals: Innovative patent-protected prescription medicines
- Alcon: Surgical, ophthalmic pharmaceutical and vision care products
- Sandoz: Generic pharmaceuticals
- Vaccines and Diagnostics: Human vaccines and blood-testing diagnostics
- Consumer Health: OTC (over-the-counter medicines) and Animal Health

The Group established its newest and second largest division, Alcon, after securing 100% ownership of Alcon, Inc., on April 8, 2011. The new division includes the CIBA Vision contact lens and lens care business and selected ophthalmic medicines from the Pharmaceuticals Division and is a world leader in eye care, offering the widest spectrum of innovative surgical, pharmaceutical and vision care products to address the world's eye care needs.

Novartis has leadership positions in each of the five businesses, giving us the capacity to address customer and patient needs across segments of the healthcare marketplace. We believe that our ability to innovate in all these segments will allow us to tailor our portfolio in response to market opportunities and will enable Novartis to continue as an industry leader.

Headquartered in Basel, Switzerland, the Novartis Group companies employed approximately 124,000 full-time equivalent associates as of December 31, 2011, with operations in more than 140 countries around the world.

FACTORS AFFECTING RESULTS OF OPERATIONS

A number of key factors influence the Group's results of operations and the development of our businesses.

The fundamentals of the healthcare industry remain robust due to long-term demographic and socioeconomic trends worldwide, which are increasing the demand for and use of medicines and other healthcare products. Consistent investments in innovation and advancing technologies are also supporting the development of new medicines to better treat many diseases.

At the same time, other factors have created a business environment that has significant risks, such as the growing burden of healthcare costs in many countries, which has led governments and payors to focus on controlling spending ever more tightly, and more stringent regulatory demands, which have made securing approvals for new drugs increasingly costly and difficult and increased the risk of disruptions in our supply chain.

We believe that Novartis is strategically well-positioned to operate successfully in this evolving landscape. We expect that our broad, focused portfolio, our capacity to innovate resulting in a rich pipeline of potential new medicines that address unmet medical needs, and our established presence across regions should enable us to adapt to the evolving healthcare marketplace.

Transformational Changes Fueling Demand

Long-term trends in the composition and behavior of the worldwide population are fueling demand for and access to healthcare, while scientific advances continue to open new frontiers in patient treatment, creating major opportunities for improved care. These trends are expected to sustain steady growth in the healthcare market overall in the coming years and to drive accelerating growth in key segments.

Aging Global Population and Shifting Demographics

Scientific advances in treating diseases and increased access to healthcare worldwide have enabled people across the globe to enjoy longer and healthier lives. The rise in life expectancy is coincident with a decline in birth rates, increasing the proportion of the elderly around the world. Over the next decade, there is expected to be a 75% increase in the number of people over the age of 60. In the developed world, by 2040 there are predicted to be twice as many people over the age of 60 as there will be under 15; in the United States, the number of people over the age of 60 will more than double by 2050. The proportion of the elderly is growing even faster in the developing world. For example, according to the United Nations, in China the ratio of people over 60 to the rest of the population is projected to rise by more than 15% annually until 2040. As the global population ages, there will continue to be an accelerating need for treatments for the diseases and conditions that disproportionately afflict the elderly.

One area where this unmet medical need is particularly evident is eye care. The aging of the world's population is linked to an increase in eye diseases, with several hundred million people living with blindness or serious vision impairment around the world. With the addition of Alcon, we have the resources and expertise to help meet these needs, with the goal of reducing preventable blindness and treating diseases and disorders of the eye.

Another major trend in worldwide health is an increase in rates of obesity. In fact, there are now more obese people in the world than there are malnourished people, and the World Health Organization (WHO) currently ranks obesity as the world's largest public health problem. Global obesity rates have doubled since 1980; one in three adults worldwide are overweight and one in nine are obese, according to a 2011 study in the British medical journal *The Lancet*. Once considered a problem only in wealthy countries, due to economic growth and shifting nutritional habits, the prevalence of people who are overweight or obese is significantly increasing in low- and middle-income countries as well, according to the WHO. The problem is only predicted to grow worse: by 2030, the majority of the world's population will be overweight or obese, according to a study conducted by Tulane University in the United States. Obesity and inactive lifestyles are important risk factors for diabetes, cardiovascular conditions and other serious diseases, including cancer. The WHO estimates that globally 44% of the diabetes burden, 23% of the incidence of ischemic heart disease and up to 41% of certain cancer burdens are attributable to obesity.

Increased rates of obesity, as well as habits such as cigarette smoking, have contributed to a worldwide rise in the prevalence of chronic diseases—including cardiovascular disease, diabetes, glaucoma and chronic respiratory diseases. Chronic diseases now account for 60% of deaths around the world. Chronic obstructive pulmonary disease (COPD) alone affects more than 200 million people worldwide, and is projected to become the world's third leading cause of death by the end of this decade. Our Pharmaceuticals and Sandoz Divisions offer several products to help address the needs of patients with COPD and other chronic diseases, and we will continue to make significant investments in new treatments to address this growing health threat.

Global Rise in Healthcare Spending

Across the world, healthcare spending is increasing. Factors driving this increase include aging populations, the rising incidence of chronic diseases and technological and medical advances that make it possible to treat more diseases—and patients—than ever before. Healthcare spending among members of the Organization for Economic Cooperation and Development (OECD) and emerging markets of China, Russia, Brazil and India is expected to rise from $5.3 trillion in 2010 to $7.9 trillion in 2020, an increase of approximately 50%, according to research from auditing and advisory firm PricewaterhouseCoopers (PwC). The United States remain the biggest spender by far, with expenditure on health as a percentage of gross domestic product (GDP) expected to rise to approximately 20% by 2020, up from 17.6% in 2010, according to economists in the Office of the Actuary at the Centers for Medicare and Medicaid Services. Other industrialized nations are also devoting ever greater resources to healthcare. PwC estimates that average healthcare spending as a percentage of GDP among OECD countries will increase to 14.4% by 2020 from under 10% the previous decade.

At the same time, newly industrialized markets are demanding more and better healthcare. Fueled by strong economic growth and increased commitment from governments to expand access, healthcare spending in emerging markets is set to increase substantially in the years ahead. China's plans to offer universal healthcare coverage by 2020, for instance, is expected to translate into a 20% to 25% annual increase in government healthcare spending throughout the coming decade. Other markets are also investing more resources in the health of their citizens. The Russian government recently pledged $3.9 billion in federal funding to modernize its medical and pharmaceutical industries, and Pharmexpert, a leading Russian market research firm, forecasts that if current trends continue, the Russian pharmaceutical market will exceed $60 billion by the end of the decade.

Given these trends, IMS Health, a leading provider of industry data, estimates that over the next five years emerging markets will nearly double their spending on medicines from 2010 levels to as much as $315 billion. China, for instance, has now become the world's third largest prescription drug market behind the United States and Japan, according to IMS.

At a time of slowing pharmaceutical sales in many industrialized countries, this expansion in many emerging markets has led to higher sales growth rates and an increasing contribution to the industry's global performance. The recent government investments in healthcare in key emerging markets can be expected to increase the healthcare industry's opportunities in such markets. As a result, we expect that in the long term, success in our industry will increasingly depend on the ability to meet not only the needs of patients in developed markets, but also those of patients in emerging markets. With our diversified portfolio spanning patented pharmaceuticals, generics and over-the-counter medicines, we are well-positioned to capture the opportunities of the expanding global healthcare market.

Reflecting the Novartis commitment to improving patient health worldwide and accelerating growth in global markets, we have made a number of strategic investments in fast-growing emerging markets. In June 2011, we began construction on a new state-of-the-art manufacturing plant for pharmaceutical and generic medicines in St. Petersburg, Russia. This investment is part of a greater commitment to local infrastructure and collaborative healthcare initiatives planned in Russia over a five-year period. In China, we will expand the number of our research and development associates nearly ten-fold by 2014, bringing the total to 1,200 across all divisions.

Scientific Advances Opening New Opportunities for Targeted Therapies

Ongoing developments in technology and advances in scientific understanding, particularly around the human genome, are laying the foundation for the creation of new treatments for medical conditions for which current treatment options are inadequate or non-existent. Further, we are gaining a greater capability to identify the specific biological factors, called "biomarkers," that indicate whether or not a given drug will be effective for a particular patient. It is estimated that up to 95% of the variability in drug response may be due to genetic differences. Effectively pairing treatments and genetic biomarkers has tremendous potential both in terms of patient health and healthcare savings.

The science of biomarkers is just one element of a new healthcare paradigm known as "personalized medicine." By delivering the right medicine to the right patient at the right time, this more targeted approach has the potential to significantly improve the response rates and outcomes of patients. Personalized medicine is expected to be a major growth driver for the industry, with the market expected to quadruple in size over the next five years, expanding to approximately $160 billion.

At Novartis, our research and development strategy is based on innovative science guided by patient needs. We employ state-of-the-art technology in order to achieve an understanding of the underlying mechanism of disease, and then use this understanding as the basis for the development of targeted therapies, a number of which have already been brought to market. Consistent with our science-focused strategy, Novartis has established a Molecular Diagnostics unit within our Pharmaceuticals Division to support our efforts to develop and commercialize personalized medicines. Additionally, in the Alcon Division, we are combining Novartis research operations with Alcon's expertise in development to provide a new innovation engine for the Group. Alcon scientists can now leverage the resources and capabilities of the Novartis Institutes for BioMedical Research, our global pharmaceutical research organization, to accelerate product innovation for the eye.

New Technologies Changing the Delivery of Healthcare

New and innovative technologies have the potential to transform the delivery of healthcare and the relationships between patients, providers and payors. The spread of broadband networks coupled with the ability to embed wireless sensors in an array of devices and everyday materials is beginning to increase the use of telemedicine, or remote patient monitoring. Advances in imaging and diagnostic technologies are paving the way for new forms of preventive medicine, while the growth of electronic medical records promises to improve patient care and medical research.

Novartis is investigating new ways to use technology to improve patient outcomes beyond traditional research and development. We are actively exploring telehealth technology, which allows remote monitoring of key health indicators and patient compliance. Such technologies could both reduce healthcare costs and improve patient outcomes by allowing healthcare professionals to assess treatments and identify problems remotely and in real time.

We are also embracing new technologies and information channels to better engage with our stakeholders, from patients to physicians to payors and retailers. For example, Novartis Vaccines and Diagnostics developed VaxTrak, an iPhone application that allows families to better track and plan their children's vaccinations. The application also uses GPS technology to locate nearby retail clinics offering and administering flu vaccines.

Increasingly Challenging Business environment

Medical and technological innovation, coupled with the increasing demand for healthcare worldwide, offers healthcare companies opportunities for growth and, more importantly, the chance to improve patient outcomes. However, the operating environment for healthcare companies has become increasingly challenging. The ongoing effects of the global financial crisis, combined with rising demands on healthcare systems, have led to a renewed focus on cost containment by governments and payors across the globe. Research and development of new products has been made more complicated and costly due to high levels of regulatory and safety scrutiny. In addition, the industry faces the continued expiration of patents and the growing market prominence of generic products, which, while offering an opportunity to our Sandoz Division, represents a significant challenge to our Pharmaceuticals and Alcon Divisions.

Greater Pressure to Contain Healthcare Spending

The ongoing financial crisis and its resultant drag on economic growth continue to impact the debt burden of many economies, most notably in Europe, where Greece is facing possible default of its sovereign debt obligations, and countries such as Spain and Italy have had their sovereign debt obligations downgraded. With budgets under pressure and a shaky global economy, stringent cost-containment measures have been implemented in countries around the world.

Given the growth of overall healthcare costs as a percentage of GDP in many countries, some governments and payors have introduced price reductions and/or rebate increases for patented and generic medicines, as well as other healthcare products and services. Other initiatives to contain healthcare costs include mandatory pricing systems, reference pricing initiatives, an increase in imports of drugs from lower-cost countries to higher-cost countries, shifting of the payment burden to patients through higher co-payments, limiting physicians' ability to

choose among competing medicines, mandatory substitution of generic drugs, and growing pressure on physicians to reduce the prescribing of patented prescription medicines.

These ongoing pressures affect all of our businesses that rely on reimbursement, including Pharmaceuticals, Alcon, Sandoz, and Vaccines and Diagnostics. To mitigate these pressures, which we expect to continue in 2012, we have strengthened dialogue with health authorities and payors to develop innovative pricing models that allow us to provide treatment options that result in better outcomes for patients. For example, in the UK, Novartis offers dose-capping arrangements for *Lucentis* for patients with wet age-related macular degeneration, whereby up to 14 injections per patient and per eye are paid by the UK National Health Service (NHS), with Novartis reimbursing NHS for the cost of additional vials the patients may need. Novartis offers similar dose-capping arrangements for *Lucentis* in many other countries.

Where we have unique, often critical medications, Novartis is committed to providing access for patients most in need through access-to-medicines programs. These programs provide assistance to those experiencing financial hardship or living in the developing world who would otherwise not be able to receive treatment.

Patent Expirations, Generic Competition Pressure the Industry

The pharmaceutical industry faces an unprecedented number of patent expirations in the coming years, a primary factor cited by experts as limiting industry growth. For the industry as a whole, the introduction of new products is not expected to generate the same magnitude of industry sales as the products losing market exclusivity.

The ability to successfully secure and defend intellectual property rights is particularly relevant with regard to the Pharmaceuticals and Alcon Divisions, as well as key products of our other divisions. The loss of exclusivity for one or more important products—due to patent expiration, generic challenges, competition from new patented products, or changes in regulatory status—will have a material negative impact on the Group's results of operations. Novartis takes legally permissible steps to defend its intellectual property rights, including initiating patent infringement lawsuits against generic drug manufacturers.

Some of our best-selling products have begun to face significant competition due to the end of market exclusivity resulting from the expiry of patent protection.

- The patent on valsartan, the active ingredient of *Diovan*/*Co-Diovan*/*Diovan HCT* (high blood pressure), expired in the major countries of the EU in November 2011, and generic competitors have launched there. In addition, patent protection is scheduled to expire in the US in September 2012 and in Japan in 2013. Valsartan is also used in the single-pill combination therapies *Exforge* and *Exforge HCT* (high blood pressure). While market exclusivities for *Exforge*/*Exforge HCT* will remain in the EU and Japan due to regulatory exclusivities, there is a risk that generic manufacturers may circumvent regulatory exclusivity and gain approval of a combination valsartan-amlodipine product in Europe. In the US, under a license agreement with a generics manufacturer, the product is expected to face generic competition in the US beginning in October 2014.
- The patent on *Femara* (cancer) expired in 2011 in the US and in major European markets, and generic competitors have launched in those markets.
- The patent on zoledronic acid, the active ingredient in *Zometa* (cancer), as well as in *Reclast*/*Aclasta* (osteoporosis), will expire in 2013 in the US and in 2012 and 2013 in other major markets.
- The patent on *Glivec*/*Gleevec* (cancer) will expire in 2015 in the US, in 2016 in the major EU countries and 2014 in Japan, in each case including extensions.

We aim to replace revenue lost from such products with revenue from our recently launched products (products launched since 2007 comprised 25% of our sales in 2011) and we believe that these products have the potential for significant additional sales. Nevertheless, the loss of sales from key products remains a major challenge to our business.

Increasing regulatory, safety hurdles

Our ability to continue to grow our business and replace sales lost due to the end of market exclusivity in the mid- to long-term depends upon the success of our research and development activities in identifying and developing breakthrough products that address unmet needs, are accepted by regulators, patients and physicians, and are reimbursed by payors. Developing new pharmaceutical, biologic, medical device and vaccine products and bringing them to market, however, is a costly, lengthy and uncertain process. In an effort to ensure product safety,

authorities are placing greater emphasis on the risk/benefit profile of healthcare products, with particular attention to the value-add and differentiation of products. This focus has led to requests for more clinical trial data, the inclusion of a significantly higher number of patients in clinical trials and more detailed analysis of the trials. As a result, the process of obtaining regulatory approvals for products has become even more arduous.

The post-approval regulatory burden on healthcare companies has also been growing. Increasingly, approved drugs have been subject to requirements such as Risk Evaluation and Mitigation Strategies (REMS), Risk Management Plans, comparative effectiveness studies, Health Technology Assessments and requirements to conduct post-approval Phase IV clinical trials to gather detailed safety and other data on products. These requirements make the maintenance of regulatory approvals and achievement of reimbursement for our products increasingly expensive and further heighten the risk of recalls, product withdrawals, or loss of market share. Going forward, we expect that there will be even greater regulatory attention to minimizing risk and maximizing benefit on the level of the individual patient.

While Novartis continues to be one of the industry leaders in approvals, similar to our industry peers we have been required by health authorities to conduct additional clinical trials and to submit additional analyses of our data in order to obtain product approvals. We have also had REMS and other such requirements imposed as a condition of approval of our new drugs. These factors have increased our costs and caused delays in obtaining approvals of new products, and have created a risk that safe and effective products will not be approved or will be removed from the market after having been approved. For example, in late December, following the seventh interim review of data from the ALTITUDE study with *Tekturna*/*Rasilez* (aliskiren), Novartis announced that the trial was halted on the recommendation of the independent Data Monitoring Committee (DMC) overseeing the study. The DMC concluded that patients were unlikely to benefit from treatment on top of standard anti-hypertensive medicines, and identified higher adverse events in patients receiving *Tekturna*/*Rasilez* in addition to standard of care as part of the trial. Following discussions with health authorities, Novartis wrote to healthcare professionals worldwide recommending that hypertensive patients with diabetes should not be treated with *Tekturna*/*Rasilez*, or combination products containing aliskiren, if they are also receiving an angiotensin-converting enzyme (ACE) inhibitor or angiotensin receptor blocker (ARB). As an additional precautionary measure, Novartis ceased promotion of *Tekturna*/*Rasilez*-based products for use in combination with an ACE inhibitor or ARB.

Novartis aims to counter such challenges through our focus on innovation and our emphasis on understanding disease pathways, which we believe will enable us to continue to bring differentiated new medicines to the market that effectively address patients' unmet medical needs. Alcon, for example, is the market leader in ophthalmic surgical products, and its line of *AcrySof* intraocular lenses has revolutionized cataract treatment, with over 40 million lenses implanted worldwide. Similarly, in the development of *Bexsero*, our vaccine candidate against the B serogroup of meningococcal disease (MenB, the most common cause of bacterial meningitis), Novartis Vaccines has pioneered a new approach called "reverse vaccinology." This approach involves decoding the genetic makeup of MenB and selecting those proteins that are most likely to be broadly-effective vaccine candidates. While *Bexsero* is still under regulatory review, it could potentially provide a solution to a major public health concern for which there is no effective routine vaccine.

Risk of Liability and Supply Disruption from Manufacturing Issues

The manufacture of our products is heavily regulated by governmental health authorities around the world, and such health authorities continue to intensify their scrutiny of manufacturers' compliance. If we or our third-party suppliers fail to comply with their requirements, then we could be faced with product shortages or an inability to supply product to patients, resulting in a loss of revenue and potential third-party litigation. In addition, health authorities have begun to impose significant penalties for failures to comply with current Good Manufacturing Practices regulations (cGMP), and have the power to delay the approval of new products to be manufactured at the impacted site.

Like our competitors, we have faced, and continue to face, significant manufacturing issues. For example, in November 2011, we received a Warning Letter from the FDA with respect to three of our Sandoz facilities: Broomfield, Colorado; Wilson, North Carolina; and Boucherville, Canada. The Warning Letter raised concerns regarding compliance with FDA cGMP regulations at these facilities, and stated that until the FDA confirms that the situation has been rectified, it may recommend disapproval of any pending applications or supplements listing Novartis affiliates as a drug manufacturer. Novartis is collaborating with the FDA to promptly correct all concerns raised in the Warning Letter, and to ensure that our products are safe, effective and meet the highest quality standard for the patients who rely on them. However, if we are unable to fully resolve the issues raised in the Warning Letter, then we could be subject to legal action without further notice.

Additionally, in December 2011, Novartis Consumer Health voluntarily suspended operations at its US manufacturing facility in Lincoln, Nebraska, and subsequently recalled certain products. As of the date of this report, it is not possible to determine when the plant will resume full operations. The Lincoln facility produces a variety of products with annual sales value of less than 2% of Novartis Group sales. Should we fail to complete the planned improvements at the site in agreement with the FDA in a timely manner, then we may suffer a significant loss in sales. While this action was taken as a precautionary measure, it reinforced our commitment to a single high quality standard for the entire Novartis Group, and we are making the necessary investments to implement this standard across the network. However, ultimately, there can be no guarantee of the outcome of these matters. Nor can there be any guarantee that we will not face similar issues in the future, or that we will successfully resolve such issues when they arise.

In addition to regulatory requirements, many of our products involve technically complex manufacturing processes or require a supply of highly specialized raw materials. For some products and raw materials, we may also rely on a single source of supply. In particular, an increasing portion of our portfolio, including products from our Pharmaceuticals, Alcon, Vaccines and Diagnostics, and Sandoz Divisions, are "biologic" products. Unlike traditional "small-molecule" drugs, biologic drugs or other biologic-based products cannot be manufactured synthetically, but typically must be produced from living plant or animal micro-organisms. As a result, the production of biologic-based products that meet all regulatory requirements is especially complex. Even slight deviations at any point in the production process may lead to batch failures or recalls. In addition, because the production process is based on living micro-organisms, the process could be affected by contaminants, which could impact those micro-organisms. As a result, the inherent fragility of certain of our raw material supplies and production processes may cause the production of one or more of our products to be disrupted, potentially for extended periods of time.

Also as part of the Group's portfolio of products, we have a number of sterile products, including oncology products, which are considered to be technically complex to manufacture and require strict environmental controls. Any change in the environment may impact production schedules and inadvertently affect supply until remediated.

Potential Liability Arising from Legal Proceedings

In recent years, there has been a trend of increasing litigation against the industries of which we are a part, especially in the United States. A number of our subsidiaries are, and will likely continue to be, subject to various legal proceedings that arise from time to time. As a result, we may become subject to substantial liabilities that may not be covered by insurance. Litigation is inherently unpredictable, and large verdicts can occur. As a consequence, we may in the future incur judgments or enter into settlements of claims that may have a material adverse effect on our results of operations or cash flows.

In recent years, governments and regulatory authorities have been stepping up their compliance and law enforcement activities in key areas, including marketing practices, antitrust, trade sanctions and corruption. Our businesses have been subject to significant civil litigation as well as governmental investigations and information requests by regulatory authorities.

For example, in 2010 our US affiliate Novartis Pharmaceuticals Corporation (NPC) settled parallel civil and criminal investigations by the US government into allegations of potential inappropriate marketing and promotion of six Novartis drugs. As part of the settlement, NPC agreed to plead guilty to one misdemeanor, and to resolve civil charges against it, agreed to pay a total of $422.5 million and enter into a five-year Corporate Integrity Agreement.

At the same time, our Sandoz Division may, from time to time, seek approval to market a generic version of a product before the expiration of patents claimed by the marketer of the patented product. We do this in cases where we believe that the relevant patents are invalid, unenforceable, or would not be infringed by our generic product. As a result, affiliates of our Sandoz Division frequently face patent litigation, and in certain circumstances, we may elect to market a generic product even though patent infringement actions are still pending. Should we elect to proceed in this manner and conduct a "launch at risk," we could face substantial damages if the final court decision is adverse to us.

Adverse judgments or settlements in any of these cases could have a material adverse effect on our business, financial condition and results of operations. See note 20 to our consolidated financial statements for further information on legal proceedings. At the same time, we have in place, and always seek to strengthen a significant compliance with law program. As part of our broad commitment to compliance, we are implementing a revised Code of Conduct, containing our fundamental principles and rules concerning ethical business conduct.

The Global Economic Crisis Threatens our Results

Many of the world's largest economies and financial institutions continue to be impacted by the ongoing global economic and financial crisis, with some continuing to face financial difficulty, a decline in asset prices, liquidity problems and limited availability of credit. It is uncertain how long these effects will last, or whether economic and financial trends will worsen or improve. Such uncertain economic times may have a material adverse effect on our revenues, results of operations, financial condition and ability to raise capital. For example, the ongoing debt crisis in certain countries in Europe has increased pressures on those countries, and on payors in those countries to force healthcare companies to decrease the prices at which we may sell them our products. The debt crisis has also given rise to concerns that some countries may not be able to pay us for our products at all. This situation could deteriorate as a result of potential developments in countries of key concern such as Greece, which is facing possible default of its sovereign debt obligations, as well as Spain and Italy, the sovereign debt obligations of which were recently downgraded.

Current economic conditions may adversely affect the ability of our distributors, customers, suppliers and service providers to obtain the liquidity required to pay for our products, or otherwise to buy necessary inventory or raw materials, and to perform their obligations under agreements with us, which could disrupt our operations, and negatively impact our business and cash flow. Although we attempt to monitor these third parties' financial condition and their liquidity, our ability to do so is limited, and some of them may become unable to pay their bills in a timely manner, or may even become insolvent, which could negatively impact our business and results of operations. These risks may be elevated with respect to our interactions with third parties with substantial operations in countries where current economic conditions are the most severe, particularly where such third parties are themselves exposed to sovereign risk from business interactions directly with fiscally-challenged government payers.

In addition, the varying effects of difficult economic times on the economies and currencies of different countries has impacted, and may continue to unpredictably impact, the conversion of our operating results into US dollars, our reporting currency. This is particularly so given recent financial troubles in the US and in many European economies, investor concerns about the future of the Euro, and the flight of investor capital to the perceived safety of the Swiss franc.

Novartis Strategies for Sustainable Growth

The cornerstone of Novartis strategy is our diversified healthcare portfolio across high-growth segments of the healthcare industry and geographies. Novartis is the only healthcare company with leading positions in pharmaceuticals, eye care, generics, vaccines and diagnostics, over-the-counter medicines and animal health.

We believe that the diversity of our business and product portfolio allows us to capture opportunities across the global healthcare market, while balancing our risk and exposure to macroeconomic effects. We expect our broad portfolio will help us maintain growth despite the loss of revenues due to patent expiration.

Our Priorities: Innovation, Growth and Productivity

Novartis is committed to becoming the most successful and respected healthcare company in the world. To achieve this, we base our operations on three strategic priorities: leading innovation through new research methods and new collaborations with industry stakeholders to better address customer and patient needs; accelerating growth by responding to key market opportunities and delivering new treatments quickly and efficiently to customers and patients; and improving productivity by streamlining our organization in order to improve profitability and free up resources for new research and development investments. We believe that by focusing on these principles we can enhance our capabilities in meeting the world's healthcare needs and continue to drive value for our shareholders.

Extending Our Lead in Innovation

Our commitment to scientific innovation underpins all our strategic principles. Sustaining innovation and R&D productivity across our businesses requires substantial investment and commitment, and we plan to continue to invest at the high end of the industry average. In 2011, we invested more than 20% of Pharmaceuticals Division sales. Our research approach, which focuses on understanding diseases and their molecular pathways, has fundamentally changed how we do business. Researching these pathways allows us to establish "proof of concept" via small clinical studies, sometimes in rare diseases, early in the research and development process. In some of those cases, regulatory approval may be achieved relatively quickly because of the urgent unmet need of patients with such rare diseases. While growth is supported by the initial launch of the

given compound in the targeted population, we are sometimes also able to conduct parallel development into other potential treatment applications, which may have much larger patient populations.

For example, *Afinitor*, our kidney cancer treatment, received approval from the FDA and EMA in 2011 for the treatment of advanced pancreatic neuroendocrine tumors. The active ingredient in *Afinitor*, everolimus, was also approved as *Votubia* in the EU for the treatment of subependymal giant cell astrocytoma associated with tuberous sclerosis complex for which surgery is not a treatment option. Late-stage studies also showed that *Afinitor*, in combination with exemestane, significantly lengthens the amount of time women with advanced breast cancer live without the disease progressing.

Our track record of bringing new medicines to the market continues to be among the best in the industry. In 2011, our Pharmaceuticals Division secured approval for 15 new products and important indication extensions in the US, EU and Japan.

We believe that our focus on innovation will enable us to continue to produce breakthroughs that address unmet patient need and further grow our business.

Accelerating Growth Across Our Five Platforms

Novartis aims to drive growth in two key ways: via the introduction of innovative new products as described above, and through expansion of our business in fast-growing emerging markets.

Innovative products from across our portfolio are making a major contribution to the Group's overall growth, with recently launched products growing 38% in 2011 versus the previous year (excluding A(H1N1) including Alcon on a pro forma basis in 2010), now representing 25% of total sales. In the Pharmaceuticals Division, recently launched products include: *Gilenya*, the first oral multiple sclerosis treatment; *Lucentis*, our treatment for wet age-related macular degeneration, which is being expanded to new indications; our kidney cancer treatment *Afinitor*, which has been granted additional indications; and *Galvus*, our oral medication for treatment of type-2 diabetes.

The addition of Alcon, our newest and second largest division, brings more new products to our portfolio, such as advanced technology intraocular lenses used in cataract surgery. In Sandoz, strong growth of biosimilars, the generic versions of biologic drugs, and generic injectables, such as the blood-thinning medication enoxaparin, are also helping to transform the growth prospects of the Group. In Vaccines and Diagnostics, our meningococcal disease franchise is also growing strongly, driven by the increase of *Menveo* market share in the United States and the growth of our meningitis C vaccine in emerging markets.

Given the current cost pressures in the market for prescription medicines, we believe there is ample scope to expand our Sandoz Division, as well as our Consumer Health businesses. We have refocused the portfolio of Consumer Health, which comprises OTC and Animal Health, on core priority brands, a strategy that has enabled Consumer Health to post 3% sales growth in constant currencies in 2011.

The prosperity of the developing world is expected to increase in the coming years, driving growth in our industry. It is estimated that by 2030 emerging markets will account for about 60% of global GDP. This economic growth is greatly expanding access to healthcare in these geographies. Consistent with our long-term growth strategy, we continue to build our presence in high-growth markets around the world, particularly in our top six emerging markets, comprising Brazil, China, India, Russia, South Korea and Turkey. Long-term investments in these areas are crucial to winning market share and being well-positioned to capture the opportunities that expected growth in these markets will offer.

Many of these emerging markets have little, if any, distinction between pharmaceutical, OTC and generic products. Given the Novartis Group's portfolio, we believe that we have an advantage in such markets, since we offer a broad spectrum of medicines to treat a range of diseases. To take full advantage of the growth opportunities in emerging markets, we have launched many market-tailored initiatives. In China, we plan to continue to expand our commercial infrastructure and capabilities, while also pursuing targeted licensing, acquisition and alliance opportunities. In Brazil, we are leveraging our broad portfolio in order to gain scale to compete with consolidating retail channels and provide key accounts with the full range of Novartis offerings. In India, we are leveraging the capabilities of Pharmaceuticals, Sandoz, and Vaccines and Diagnostics to gain critical mass, and investing in localized products and commercial infrastructure. In Russia, we are building alliances with government, regions and local companies and strengthening key account management to expand our reach.

As a result of such initiatives, in 2011 Novartis generated $5.8 billion, or approximately 10% of net sales, from the Group's top six emerging markets. However, combined net sales in the top six emerging markets grew at

the more rapid pace of 17% in constant currencies in 2011, compared to 11% constant currency growth achieved in the seven largest developed markets. Hence, emerging markets are making increasingly significant contributions to our results, a trend we expect to continue, as we plan to continue investing in these markets.

Driving Productivity

Novartis integrates efforts toward greater productivity and increased efficiency into all our operations, constantly seeking ways to simplify and streamline processes and to reduce costs to improve margins. We are committed to freeing up resources that can be devoted to customer and growth initiatives, research and development of new offerings for patients with unmet needs, and shareholder returns. There are four key areas where we target productivity improvements across our businesses: our manufacturing footprint, Procurement, General & Administration expenses and Marketing & Sales spend.

In 2010, we initiated a Group-wide program to review our manufacturing footprint, which continued to progress in 2011. The program has two aims: first, to optimize the network by creating Manufacturing Centers of Excellence to best support the global operations of the Group across divisions, and second, to optimize the cost structure across divisions and enhance utilization rates at strategic sites to 80% of capacity. To these ends, we announced the exit or partial exit of 14 sites since the program started in 2010, thereby reducing excess capacity and enabling the shift of strategic production to technology competence centers.

Additional efficiencies are expected through Marketing & Sales spend, as Novartis continues to reallocate resources geographically and simplify prevailing processes. As a percentage of sales, Marketing & Sales spend has decreased from 26.3% in 2010 to 25.7% in 2011, down 3.5 percentage points since 2007.

In addition, we made Procurement a major source of savings by leveraging our scale, implementing global category management and creating country Centers of Excellence in key markets, which generated annual savings in 2011 of approximately $1.3 billion.

Novartis also continuously looks for ways to simplify its structures, especially with regard to General & Administration expenses. The streamlining of core processes across the Group and the implementation of core service centers for functions such as Human Resources and Finance will further provide leverage and resources for reinvestment.

Novartis Businesses Face Opportunities and Challenges

Novartis believes that its portfolio of healthcare businesses gives us a strong position to meet many of the needs of customers and patients in today's healthcare marketplace, which is expected to grow 5.5% (CAGR) between 2011 and 2016. In the view of Novartis, sustained growth in the healthcare industry requires the capacity to adapt to changing and expanding markets worldwide, to collaborate with industry stakeholders, and to deliver new treatments based on new medical advancements that improve patient health. We believe that Novartis has both the scope and innovative capacity to succeed in all these areas. For example, we have a highly competitive and robust pipeline with more than 130 projects in clinical development, including 66 new molecular entities. We have also achieved a strong level of launch excellence, with recently launched products growing 38% (excluding A(H1N1) including Alcon on a pro forma basis in 2010), over the previous year.

Novartis maintains a leadership position in developing and delivering prescription medicines (Pharmaceuticals, which represents 56% of net sales in 2011), innovative eye care products (Alcon, 17%), complex, differentiated generics and biosimilars (Sandoz, 16%), preventative vaccines and diagnostic tools (Vaccines and Diagnostics, 3%), and market-leading over-the-counter offerings and medicines for animals (Consumer Health, 8%). According to IMS, these sectors are expected to grow between 2% per year (Pharmaceuticals) and 8% per year (Vaccines) from 2011 to 2016. Additionally, we have positioned ourselves to capture significant marketplace opportunities across geographies, with 37% of 2011 net sales in Europe, 33% in the US, 21% in Asia, Africa and Australasia, and 9% in Canada and Latin America, helping to mitigate the impact of currency fluctuations. Consequently, Novartis is not dependent for growth on any one product, region, or market. Our growth is sustained by our strong position in diverse market segments, with a focus on the areas of greatest customer and patient need.

While Sandoz can benefit from government pressure on prices, the healthcare landscape continues to offer growth opportunities for patented pharmaceuticals as well. We believe that the Novartis portfolio will allow us to continue to grow and to improve healthcare outcomes for patients across treatment categories all over the world.

Pharmaceuticals: Filling unmet need through differentiated drugs

Novartis has developed innovative medicines for the treatment of cancer, cardiovascular disease, and neurological conditions, among others. Yet urgent patient needs remain, as many diseases and conditions lack effective treatments or any treatment at all. This is why we continue to focus our research on areas of high unmet medical need and where the fundamental science is well understood. Our dedicated Molecular Diagnostics unit seeks to improve the efficacy of our medicines by identifying biomarkers in patient groups that respond to the new medicines. This is intended to enable us to focus our research on smaller, narrowly defined groups of patients. Such patient segmentation is intended to assist us in accelerating the development of therapies that have the potential to be more targeted and effective with better patient outcome and fewer side effects.

Furthering our commitment to individualized treatment, we acquired United States-based oncology laboratory Genoptix, which diagnoses bone, blood and lymph cancers and disorders for hematologists and oncologists. The acquisition enhances the Group's tools and services that aim to improve health outcomes by advancing the ability to define and monitor individualized treatment programs. The business provides a strategic fit with our current portfolio of companion diagnostic programs within the Novartis Molecular Diagnostics unit.

Underpinning our Pharmaceuticals Division's growth is our ability to rejuvenate our portfolio through innovative new products. This is expected to allow us to sustain growth even in the face of factors such as patent loss, increased generics competition and government pricing caps. Although hypertension medication *Diovan* and breast cancer treatment *Femara* lost patent protection in several core markets in 2011, losses are expected to be offset in the years ahead by sales growth from recently launched products, including *Lucentis*, *Tasigna*, *Galvus*, *Gilenya*, *Afinitor*, *Xolair* and *Onbrez Breezhaler*. In 2011, recently launched products (those launched since 2007) accounted for 28% of net sales, compared to 22% in 2010. We expect these products, as well as new products anticipated to be launched over the next five years, to generate an increasing proportion of our sales.

Our Pharmaceuticals pipeline is one of the most productive in the industry—with higher success rates at every stage of development, preclinical through registration, than our competitors—which we expect to compensate for the anticipated loss of revenues from patent expirations. For example, our investigational compound INC424 has shown significant potential in treating patients with myelofibrosis, a life-threatening blood cancer, in Phase III trials. Another Phase III study showed that 45% of children with active systemic juvenile idiopathic arthritis were able to substantially reduce their use of steroids following treatment with ACZ885, and were nearly three times less likely to suffer a new flare versus placebo. We plan to continue to invest in R&D at the high end of the industry average to sustain our industry-leading investment in R&D, which we believe will allow us to discover and develop new targeted therapies like these to better meet the needs of patients worldwide.

Alcon: The world leader in eye care

As the global population continues to age, healthcare demands in eye care are expected to accelerate. For example, it is estimated that by 2020, 60 million people will have open-angle glaucoma and 2.5 billion will be affected by myopia (nearsightedness) globally. As a result, eye care has been one of the fastest growing therapeutic areas in the healthcare industry.

Novartis has long held an established position in the eye care segment through CIBA Vision and our Novartis Ophthalmics portfolio. In 2011, we secured 100% ownership of Alcon, Inc., the world's largest eye care company, and merged it into Novartis. The merger with Alcon gives us an even larger footprint in the attractive, high-growth sector of eye care.

By combining our complementary businesses, Novartis and Alcon are better able to address patient need and create value for shareholders. The new Alcon Division now holds competitive positions in highly complementary product areas, spanning surgical equipment and technology, prescription medicines, contact lenses and lens care products. The world leader in ophthalmic surgery, Alcon offers advanced surgical technology such as intraocular lenses that simultaneously correct for presbyopia, which affects all cataract patients, and astigmatism, which affects about one-third of these patients.

We have also strengthened our innovation capabilities, with Alcon scientists working alongside Novartis associates at NIBR to discover expanded ophthalmic research targets and develop chemical and biologic compounds for diseases of the eye, with a particular focus on diseases such as glaucoma and macular degeneration.

We believe the integration of Alcon into the broader Group will also enable us to realize annual cost synergies of $350 million by 2013.

Sandoz: Creating Affordable, Effective Alternatives to Complex Drugs

By 2016, patented pharmaceuticals with global annual sales totaling around $200 billion are expected to lose their patent protection and face potential competition from generic alternatives, according to the research firm EvaluatePharma. In addition, governments and healthcare providers worldwide are increasingly transitioning to generic medicines as an alternative to patented prescription products in order to contain overall healthcare spending.

There is a particular demand for generic alternatives to complex patented treatments, as these treatments are often among the most costly. This demand has made the market for differentiated, "difficult-to-make" generics one of the fastest growing and most attractive segments of the generics industry. Sandoz has established itself as a leader in developing differentiated products, including inhalers, oncology injectables, patches, and biosimilars, generic versions of biologic drugs. The significant technological capabilities and expertise required make the development of such treatments difficult for most companies. However, Sandoz has been effective in leveraging the innovative and technological capabilities and commercial scope of the entire Novartis Group in order to overcome these hurdles. In 2011, Sandoz achieved blockbuster success with generic enoxaparin based on a strong first-to-market launch in 2010, underscoring our leadership in differentiated products.

Sandoz has also had success in creating highly complex biosimilars, achieving global sales of $261 million in 2011, an increase of 37% in constant currencies over the previous year. Sandoz is also the first and only company with more than one biosimilar on the market in Europe and achieved the first-ever biosimilar approvals in the US, Japan and Canada. With patents expected to expire over the next four years on biologics with global sales of $64 billion, our leading position in biosimilars gives us an advantage within the competitive generics industry. Moreover, our strong biosimilars pipeline, with more than eight molecules in development and two projects in Phase III as of the end of 2011, gives us an opportunity to remain at the forefront of this key sector, driving continued growth and making healthcare more affordable for patients.

We also plan to continue to expand our generics success in emerging markets and accelerating growth in mature markets such as the United States. With the full integration of Alcon into the Novartis Group, the Sandoz US portfolio has been broadened with the ophthalmic and optic products of Falcon Pharmaceuticals, Ltd., Alcon's US generics business. The addition of this new portfolio has made Sandoz the largest manufacturer and marketer of generic ophthalmic and optic products in the US.

Vaccines and diagnostics: Preventing disease

As global healthcare costs rise and chronic diseases become a greater burden in emerging markets, the prevention of disease has taken on new urgency. Governments and payors are increasingly recognizing the essential roles of vaccines and blood screening in prevention, and in generally maintaining worldwide health.

The vaccines market continues to expand, with expected growth of approximately 8-10% annually for the next five years. We are focused on developing safe and effective methods to better prevent various forms of the flu as well as other major causes of human illness. Novartis Vaccines research is leading advances in the way vaccines are made so that we can bring patients novel offerings to effectively prevent devastating infectious diseases. Our meningococcal disease franchise is growing strongly, driven by the increase of *Menveo* market share in the United States and the growth of our meningitis C vaccine, *Menjugate*, in emerging markets. *Menveo* sales achieved $142 million in 2011, and we continue to expand this franchise. In June, the FDA accepted our application to expand the *Menveo* indication to include infants and toddlers as young as two months, supported by clinical data from more than 6 000 children worldwide between the ages of 2 and 23 months. If approved, *Menveo* would be the first quadrivalent meningococcal conjugate vaccine to provide protection in the first year of life, when the majority of infections occur. Meanwhile, our vaccine candidate against the B serogroup of meningococcal disease, *Bexsero,* is nearing the completion of the regulatory review process in Europe, Canada and other regions with high disease incidence.

We have successfully incorporated cutting-edge technologies into our Vaccines and Diagnostics research practices, including the use of genomics and reverse vaccinology. These processes were essential, for instance, in the development of our response to the A(H1N1) pandemic flu in 2009, and in our development of *Bexsero*. Work is ongoing on vaccine candidates in our earlier development pipeline, including, for example, vaccines against Group B streptococcus, staph aureaus and pseudomonas aeruginosa.

In 2011 we completed our acquisition of majority control of Zhejiang Tianyuan, a Chinese vaccines manufacturer, facilitating greater access to China as part of our strategy to strengthen our presence in key emerging markets and provide vaccines for patients with critical unmet needs.

Consumer Health: Offering self-medication options to patients and veterinary medicines for animals

Accelerated healthcare spending is leading governments, payors and other healthcare providers to seek ways to reduce overall healthcare costs. In many cases, over-the-counter (OTC) medicines represent a cheaper, effective alternative to prescription options. In addition, wider availability of health information via the Internet, which empowers patients to play a greater role in their own healthcare, can lead them to choose OTC offerings in treating or preventing illness. Our continued focus on priority brands within OTC delivered strong results, with

several of those brands growing at a double-digit rate over the prior year, offsetting the negative impact of expired distribution contracts and divested brands. However, at the end of 2011, OTC experienced net sales decline due to a temporary suspension of operations and voluntary product recall at one of the US manufacturing sites. We are focused on driving growth by increasing the scale of business in top markets and expanding our portfolio in core disease areas, such as gastrointestinal and pain relief. OTC sales in the top six emerging markets also grew at a double-digit rate in 2011, led by Russia, Brazil and China, where the division launched *Lamisil* to compete in the growing anti-fungal market.

Another way we can maximize our return on investment in research into new medicines is by leveraging that investment by extending our work in Animal Health, potentially generating incremental sales on the dollars invested in R&D. In many cases, our Pharmaceuticals Division's medicines, in adjusted doses and dosage forms, have applications for pets and farm animals. In fact, about a third of the Animal Health R&D portfolio consists of projects from the human health pipeline. We have been able to leverage synergies across R&D and manufacturing to make Animal Health an important second stream of growth for our new and existing treatments. We continue to sustain Animal Health's leading position in specialty segments, with strong performance of the pig therapeutic *Denagard* in the United States, China and Brazil. In Europe, *Milbemax* remained the number one de-wormer for cats and dogs, with the new chewy formulation accelerating growth. Key emerging markets continue to contribute strong double-digit growth to our Animal Health business globally.

CORE RESULTS AS DEFINED BY NOVARTIS

The Group's core results—including core operating income, core net income and core earnings per share—exclude the amortization of intangible assets, impairment charges, expenses relating to the integration of acquisitions as well as other items that are, or are expected to accumulate within the year to be, over a $25 million threshold that management deems exceptional.

Novartis believes that investor understanding of the Group's performance is enhanced by disclosing core measures of performance because, since they exclude these exceptional items which can vary significantly from year to year, the core measures enable better comparison across years. For this same reason, Novartis uses these core measures in addition to IFRS and other measures as important factors in assessing the Group's performance.

The following are examples of how these core measures are utilized:

- In addition to monthly reports containing financial information prepared under IFRS, senior management receives a monthly analysis incorporating these core measures.
- Annual budgets are prepared for both IFRS and core measures.

Despite the use of these measures by management in setting goals and measuring the Group's performance, these are non-IFRS measures that have no standardized meaning prescribed by IFRS. As a result, such measures have limits in their usefulness to investors.

Because of their non-standardized definitions, the core measures (unlike IFRS measures) may not be comparable to the calculation of similar measures of other companies. These core measures are presented solely to permit investors to more fully understand how the Group's management assesses underlying performance. These core measures are not, and should not be viewed as, a substitute for IFRS measures.

As an internal measure of Group performance, these core measures have limitations, and the performance management process is not solely restricted to these metrics. A limitation of the core measures is that they provide a view of the Group's operations without including all events during a period, such as the effects of an acquisition or amortization of purchased intangible assets.

The following tables reconcile IFRS results to core results:

2011, 2010 AND 2009 RECONCILIATION OF IFRS RESULTS TO CORE RESULTS—GROUP

2011	IFRS results	Amortization of intangible assets[1]	Impairments[2]	Acquisition-related divestment gains, restructuring and integration charges[3]	Exceptional items[4]	Core results
	$ m	$ m	$ m	$ m	$ m	$ m
Gross profit	**40,392**	**2,918**	**278**	**5**	**246**	**43,839**
Operating income	**10,998**	**3,028**	**1,224**	**148**	**511**	**15,909**
Income before taxes	**10,773**	**3,238**	**1,224**	**148**	**552**	**15,935**
Taxes	(1,528)					(2,445)[5]
Net income	**9,245**					**13,490**
Basic earnings per share ($)[6]	3.83					5.57
The following are adjustments to arrive at core gross profit						
Net sales	58,566				117	58,683
Cost of Goods Sold	(18,983)	2,918	278	5	129	(15,653)
The following are adjustments to arrive at core operating income						
Marketing & Sales	(15,079)				2	(15,077)
Research & Development	(9,583)	93	341		(90)	(9,239)
General & Administration	(2,970)	13				(2,957)
Other income	1,354		(3)	(102)	(806)	443
Other expense	(3,116)	4	608	245	1,159	(1,100)
The following are adjustments to arrive at core income before taxes						
Income from associated companies	528	210			41	779

(1) Amortization of intangible assets: Cost of Goods Sold includes recurring amortization of acquired rights to in-market products and other production-related intangible assets; Research & Development includes the recurring amortization of acquired rights for technology platforms; General & Administration includes the recurring amortization of intangible assets; Other expense includes amortization of intangible assets; Income from associated companies includes the recurring amortization of the purchase price allocation related to intangible assets included in the Novartis equity-method accounting for Roche of $162 million and $48 million for the Novartis share of the estimated Roche core items.

(2) Impairments: Cost of Goods Sold includes impairment charges related to *Tekturna*/*Rasilez*, Consumer Health in the US, and other intangible assets; Research & Development includes impairment charges principally for PTK796, AGO178, PRT128, SMC021 and In Process Research & Development; Other income includes an impairment reversal; Other expense includes impairments of $314 million related to *Tekturna*/*Rasilez*, $47 million related to SMC021, $17 million related to the Group-wide rationalization of manufacturing sites, and amounts for financial assets.

(3) Acquisition-related divestment gains, restructuring and integration charges: Cost of Goods Sold includes an acquisition related inventory step-up adjustment; Other income includes a gain from product sales required by regulators to approve the Alcon merger; Other expense relates primarily to Alcon integration costs.

(4) Exceptional items: Net sales to third parties includes a returns provision related to *Tekturna*/*Rasilez* and a recall provision related to over-the-counter products; Cost of Goods Sold and Marketing & Sales include charges related to Consumer Health in the US; Cost of Goods Sold, Research & Development, Other income and Other expense include restructuring charges related to the Group-wide rationalization of manufacturing sites; Cost of Goods Sold and Other expense include Swiss restructuring charges of $254 million; Research & Development includes a reduction to a contingent consideration liability related to a business combination of $106 million in Sandoz; Other income and expense include a net $183 million gain from the Jump litigation settlement and a $100 million settlement gain, a $85 million insurance settlement gain, product divestment gains of $378 million, charges of $284 million related to legal settlements, $161 million for IT and finance restructuring projects, an amount of $295 million related to *Tekturna*/*Rasilez*, an amount of $13 million related to SMC021, and other restructuring charges; Income from associated companies reflects a charge of $41 million for the Novartis share of Roche's restructuring.

(5) Taxes on the adjustments between IFRS and core results take into account, for each individual item included in the adjustment, the tax rate that is applicable to the item in the jurisdiction where the adjustment arises. Generally, this results in amortization and impairment of intangible assets and acquisition-related restructuring and integration items having a full tax impact. There is usually a tax impact on exceptional items although this is not the case for items arising from criminal settlements in certain jurisdictions. Adjustments related to income from associated companies are recorded net of any related tax effect. Due to these factors and the differing effective tax rates in the various jurisdictions, the tax on the total adjustments of $5.2 billion to arrive at the core results before tax amounts to $917 million. This results in the average tax rate on the adjustments being 17.8%.

(6) Earnings per share (EPS) is calculated on the amount of net income attributable to shareholders of Novartis AG.

2010	IFRS results	Amortization of intangible assets[1]	Impairments[2]	Acquisition-related divestment gains, restructuring and integration charges[3]	Exceptional items[4]	Core results
	$ m	$ m	$ m	$ m	$ m	$ m
Gross profit	**37,073**	**1,061**	**(90)**	**471**	**2**	**38,517**
Operating income	**11,526**	**1,135**	**981**	**600**	**(236)**	**14,006**
Income before taxes	**11,702**	**1,560**	**981**	**280**	**(104)**	**14,419**
Taxes[5]	(1,733)					(2,390)
Net income	**9,969**					**12,029**
Basic earnings per share ($)[6]	4.28					5.15
The following are adjustments to arrive at core gross profit						
Cost of Goods Sold	(14,488)	1,061	(90)	471	2	(13,044)
The following are adjustments to arrive at core operating income						
Marketing & Sales	(13,316)	1				(13,315)
Research & Development	(9,070)	69	903		18	(8,080)
General & Administration	(2,481)	4				(2,477)
Other income	1,234		(10)		(739)	485
Other expense	(1,914)		178	129	483	(1,124)
The following are adjustments to arrive at core income before taxes						
Income from associated companies	804	425		(320)	132	1,041

(1) Amortization of intangible assets: Cost of Goods Sold includes recurring amortization of acquired rights to in-market products and other production-related intangible assets; Marketing & Sales includes the recurring amortization of intangible assets; Research & Development includes the recurring amortization of acquired rights for technology platforms; General & Administration includes the recurring amortization of intangible assets; Income from associated companies includes the recurring amortization of the purchase price allocation related to intangible assets, primarily for the Roche and Alcon investments.

(2) Impairments: Cost of Goods Sold includes impairment charges for acquired rights to in-market products and production-related impairment charges, including an additional reversal of $100 million in Pharmaceuticals for an impairment charge taken in 2007 for *Famvir*; Research & Development includes write-offs related to in-process Research & Development, mainly charges totalling $856 million for the discontinuation of *Mycograb*, albinterferon alfa-2b, PTZ601 and ASA404 development projects; Other income includes the reversal of impairments, primarily for property, plant & equipment; Other expense includes impairments, primarily for financial assets, thereof $45 million in Pharmaceuticals, $98 million in Vaccines and Diagnostics and $20 million in Corporate as well as $14 million in Vaccines and Diagnostics for property, plant & equipment.

(3) Acquisition-related restructuring and integration items: Cost of Goods Sold includes mainly charges of $467 million related to the required inventory step-up to estimated fair value in Alcon; Other expense includes charges in Corporate of $99 million related to the acquisition of Alcon and $30 million recorded in Alcon related to the change of majority ownership of Alcon; Income from associated companies includes a $378 million revaluation gain on the initial 25% interest in Alcon, a $43 million charge for the recycling of losses accumulated in comprehensive income related to Alcon since its inclusion as an associated company in 2008, and a $15 million charge for the change of majority ownership.

(4) Exceptional items: Cost of Goods Sold includes charges related to inventory write-off in Vaccines and Diagnostics due to a restructuring program; Research & Development includes an expense of $18 million for termination of a co-development contract in Sandoz; Other income includes a divestment gain of $392 million for the divestment of *Enablex* in Pharmaceuticals, proceeds of $42 million from a legal settlement in Pharmaceuticals with Teva regarding *Famvir*, a divestment gain of $33 million for *Tofranil* in Pharmaceuticals and a Swiss pension curtailment gain of $265 million in Corporate; Other expense includes mainly a $152.5 million provision for a gender discrimination case in the US in Pharmaceuticals, charges of $203 million for restructuring programs in Pharmaceuticals, Vaccines and Diagnostics, and Sandoz, a $25.5 million provision in connection with a government investigation in the US in Pharmaceuticals, $45 million for a legal settlement in Vaccines and Diagnostics, and a $38 million charge for a legal settlement in Sandoz; Income from associated companies reflects an additional charge of $43 million for the Novartis share of Roche's restructuring charges for Genentech taken in the second half of 2009 but recorded by Novartis in 2010 as well as an estimated charge of $89 million for the Novartis share of Roche's restructuring that was announced in late 2010.

(5) Taxes on the adjustments between IFRS and core results take into account, for each individual item included in the adjustment, the tax rate that is applicable to the item in the jurisdiction where the adjustment arises. Generally, this results in amortization and impairment of intangible assets and acquisition-related restructuring and integration items having a full tax impact. There is usually a tax impact on exceptional items although this is not the case for items arising from criminal settlements in certain jurisdictions. Adjustments related to income from associated companies are recorded net of any related tax effect. Due to these factors and the differing effective tax rates in the various jurisdictions, the tax on the total adjustments of $2.7 billion to arrive at the core results before tax amounts to $657 million. This results in the average tax rate on the adjustments being 24.2%.

(6) Earnings per share (EPS) is calculated on the amount of net income attributable to shareholders of Novartis AG.

2009	IFRS results	Amortization of intangible assets[1]	Impairments[2]	Acquisition-related restructuring and integration items[3]	Exceptional items[4]	Core results
	$ m	$ m	$ m	$ m	$ m	$ m
Gross profit	**32,924**	**938**	**(69)**	**18**	**(28)**	**33,783**
Operating income	**9,982**	**1,025**	**75**	**18**	**337**	**11,437**
Income before taxes	**9,922**	**1,594**	**167**	**18**	**434**	**12,135**
Taxes	(1,468)					(1,868)[5]
Net income	**8,454**					**10,267**
Basic earnings per share ($)[6]	3.70					4.50
The following are adjustments to arrive at core gross profit						
Other revenues	836				(28)	808
Cost of Goods Sold	(12,179)	938	(69)	18		(11,292)
The following are adjustments to arrive at core operating income						
Research & Development	(7,469)	87	95			(7,287)
Other income	782				(65)	717
Other expense	(1,924)		49		430	(1,445)
The following are adjustments to arrive at core income before taxes						
Income from associated companies	293	569	92		97	1,051

(1) Amortization of intangible assets: Cost of Goods Sold includes recurring amortization of acquired rights to in-market products and other production-related intangible assets; R&D includes the recurring amortization of acquired rights for technology platforms; Income from associated companies includes the amortization of the purchase price allocation related to intangible assets, primarily for the Roche and Alcon investments.

(2) Impairments: Cost of Goods Sold includes impairment charges for acquired rights to in-market products and production-related impairment charges, including a partial reversal of $100 million in Pharmaceuticals for an impairment taken in 2007 for *Famvir*; R&D includes write-offs related to in-process R&D; Other expense includes impairments, primarily for financial assets; Income from associated companies reflects the $92 million impairment charge taken for an Alcon pharmaceuticals development project.

(3) Acquisition-related restructuring and integration items: Cost of Goods Sold includes charges of $18 million related to the EBEWE Pharma specialty generics business acquisition.

(4) Exceptional items: Other revenues reflects a $28 million gain from a settlement of Vaccines and Diagnostics; Other income reflects divestment gains in Pharmaceuticals; Other expense includes an increase of $345 million in legal provisions principally for the *Trileptal* and *TOBI* US government investigations; Income from associated companies reflects a $97 million one-time charge for the Novartis share of Roche's restructuring charges for Genentech.

(5) Taxes on the adjustments between IFRS and core results take into account, for each individual item included in the adjustment, the tax rate that is applicable to the item in the jurisdiction where the adjustment arises. Generally, this results in amortization and impairment of intangible assets and acquisition-related restructuring and integration items having a full tax impact. There is usually a tax impact on exceptional items although this is not the case for items arising from criminal settlements in certain jurisdictions. Adjustments related to income from associated companies are recorded net of any related tax effect. Due to these factors and the differing effective tax rates in the various jurisdictions, the tax on the total adjustments of $2.2 billion to arrive at the core results before tax amounts to $400 million. This results in the average tax rate on the adjustments being 18.1%.

(6) Earnings per share (EPS) is calculated on the amount of net income attributable to shareholders of Novartis AG.

2011, 2010 AND 2009 RECONCILIATION OF IFRS RESULTS TO CORE RESULTS— PHARMACEUTICALS

2011	IFRS results	Amortization of intangible assets[1]	Impairments[2]	Acquisition-related divestment gains, restructuring and integration charges[3]	Exceptional items[4]	Core results
	$ m	$ m	$ m	$ m	$ m	$ m
Gross profit	**26,632**	**369**	**249**		**115**	**27,365**
Operating income	**8,296**	**423**	**985**	**(81)**	**417**	**10,040**
The following are adjustments to arrive at core gross profit						
Net sales to third parties	32,508				44	32,552
Cost of Goods Sold	(6,573)	369	249		71	(5,884)
The following are adjustments to arrive at core operating income						
Research & Development	(7,232)	54	303		15	(6,860)
Other income	697		(3)	(81)	(436)	177
Other expense	(1,825)		436		723	(666)

(1) Amortization of intangible assets: Cost of Goods Sold includes recurring amortization of acquired rights to in-market products and other production-related intangible assets; Research & Development includes the recurring amortization of acquired rights for technology platforms.

(2) Impairments: Cost of Goods Sold includes impairments primarily related to *Tekturna*/*Rasilez*; Research & Development includes impairment charges principally for PTK796, AGO178, PRT128 and SMC021; Other income includes an impairment reversal; Other expense includes impairments of $314 million related to *Tekturna*/*Rasilez* and $47 million related to SMC021, for financial assets, and related to the Group-wide rationalization of manufacturing sites.

(3) Acquisition-related divestment gains, restructuring and integration charges: Other income includes a gain from a product sale required by regulators to approve the Alcon merger.

(4) Exceptional items: Net sales to third parties includes a returns provision related to *Tekturna*/*Rasilez*; Cost of Goods Sold, Research & Development and Other expense include restructuring charges related to the Group-wide rationalization of manufacturing sites; Cost of Goods Sold and Other expense include Swiss restructuring charges totalling $249 million; Other income includes a net product divestment gain of $334 million and a settlement income of $100 million and items related to the Group-wide rationalization of manufacturing sites; Other expense also includes an amount for a legal settlement of $80 million, an amount of $295 million related to *Tekturna*/*Rasilez*, an amount of $13 million related to SMC021, and other restructuring charges.

2010[1]	IFRS results	Amortization of intangible assets[2]	Impairments[3]	Exceptional items[4]	Core results
	$ m	$ m	$ m	$ m	$ m
Gross profit	**25,613**	**421**	**(100)**		**25,934**
Operating income	**8,471**	**457**	**833**	**(175)**	**9,586**
The following are adjustments to arrive at core gross profit					
Cost of Goods Sold	(5,272)	421	(100)		(4,951)
The following are adjustments to arrive at core operating income					
Research & Development	(7,276)	36	896		(6,344)
Other income	687		(8)	(474)	205
Other expense	(971)		45	299	(627)

(1) Restated to reflect new divisional segment allocation introduced during 2011. For additional information, see "Item 5. Operating and Financial Review and Prospects—Item 5.A, Operating Results—Segment Reporting".

(2) Amortization of intangible assets: Cost of Goods Sold includes recurring amortization of acquired rights to in-market products and other production-related intangible assets; Research & Development includes the recurring amortization of acquired rights for technology platforms.

(3) Impairments: Cost of Goods Sold includes impairment charges for acquired rights to in-market products and other production-related impairment charges, including an additional reversal of $100 million for an impairment charge taken in 2007 for *Famvir*; Research & Development includes write-offs related to in-process Research & Development, mainly a total of $704 million charge for the discontinuation of *Mycograb* ($356 million), albinterferon alfa-2b ($228 million) and ASA404 ($120 million) development projects and a net pre-tax impairment charge of $152 million ($250 million related to the value of the intangible asset offset by a release of a $98 million liability related to the estimated value of a contingent milestone consideration) for termination of the PTZ601 development project; Other income includes the reversal of impairments, primarily for property, plant & equipment; Other expense includes impairments, primarily for financial assets.

(4) Exceptional items: Other income includes a divestment gain of $392 million for the divestment of *Enablex*, proceeds of $42 million from a legal settlement with Teva regarding *Famvir* and a divestment gain of $33 million for *Tofranil*; Other expense includes a $152.5 million provision for a gender discrimination case in the US, a $111 million charge for restructuring in the US as well as a $25.5 million provision in connection with a government investigation in the US.

2009[1]	IFRS results	Amortization of intangible assets[2]	Impairments[3]	Exceptional items[4]	Core results
	$ m	$ m	$ m	$ m	$ m
Gross profit	**23,975**	**322**	**(92)**		**24,205**
Operating income	**8,072**	**369**	**30**	**280**	**8,751**
The following are adjustments to arrive at core gross profit					
Cost of Goods Sold	(4,864)	322	(92)		(4,634)
The following are adjustments to arrive at core operating income					
Research & Development	(6,037)	47	81		(5,909)
Other income	414			(65)	349
Other expense	(1,078)		41	345	(692)

(1) Restated to reflect new divisional segment allocation introduced during 2011. For additional information, see "Item 5. Operating and Financial Review and Prospects—Item 5.A, Operating Results—Segment Reporting".

(2) Amortization of intangible assets: Cost of Goods Sold includes recurring amortization of acquired rights to in-market products and other production-related intangible assets; Research & Development includes the recurring amortization of acquired rights for technology platforms.

(3) Impairments: Cost of Goods Sold includes impairment charges for acquired rights to in-market products and production-related impairment charges, including a partial reversal of $100 million for an impairment taken in 2007 for *Famvir*; Research & Development includes write-offs related to in-process Research & Development; Other expense includes impairments, primarily for financial assets.

(4) Exceptional items: Other income reflects divestment gains; Other expense includes $345 million for legal provisions, litigations and exceptional settlements principally for the *Trileptal* US government investigation.

2011, 2010 AND 2009 RECONCILIATION OF IFRS RESULTS TO CORE RESULTS—ALCON

2011	IFRS results	Amortization of intangible assets[1]	Impairments[2]	Acquisition-related divestment gains, restructuring and integration charges[3]	Exceptional items[4]	Core results
	$ m	$ m	$ m	$ m	$ m	$ m
Gross profit	**5,457**	**1,912**			**20**	**7,389**
Operating income	**1,472**	**1,928**	**29**	**212**	**(149)**	**3,492**
The following are adjustments to arrive at core gross profit						
Cost of Goods Sold	(4,566)	1,912			20	(2,634)
The following are adjustments to arrive at core operating income						
Research & Development	(892)	3	20			(869)
General & Administration	(509)	13				(496)
Other income	262			(21)	(229)	12
Other expense	(309)		9	233	60	(7)

(1) Amortization of intangible assets: Cost of Goods Sold includes recurring amortization of acquired rights to in-market products and other production-related intangible assets; Research & Development includes the recurring amortization of acquired rights for technology platforms; General & Administration includes the recurring amortization of intangible assets.

(2) Impairments: Research & Development includes an In Process Research & Development impairment charge; Other expense includes impairment charges primarily related to the Group-wide rationalization of manufacturing sites.

(3) Acquisition-related divestment gains, restructuring and integration charges: Other income includes a gain from a product sale required by regulators to approve the Alcon merger; Other expense includes a loss from an Alcon merger-related divestment and Alcon integration costs.

(4) Exceptional items: Cost of Goods Sold and Other expense include restructuring charges related to the Group-wide rationalization of manufacturing sites; Cost of Goods Sold includes a reduction to a contingent consideration provision related to a business combination; Other income and expense includes a net $183 million gain from the Jump litigation settlement.

2010[1][2]	IFRS results	Amortization of intangible assets[3]	Acquisition-related divestment gains, restructuring and integration charges[4]	Core results
	$ m	$ m	$ m	$ m
Gross profit	**2,734**	**60**	**459**	**3,253**
Operating income	**796**	**65**	**489**	**1,350**
The following are adjustments to arrive at core gross profit				
Cost of Goods Sold	(1,760)	60	459	(1,241)
The following are adjustments to arrive at core operating income				
Research & Development	(352)	1		(351)
General & Administration	(255)	4		(251)
Other expense	(39)		30	(9)

(1) Restated to reflect new divisional segment allocation introduced during 2011. For additional information, see "Item 5. Operating and Financial Review and Prospects—Item 5.A, Operating Results—Segment Reporting".

(2) Consolidated results of Alcon, Inc., only included for the period from acquiring control on August 25, 2010 to December 31, 2010. Activities transferred from Pharmaceuticals and CIBA Vision transferred from Consumer Health included for the full year.

(3) Amortization of intangible assets: Cost of Goods Sold includes recurring amortization of acquired rights to in-market products and other production-related intangible assets; Research & Development includes the recurring amortization of acquired rights for technology platforms; General & Administration includes the recurring amortization of intangible assets.

(4) Acquisition-related restructuring and integration items: Cost of Goods Sold relates to the required inventory step-up to estimated fair value; Other expense includes charges of $30 million related to the change of majority ownership.

2009[1][2]	IFRS results	Amortization of intangible assets[3]	Core results
	$ m	$ m	$ m
Gross profit	**1,337**	**30**	**1,367**
Operating income	**473**	**31**	**504**
The following are adjustments to arrive at core gross profit			
Cost of Goods Sold	(669)	30	(639)
The following are adjustments to arrive at core operating income			
Research & Development	(94)	1	(93)

(1) Restated to reflect new divisional segment allocation introduced during 2011. For additional information, see "Item 5. Operating and Financial Review and Prospects—Item 5.A, Operating Results—Segment Reporting".

(2) Consolidated results of Alcon, Inc., are not included in 2009. Activities transferred from Pharmaceuticals and CIBA Vision transferred from Consumer Health are included for the full year.

(3) Amortization of intangible assets: Cost of Goods Sold includes recurring amortization of acquired rights to in-market products and other production-related intangible assets; Research & Development includes the recurring amortization of acquired rights for technology platforms.

2011, 2010 AND 2009 RECONCILIATION OF IFRS RESULTS TO CORE RESULTS—SANDOZ

2011	IFRS results	Amortization of intangible assets[1]	Impairments[2]	Exceptional items[3]	Core results
	$ m	$ m	$ m	$ m	$ m
Gross profit	**4,356**	**368**	**18**	**4**	**4,746**
Operating income	**1,422**	**383**	**26**	**90**	**1,921**
The following are adjustments to arrive at core gross profit					
Cost of Goods Sold	(5,445)	368	18	4	(5,055)
The following are adjustments to arrive at core operating income					
Research & Development	(640)	15	7	(106)	(724)
Other income	88			(12)	76
Other expense	(422)		1	204	(217)

(1) Amortization of intangible assets: Cost of Goods Sold includes recurring amortization of acquired rights to in-market products and other production-related intangible assets; Research & Development includes the recurring amortization of acquired rights for technology platforms.

(2) Impairments: Cost of Goods Sold and Research & Development include an impairment charge of intangible assets; Other expense include an impairment charge.

(3) Exceptional items: Cost of Goods Sold and Other income include restructuring charges, respectively release, related to the Group-wide rationalization of manufacturing sites; Research & Development includes a reduction to a contingent consideration liability related to a business combination; Other income includes the release of a restructuring provision in Germany; Other expense includes a charge related to US litigations.

2010[1]	IFRS results	Amortization of intangible assets[2]	Impairments[3]	Acquisition-related divestment gains, restructuring and integration charges[4]	Exceptional items[5]	Core results
	$ m	$ m	$ m	$ m	$ m	$ m
Gross profit	**3,997**	**278**	**4**	**12**		**4,291**
Operating income	**1,321**	**293**	**11**	**12**	**105**	**1,742**
The following are adjustments to arrive at core gross profit						
Cost of Goods Sold	(4,878)	278	4	12		(4,584)
The following are adjustments to arrive at core operating income						
Research & Development	(658)	15	7		18	(618)
Other income	77		(1)			76
Other expense	(295)		1		87	(207)

(1) Restated to reflect new divisional segment allocation introduced during 2011. For additional information, see "Item 5. Operating and Financial Review and Prospects—Item 5.A, Operating Results—Segment Reporting".

(2) Amortization of intangible assets: Cost of Goods Sold includes recurring amortization of acquired rights to in-market products and other production-related intangible assets; Research & Development includes the recurring amortization of acquired rights for technology platforms.

(3) Impairments: Cost of Goods Sold includes impairment charges for acquired rights to in-market products and other production-related impairment charges; Research & Development includes write-offs related to in-process Research & Development; Other income includes impairment reversals, primarily for property, plant & equipment; Other expense includes impairments, primarily for property, plant & equipment.

(4) Acquisition-related restructuring and integration items: Cost of Goods Sold includes charges of $4 million related to business acquisitions and $8 million related to a required inventory step-up to estimated fair value related to the Falcon unit.

(5) Exceptional items: Research & Development includes an expense for termination of a co-development contract; Other expense includes a $49 million charge for a restructuring program in Germany and a $38 million charge for a legal settlement in the US.

2009	IFRS results	Amortization of intangible assets[1]	Impairments[2]	Acquisition-related divestment gains, restructuring and integration charges[3]	Exceptional items[4]	Core results
	$ m	$ m	$ m	$ m	$ m	$ m
Gross profit	**3,566**	**246**	**10**	**18**		**3,840**
Operating income	**1,071**	**260**	**6**	**18**	**40**	**1,395**
The following are adjustments to arrive at core gross profit						
Cost of Goods Sold	(4,201)	246	10	18		(3,927)
The following are adjustments to arrive at core operating income						
Research & Development	(613)	14	(4)			(603)
Other expense	(272)				40	(232)

(1) Amortization of intangible assets: Cost of Goods Sold includes recurring amortization of acquired rights to in-market products and other production-related intangible assets; Research & Development includes the recurring amortization of acquired rights for technology platforms.

(2) Impairments: Cost of Goods Sold includes impairment charges for acquired rights to in-market products and production-related impairment charges; Research & Development includes write-offs related to in-process Research & Development.

(3) Acquisition-related restructuring and integration items: Cost of Goods Sold includes charges of $18 million related to the EBEWE Pharma specialty generics business acquisition.

(4) Exceptional items: Other expense includes a $40 million one-time charge in Sandoz for German commercial operations restructuring.

2011, 2010 AND 2009 RECONCILIATION OF IFRS RESULTS TO CORE RESULTS—VACCINES AND DIAGNOSTICS

2011	IFRS results	Amortization of intangible assets[1]	Impairments[2]	Acquisition-related divestment gains, restructuring and integration charges[3]	Exceptional items[4]	Core results
	$ m	$ m	$ m	$ m	$ m	$ m
Gross profit	**954**	**211**		**5**	**2**	**1,172**
Operating income	**(249)**	**231**	**145**	**5**	**3**	**135**
The following are adjustments to arrive at core gross profit						
Cost of Goods Sold	(1,410)	211		5	2	(1,192)
The following are adjustments to arrive at core operating income						
Research & Development	(523)	20	8		1	(494)
Other expense	(185)		137			(48)

(1) Amortization of intangible assets: Cost of Goods Sold includes recurring amortization of acquired rights to in-market products and other production-related intangible assets; Research & Development includes the recurring amortization of acquired rights for technology platforms.

(2) Impairments: Research & Development includes an In Process Research & Development impairment charge; Other expense includes an impairment charge of a financial asset.

(3) Acquisition-related divestment gains, restructuring and integration charges: Cost of Goods Sold includes an acquisition related inventory step-up adjustment.

(4) Exceptional items: Cost of Goods Sold and Research & Development adjustments represent restructuring charges related to the Group-wide rationalization of manufacturing sites.

2010	IFRS results	Amortization of intangible assets[1]	Impairments[2]	Exceptional items[3]	Core results
	$ m	$ m	$ m	$ m	$ m
Gross profit	**1,860**	**242**		**2**	**2,104**
Operating income	**612**	**259**	**112**	**83**	**1,066**
The following are adjustments to arrive at core gross profit					
Cost of Goods Sold	(1,551)	242		2	(1,307)
The following are adjustments to arrive at core operating income					
Research & Development	(523)	17			(506)
Other expense	(273)		112	81	(80)

(1) Amortization of intangible assets: Cost of Goods Sold includes recurring amortization of acquired rights to in-market products and other production-related intangible assets; Research & Development includes the recurring amortization of acquired rights for technology platforms.

(2) Impairments: Other expense relates to a charge of $98 million for an impairment of a financial asset and a charge of $14 million for impairments for property, plant & equipment due to a restructuring program in the UK.

(3) Exceptional items: Cost of Goods Sold includes charges related to inventory write-off due to a restructuring program; Other expense relates to a $45 million expense for a legal settlement and to a $36 million expense for a restructuring program in the UK.

2009	IFRS results	Amortization of intangible assets[1]	Impairments[2]	Exceptional items[3]	Core results
	$ m	$ m	$ m	$ m	$ m
Gross profit	**1,445**	**287**		**(28)**	**1,704**
Operating income	**372**	**312**	**18**	**17**	**719**
The following are adjustments to arrive at core gross profit					
Other revenues	390			(28)	362
Cost of Goods Sold	(1,415)	287			(1,128)
The following are adjustments to arrive at core operating income					
Research & Development	(508)	25	18		(465)
Other expense	(119)			45	(74)

(1) Amortization of intangible assets: Cost of Goods Sold includes recurring amortization of acquired rights to in-market products and other production-related intangible assets; Research & Development includes the recurring amortization of acquired rights for technology platforms.

(2) Impairments: Research & Development includes write-offs related to in-process Research & Development.

(3) Exceptional items: Other revenues reflects a $28 million gain from a settlement; Other expense includes $45 million for legal provisions, litigations and exceptional settlements.

2011, 2010 AND 2009 RECONCILIATION OF IFRS RESULTS TO CORE RESULTS—CONSUMER HEALTH

2011	IFRS results	Amortization of intangible assets[1]	Impairments[2]	Exceptional items[3]	Core results
	$ m	$ m	$ m	$ m	$ m
Gross profit	**2,935**	**58**	**11**	**105**	**3,109**
Operating income	**727**	**59**	**16**	**71**	**873**
The following are adjustments to arrive at core gross profit					
Net sales to third parties	4,631			73	4,704
Cost of Goods Sold	(1,735)	58	11	32	(1,634)
The following are adjustments to arrive at core operating income					
Marketing & Sales	(1,674)			2	(1,672)
Research & Development	(296)	1	3		(292)
Other income	91			(44)	47
Other expense	(38)		2	8	(28)

(1) Amortization of intangible assets: Cost of Goods Sold includes recurring amortization of acquired rights to in-market products and other production-related intangible assets; Research & Development includes the recurring amortization of acquired rights for technology platforms.

(2) Impairments: Cost of Goods Sold includes an impairment charge related to Consumer Health in the US; Research & Development and Other expense include impairment charges.

(3) Exceptional items: Net sales to third parties includes an over-the-counter products recall provision; Cost of Goods Sold and Marketing & Sales include charges related to Consumer Health in the US; Other income includes a product divestment gain; Other expense includes charges related to the Group-wide rationalization of manufacturing sites and other restructuring charges.

2010[1]	IFRS results	Amortization of intangible assets[2]	Impairments[3]	Core results
	$ m	$ m	$ m	$ m
Gross profit	**2,871**	**60**	**6**	**2,937**
Operating income	**778**	**61**	**6**	**845**
The following are adjustments to arrive at core gross profit				
Cost of Goods Sold	(1,560)	60	6	(1,494)
The following are adjustments to arrive at core operating income				
Marketing & Sales	(1,569)	1		(1,568)

(1) Restated to reflect new divisional segment allocation introduced during 2011. For additional information, see "Item 5. Operating and Financial Review and Prospects—Item 5.A, Operating Results—Segment Reporting".

(2) Amortization of intangible assets: Cost of Goods Sold includes recurring amortization of acquired rights to in-market products and other production-related intangible assets; Marketing & Sales includes the recurring amortization of intangible assets.

(3) Impairments: Cost of Goods Sold includes impairment charges for acquired rights to in-market products and other production-related impairment charges.

2009[1]	IFRS results	Amortization of intangible assets[2]	Impairments[3]	Core results
	$ m	$ m	$ m	$ m
Gross profit	**2,627**	**53**	**13**	**2,693**
Operating income	**683**	**53**	**18**	**754**
The following are adjustments to arrive at core gross profit				
Cost of Goods Sold	(1,533)	53	13	(1,467)
The following are adjustments to arrive at core operating income				
Other expense	(56)		5	(51)

(1) Restated to reflect new divisional segment allocation introduced during 2011. For additional information, see "Item 5. Operating and Financial Review and Prospects—Item 5.A, Operating Results—Segment Reporting".

(2) Amortization of intangible assets: Cost of Goods Sold includes recurring amortization of acquired rights to in-market products and other production-related intangible assets.

(3) Impairments: Cost of Goods Sold includes impairment charges for acquired rights to in-market products and production-related impairment charges; Other expense includes impairments, primarily for property, plant and equipment.

2011 AND 2010[1] RECONCILIATION OF SEGMENT OPERATING INCOME TO CORE OPERATING INCOME

	Pharmaceuticals		Alcon		Sandoz		Vaccines and Diagnostics		Consumer Health		Corporate		Total	
	2011	2010	2011	2010[2]	2011	2010	2011	2010	2011	2010	2011	2010	2011	2010
	$ m	$ m	$ m	$ m	$ m	$ m	$ m	$ m	$ m	$ m	$ m	$ m	$ m	$ m
Operating income	**8,296**	**8,471**	**1,472**	**796**	**1,422**	**1,321**	**(249)**	**612**	**727**	**778**	**(670)**	**(452)**	**10,998**	**11,526**
Amortization of intangible assets	**423**	**457**	**1,928**	**65**	**383**	**293**	**231**	**259**	**59**	**61**	**4**		**3,028**	**1,135**
Impairments														
Intangible assets	552	796	20		25	11	8		14	6			619	813
Property, plant & equipment—manufacturing sites[3]	12		5					14					17	14
Other property, plant & equipment	391	(4)			1		2		2				396	(4)
Financial assets	30	41	4				135	98			23	19	192	158
Total impairment charges	**985**	**833**	**29**		**26**	**11**	**145**	**112**	**16**	**6**	**23**	**19**	**1,224**	**981**
Acquisition-related items														
Gains	(81)		(21)										(102)	
Expenses			233	489		12	5				12	99	250	600
Total acquisition related items, net	**(81)**		**212**	**489**		**12**	**5**				**12**	**99**	**148**	**600**
Exceptional items														
Exceptional divestment gains	(334)	(425)							(44)				(378)	(425)
Swiss restructuring expenses[3]	249								5				254	
Restructuring expenses—non-Swiss manufacturing sites[3]	90	11	52		3		3	38	4				152	49
Other restructuring expenses	81	100			(11)	49			(1)				69	149
Legal-related items														
Income	(100)	(42)	(229)										(329)	(42)
Expense	80	181	45		204	56		45					329	282
Swiss pension curtailment gain												(265)		(265)
Other exceptional income			(17)		(106)						(85)		(208)	
Other exceptional expense	351								107		164	16	622	16
Total exceptional items	**417**	**(175)**	**(149)**		**90**	**105**	**3**	**83**	**71**		**79**	**(249)**	**511**	**(236)**
Total adjustments	**1,744**	**1,115**	**2,020**	**554**	**499**	**421**	**384**	**454**	**146**	**67**	**118**	**(131)**	**4,911**	**2,480**
Core operating income	**10,040**	**9,586**	**3,492**	**1,350**	**1,921**	**1,742**	**135**	**1,066**	**873**	**845**	**(552)**	**(583)**	**15,909**	**14,006**
Core return on net sales	**30.9%**	**31.6%**	**35.1%**	**30.4%**	**20.3%**	**20.3%**	**6.8%**	**36.5%**	**18.9%**	**19.4%**			**27.2%**	**27.7%**

(1) Restated to reflect new divisional segment allocation introduced during 2011. For additional information, see "Item 5. Operating and Financial Review and Prospects—Item 5.A, Operating Results—Segment Reporting".

(2) Consolidated results of Alcon, Inc., only included for the period from acquiring control on August 25, 2010 to December 31, 2010. Ophthalmic activities transferred from Pharmaceuticals and CIBA Vision transferred from Consumer Health included for the full year.

(3) Related to the Group-wide rationalization of manufacturing sites (Swiss portion amounts to approximately $100 million).

2010[1] AND 2009 RECONCILIATION OF SEGMENT OPERATING INCOME TO CORE OPERATING INCOME

	Pharmaceuticals		Alcon		Sandoz		Vaccines and Diagnostics		Consumer Health		Corporate		Total	
	2010	2009	2010[2]	2009[2]	2010	2009	2010	2009	2010	2009	2010	2009	2010	2009
	$ m	$ m	$ m	$ m	$ m	$ m	$ m	$ m	$ m	$ m	$ m	$ m	$ m	$ m
Operating income	**8,471**	**8,072**	**796**	**473**	**1,321**	**1,071**	**612**	**372**	**778**	**683**	**(452)**	**(689)**	**11,526**	**9,982**
Amortization of intangible assets	**457**	**369**	**65**	**31**	**293**	**260**	**259**	**312**	**61**	**53**			**1,135**	**1,025**
Impairments														
Intangible assets	796	(11)			11	6		18	6	13			813	26
Property, plant & equipment—manufacturing sites[3]							14						14	
Other property, plant & equipment	(4)	4								5			(4)	9
Financial assets	41	37					98				19	3	158	40
Total impairments	**833**	**30**			**11**	**6**	**112**	**18**	**6**	**18**	**19**	**3**	**981**	**75**
Acquisition-related items														
Gains														
Expenses			489		12	18					99		600	18
Total acquisition related items, net			**489**		**12**	**18**					**99**		**600**	**18**
Exceptional items														
Exceptional divestment gains	(425)	(65)											(425)	(65)
Restructuring expenses—non-Swiss manufacturing sites[3]	11						38						49	
Other restructuring expenses	100				49	40							149	40
Legal-related items														
Income	(42)							(28)					(42)	(28)
Expense	181	345			56		45	45					282	390
Swiss pension curtailment gain											(265)		(265)	
Other exceptional expense											16		16	
Total exceptional items	**(175)**	**280**			**105**	**40**	**83**	**17**			**(249)**		**(236)**	**337**
Total adjustments	**1,115**	**679**	**554**	**31**	**421**	**324**	**454**	**347**	**67**	**71**	**(131)**	**3**	**2,480**	**1,455**
Core operating income	**9,586**	**8,751**	**1,350**	**504**	**1,742**	**1,395**	**1,066**	**719**	**845**	**754**	**(583)**	**(686)**	**14,006**	**11,437**
Core return on net sales	**31.6%**	**30.9%**	**30.4%**	**25.6%**	**20.3%**	**18.6%**	**36.5%**	**29.7%**	**19.4%**	**18.4%**			**27.7%**	**25.8%**

[1] Restated to reflect new divisional segment allocation introduced during 2011. For additional information, see "Item 5. Operating and Financial Review and Prospects—Item 5.A, Operating Results—Segment Reporting".

[2] Consolidated results of Alcon, Inc., only included for the period from acquiring control on August 25, 2010 to December 31, 2010. Ophthalmic activities transferred from Pharmaceuticals and CIBA Vision transferred from Consumer Health included for all of 2010 and 2009.

[3] Related to the Group-wide rationalization of manufacturing sites.

ALCON SEGMENT RECONCILIATION FROM 2010 RESTATED TO PRO FORMA DATA

On August 25, 2010 Novartis acquired a majority interest in Alcon, Inc. and its results have been included in the consolidated IFRS results of the Novartis Group and the Alcon segment since then (for additional information, see "Item 18, Financial Statements—note 2").

Novartis believes that the presentation of pro forma information will assist investors in their understanding of the combined companies' operating performance by setting a base for comparison with the 2011 consolidated results of Alcon. Without these pro forma results, the Alcon 2010 restated results through August 25, 2010 would consist only of the results from CIBA Vision and those Pharmaceuticals ophthalmics products which were transferred to Alcon. As a result, it is considered a comparison between the 2011 Alcon results and the 2010 restated results would not be meaningful.

Therefore Novartis prepared pro forma information assuming the Alcon acquisition was completed on January 1, 2010. The pro forma information does not purport to present what the actual results of operations would have been had the transaction actually occurred on the date indicated.

The pro forma information includes the full 2010 consolidated income statement data for Alcon, Inc. from January 1, 2010 and adjusts for the impact of divestments required by regulators to approve the Alcon acquisition as well as for exceptional costs related to the acquisition of majority ownership of Alcon.

The following tables reconcile IFRS to pro forma core results for Alcon:

	2010 Restated	Consolidated results of Alcon, Inc., from January 1, 2010 to August 25, 2010[1]	2010 Pro forma
	$ millions	$ millions	$ millions
Net sales to third parties	**4,446**	**4,585**	**9,031**
Sales to other segments	14		14
Net sales of segments	**4,460**	**4,585**	**9,045**
Other revenues	34	5	39
Cost of Goods Sold	(1,760)	(2,442)	(4,202)
Gross profit	**2,734**	**2,148**	**4,882**
Marketing & Sales	(1,299)	(1,060)	(2,359)
Research & Development	(352)	(478)	(830)
General & Administration	(255)	(255)	(510)
Other income	7		7
Other expense	(39)	30	(9)
Operating income	**796**	**385**	**1,181**
as % of net sales	*17.9%*	*8.4%*	*13.1%*
Core adjustments			
Cost of Goods Sold	519	1,379	1,898
Research & Development	1	3	4
General & Administration	4	8	12
Other expense	30	(30)	
Core Operating income	**1,350**	**1,745**	**3,095**
as % of net sales	*30.4%*	*38.1%*	*34.3%*

(1) This assumes that the acquisition of Alcon, Inc. had occured on January 1, 2010. It therefore also reflects $1.4 billion of additional amortization of intangible assets arising from the purchase price allocation and excludes $145 million of change of control and acquisition related costs.

RECONCILIATION OF ALCON 2010 PRO FORMA RESTATED OPERATING INCOME TO THAT FILED WITH AMENDMENT NO. 3 TO FORM F-4, FILED WITH THE US SEC ON FEBRUARY 24, 2011

	2010	
	$ millions	
Alcon operating income as reported in IFRS by Novartis (August 25, 2010–December 31, 2010)		**323**
Alcon income statement under IFRS as adopted by Novartis (January 1, 2010–December 31, 2010)	2,501	
Purchase price allocation and other pro forma adjustments (including elimination of double-counting of Alcon for August 25, 2010–December 31, 2010)	(2,016)	
Alcon, Inc. pro forma operating income as reported in Form F-4 on February 24, 2011		**485**
Acquisition costs recorded in Corporate and therefore not to be taken into account in Alcon operating income		**(99)**
Falcon operating income transferred to Sandoz	(43)	
CIBA Vision operating income transferred from Consumer Health	383	
Ophthalmics products related operating income transferred to Alcon	132	
Segments transfers		**472**
Alcon pro forma restated operating income for 2010		**1,181**

2011 AND 2010 RECONCILIATION OF IFRS RESULTS TO CORE RESULTS—ALCON PRO FORMA

2011	IFRS results	Amortization of intangible assets[1]	Impairments[2]	Acquisition-related divestment gains, restructuring and integration charges[3]	Exceptional items[4]	Core results
	$ m	$ m	$ m	$ m	$ m	$ m
Gross profit	**5,453**	**1,912**			**20**	**7,385**
Operating income	**1,461**	**1,928**	**29**	**221**	**(149)**	**3,490**
The following are adjustments to arrive at core gross profit						
Cost of Goods Sold	(4,561)	1,912			20	(2,629)
The following are adjustments to arrive at core operating income						
Research & Development	(892)	3	20			(869)
General & Administration	(509)	13				(496)
Other income	241				(229)	12
Other expense	(296)		9	221	60	(6)

(1) Amortization of intangible assets: Cost of Goods Sold includes recurring amortization of acquired rights to in-market products and other production-related intangible assets; Research & Development includes the recurring amortization of acquired rights for technology platforms; General & Administration includes the recurring amortization of intangible assets.

(2) Impairments: Research & Development includes an In Process Research & Development impairment charge; Other expense includes impairment charges primarily related to the Group-wide rationalization of manufacturing sites.

(3) Acquisition-related divestment gains, restructuring and integration charges: Other expense relates to Alcon integration costs.

(4) Exceptional items: Cost of Goods Sold and Other expense include restructuring charges related to the Group-wide rationalization of manufacturing sites; Cost of Goods Sold includes a reduction to a contingent consideration provision related to a business combination; Other income and expense includes a net $183 million gain from the Jump litigation settlement.

2010	IFRS results	Amortization of intangible assets[2]	Core results
	$ m	$ m	$ m
Gross profit	**4,882**	**1,898**	**6,780**
Operating income	**1,181**	**1,914**	**3,095**
The following are adjustments to arrive at core gross profit			
Cost of Goods Sold	(4,202)	1,898	(2,304)
The following are adjustments to arrive at core operating income			
Research & Development	(830)	4	(826)
General & Administration	(510)	12	(498)

(1) On a pro forma basis, see "Item 5. Operating and Financial Review and Prospects—Item 5A. Operating Results—Core Results as defined by Novartis."

(2) Amortization of intangible assets: Cost of Goods Sold includes recurring amortization of acquired rights to in-market products and other production-related intangible assets; Research & Development includes the recurring amortization of acquired rights for technology platforms; General & Administration includes the recurring amortization of intangible assets.

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

Our principal accounting policies are set out in note 1 to the Group's consolidated financial statements and are prepared in accordance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB). Given the uncertainties inherent in our business activities, we must make certain estimates and assumptions that require difficult, subjective and complex judgments. Because of uncertainties inherent in such judgments, actual outcomes and results may differ from our assumptions and estimates which could materially affect the Group's consolidated financial statements. Application of the following accounting policies requires certain assumptions and estimates that have the potential for the most significant impact on our consolidated financial statements.

Revenue

We recognize product sales when there is persuasive evidence that a sales arrangement exists, title and risk and rewards for the products are transferred to the customer, the price is determinable, and collectability is reasonably assured. Where contracts contain customer acceptance provisions we recognize sales upon the satisfaction of acceptance criteria.

At the time of recognizing revenue, we also record estimates for a variety of sales deductions, including rebates, discounts, refunds, incentives and product returns. Sales deductions are reported as a reduction of revenue.

Deductions from Revenues

As is typical in the pharmaceuticals industry, our gross sales are subject to various deductions that are composed primarily of rebates and discounts to retail customers, government agencies, wholesalers, health insurance companies and managed healthcare organizations. These deductions represent estimates of the related obligations, requiring the use of judgment when estimating the effect of these sales deductions on gross sales for a reporting period. These adjustments are deducted from gross sales to arrive at net sales.

The following summarizes the nature of some of these deductions and how the deduction is estimated. After recording these, net sales represent our best estimate of the cash that we expect to ultimately collect. The US market has the most complex arrangements related to revenue deductions.

US specific healthcare plans and program rebates

- The US Medicaid Drug Rebate Program is administered by State governments using State and Federal funds to provide assistance to certain vulnerable and needy individuals and families. Calculating the rebates to be paid involves interpreting relevant regulations, which are subject to challenge or change in interpretative guidance by government authorities. Provisions for estimating Medicaid rebates are calculated using a combination of historical experience, product and population growth, product price

increases and the mix of contracts and specific terms in the individual State agreements. These provisions are adjusted based on established processes and experiences from re-filing data with individual States.

- The US Federal Medicare program, which funds healthcare benefits to individuals age 65 or older, provides prescription drug benefits under Part D of the program. This benefit is provided through private prescription drug plans. Provisions for estimating Medicare Part D rebates are calculated based on the terms of individual plan agreements, product sales and population growth, product price increases and the mix of contracts.
- We offer rebates to key managed healthcare plans to sustain and increase market share for our products. These rebate programs provide payors a rebate after they attain certain performance parameters related to product purchases, formulary status or pre-established market share milestones relative to competitors. These rebates are estimated based on the terms of individual agreements, historical experience and projected product growth rates. We adjust provisions related to rebates periodically to reflect actual experience.
- There is often a time lag of several months between us recording the revenue deductions and our final accounting for the revenue deductions.

Non-US specific healthcare plans and program rebates

- In certain countries, other than the US, we provide rebates to governments and other entities. These rebates are often mandated by laws or government regulations.
- In several countries we enter into innovative pay-for-performance arrangements with certain healthcare providers, especially in the UK, Germany and Australia. Under these agreements, we may be required to make refunds to the healthcare providers or to provide additional medicines free of charge if anticipated treatment outcomes do not meet predefined targets. Potential refunds and the delivery of additional medicines at no cost are estimated and recorded as a deduction of revenue at the time the related revenues are recorded. Estimates are based on historical experience and clinical data. In cases where historical experience and clinical data are not sufficient for a reliable estimation of the outcome, revenue recognition would be deferred until such history would be available.
- There is often a time lag of several months between us recording the revenue deductions and our final accounting for the revenue deductions.

Non-healthcare plans and program rebates, returns and other deductions

- Charge-backs occur where our subsidiaries have arrangements with indirect customers to sell products at prices that are lower than the price charged to wholesalers. A chargeback represents the difference between the invoice price to the wholesaler and the indirect customer's contract price. We account for vendor charge-backs by reducing revenue by an amount equal to our estimate of charge-backs attributable to a sale and they are generally settled within one to three months of incurring the liability. Provisions for estimated charge-backs are calculated using a combination of factors such as historical experience, product growth rates, payments, level of inventory in the distribution channel, the terms of individual agreements and our estimate of the claims processing time lag.
- We offer rebates to purchasing organizations and other direct and indirect customers to sustain and increase market share for our products. Since rebates are contractually agreed upon, rebates are estimated based on the terms of individual agreements, historical experience, and projected product growth rates.
- When we sell a product providing a customer the right to return a product, we record a provision for estimated sales returns based on our sales returns policy and historical rates. Other factors considered include product recalls, expected marketplace changes and the remaining shelf life of the product, and the entry of generic products. In 2011, sales returns amounted to approximately 1% of gross product sales. Especially in the Vaccines and Diagnostics Division, if there is no Novartis-specific historical return rate experience available, sales are only recorded based on evidence of product consumption or when the right of return has expired.
- We enter into distribution service agreements with major wholesalers, which provide a financial disincentive for wholesalers to purchase product quantities exceeding current customer demand. Where possible, we adjust shipping patterns for our products to maintain wholesalers' inventories level consistent with underlying patient demand.

- We offer cash discounts to customers to encourage prompt payment. Cash discounts are accrued at the time of invoicing and deducted from revenue.
- Following a decrease in the price of a product, we generally grant customers a "shelf stock adjustment" for a customer's existing inventory for the involved product. Provisions for shelf stock adjustments, which are primarily relevant within the Sandoz Division, are determined at the time of the price decline or at the point of sale if a price decline can be reasonably estimated based on inventory levels of the relevant product.
- Other sales discounts, such as consumer coupons and co-pay discount cards, are offered in some markets. These discounts are recorded at the time of sale, or when the coupon is issued and are estimated utilizing historical experience and the specific terms for each program. If a discount for a probable future transaction is offered as part of a sales transaction then an appropriate portion of revenue is deferred to cover this estimated obligation.
- We adjust provisions for revenue deductions periodically to reflect actual experience. To evaluate the adequacy of provision balances, we use internal and external estimates of the level of inventory in the distribution channel, actual claims data received and the time lag for processing rebate claims. Management also estimates the level of inventory of the relevant product held by retailers and in transit. External data sources include reports of wholesalers and third-party market data purchased by Novartis.

The following table shows the worldwide extent of our revenue deductions provisions and related payment experiences:

Provisions for revenue deductions

	Revenue deductions provisions at January 1	Effect of currency translation and business combinations	Payments/ utilizations	Income statement charge		Change in provisions offset against gross trade receivables	Revenue deductions provisions at December 31
				Adjustments of prior years	Current year		
	$ millions	$ millions	$ millions	$ millions	$ millions	$ millions	$ millions
2011							
US specific healthcare plans and program rebates	1,162		(2,860)	(19)	3,157		1,440
Non-US specific healthcare plans and program rebates	575	(24)	(1,043)	(23)	1,281		766
Non-healthcare plans and program related rebates, returns and other deductions	1,360	(68)	(6,846)	(7)	7,324	(227)	1,536
Total 2011	**3,097**	**(92)**	**(10,749)**	**(49)**	**11,762**	**(227)**	**3,742**
2010							
US specific healthcare plans and program rebates	755	226	(1,949)	(8)	2,138		1,162
Non-US specific healthcare plans and program rebates	455	(34)	(444)	(9)	607		575
Non-healthcare plans and program related rebates, returns and other deductions	884	163	(5,779)	(32)	6,056	68	1,360
Total 2010	**2,094**	**355**	**(8,172)**	**(49)**	**8,801**	**68**	**3,097**
2009							
US specific healthcare plans and program rebates	632		(1,425)	(13)	1,561		755
Non-US specific healthcare plans and program rebates	333	10	(282)	3	391		455
Non-healthcare plans and program related rebates, returns and other deductions	700	77	(3,875)	5	4,298	(321)	884
Total 2009	**1,665**	**87**	**(5,582)**	**(5)**	**6,250**	**(321)**	**2,094**

The table below shows the gross to net sales reconciliation for our Pharmaceuticals division:

Gross to net sales reconciliation

	Income statement charge			
	Charged through revenue deduction provisions	Charged directly without being recorded in revenue deduction provisions	Total	In % of gross sales
	$ millions	$ millions	$ millions	%
2011				
Pharmaceuticals gross sales subject to deductions			**40,004**	**100.0**
US specific healthcare plans and program rebates	(2,424)		(2,424)	(6.0)
Non-US specific healthcare plans and program rebates	(801)	(408)	(1,209)	(3.0)
Non-healthcare plans and program related rebates, returns and other deductions	(1,631)	(2,232)	(3,863)	(9.7)
Total Pharmaceuticals gross to net sales adjustments	**(4,856)**	**(2,640)**	**(7,496)**	**(18.7)**
Pharmaceuticals net sales 2011			**32,508**	**81.3**
2010				
Pharmaceuticals gross sales subject to deductions			**36,400**	**100.0**
US specific healthcare plans and program rebates	(2,029)		(2,029)	(5.6)
Non-US specific healthcare plans and program rebates	(298)	(263)	(561)	(1.5)
Non-healthcare plans and program related rebates, returns and other deductions	(1,585)	(1,919)	(3,504)	(9.6)
Total Pharmaceuticals gross to net sales adjustments	**(3,912)**	**(2,182)**	**(6,094)**	**(16.7)**
Pharmaceuticals net sales 2010			**30,306**	**83.3**
2009				
Pharmaceuticals gross sales subject to deductions			**33,010**	**100.0**
US specific healthcare plans and program rebates	(1,516)		(1,516)	(4.5)
Non-US specific healthcare plans and program rebates	(199)	(193)	(392)	(1.2)
Non-healthcare plans and program related rebates, returns and other deductions	(1,220)	(1,595)	(2,815)	(8.6)
Total Pharmaceuticals gross to net sales adjustments	**(2,935)**	**(1,788)**	**(4,723)**	**(14.3)**
Pharmaceuticals net sales 2009			**28,287**	**85.7**

Acquisition accounting

The Group's consolidated financial statements reflect an acquired business from the date the acquisition has been completed. We account for acquired businesses resulting in majority ownership using the acquisition method of accounting, which requires the acquired assets and assumed liabilities to be recorded as of the acquisition date at their respective fair values. Any excess of the purchase consideration over the Group's share of the estimated fair values of acquired net identified assets is recorded as goodwill in the balance sheet and denominated in the functional currency of the related acquisition. Goodwill is allocated to an appropriate cash-generating unit, which is defined as the smallest group of assets that generates independent cash inflows that support the goodwill.

In-Process Research & Development (IPR&D) is valued as part of the acquisition accounting. Payments for other separately acquired assets in development, such as those related to initial and milestone payments for licensed or acquired compounds, are capitalized as IPR&D intangible assets if they are deemed to enhance our intellectual property. This occurs even if uncertainties continue to exist as to whether the R&D projects will ultimately be successful in producing a commercial product. Estimating the fair value assigned to each class of acquired assets and assumed liabilities is based on expectations and assumptions, from the perspective of a market participant, that have been deemed reasonable by management.

Contingent considerations to former owners agreed in a business combination, e.g., in the form of milestone payments upon the achievement of certain development stages or sales targets as well as royalties, are recognized as liabilities at fair value as of the acquisition date. Any subsequent changes in amounts recorded as a liability are recognized in the consolidated income statement.

Impairment of long-lived intangible and tangible assets

We review long-lived intangible and tangible assets for impairment whenever events or changes in circumstance indicate that the asset's balance sheet carrying amount may not be recoverable.

An asset, as defined, is generally considered impaired when its carrying amount exceeds its estimated recoverable amount. The recoverable amount is measured as the higher of: (a) an asset or related cash-generating unit's fair value less costs to sell and (b) its value in use. Fair value reflects the Group's estimates of assumptions that market participants would use when pricing the asset. In contrast the value in use concept reflects the Group's estimates based on its expected use of the asset, including the effects of factors that may be specific to the Group and not applicable to entities in general. Value in use, and fair value, are measured principally on the basis of discounted cash flow analysis using management's best estimate of the range of economic conditions that are expected to exist over the remaining useful life of the asset. Also value in use measurements specifically exclude consideration of any estimated future net cash flows that might be expected to arise from future restructuring or from improving or enhancing the asset's performance.

The net present values involve highly sensitive estimates and assumptions including consideration of factors such as the following:

- the amount and timing of projected future cash flows;
- the selected discount and tax rate;
- the outcome of R&D activities (compound efficacy, results of clinical trials, etc.);
- the amount and timing of projected costs to develop IPR&D projects into commercially viable products;
- the probability of obtaining regulatory approval;
- long-term sales forecasts for periods of up to 25 years;
- sales erosion rates after the end of patent protection and timing of the entry of generic competition; and
- the behavior of competitors (launch of competing products, marketing initiatives, etc.).

Factors that could result in shortened useful lives or impairments include:

- entry into the market of generic or alternative products;
- lower than expected sales for acquired products or for sales associated with patents and trademarks;
- lower than anticipated future sales resulting from acquired IPR&D;
- the closing of facilities; and
- changes in the planned use of property, plant & equipment.

Goodwill and the Alcon brand name have an indefinite useful life and impairment testing is done at least annually. Any impairment charge is recorded in the consolidated income statement under "Other expense". We consider that the Alcon brand name has an indefinite life as Alcon has a history of strong revenue and cash flow performance, and we have the intent and ability to support the brand with market-place spending for the foreseeable future. IPR&D is also assessed for impairment at least on an annual basis, with any impairment charge recorded in the consolidated income statement under "Research & Development". Once a project included in IPR&D has been successfully developed and is available for use, it is amortized over its useful life in the consolidated income statement under "Cost of Goods Sold", where related impairment charges, if any, are also recorded.

We have adopted a uniform method for assessing goodwill and indefinite-life intangible assets for impairment and any other intangible asset indicated as being possibly impaired. Generally, for intangible assets we use cash flow projections for the whole useful life of these assets, and for goodwill and the Alcon brand name, we utilize cash flow projections for a five-year period based on management forecasts, with a terminal value based on sales projections usually in line with or lower than inflation rates for later periods. Probability-weighted scenarios are typically used.

Discount rates used in these scenarios are based on the Group's weighted average cost of capital as an approximation of the weighted average cost of capital of a comparable market participant, which are adjusted for specific country and currency risks associated with cash flow projections.

Due to the above factors, actual cash flows and values could vary significantly from forecasted future cash flows and related values derived using discounting techniques.

The recoverable amount of a cash-generating unit and related goodwill is usually based on the higher of "fair value less costs of sale" or on the "value in use" derived from applying discounted future cash flows based on the key assumptions in the following table:

	Pharmaceuticals	Alcon	Sandoz	Vaccines and Diagnostics	Consumer Health
	%	%	%	%	%
Sales growth rate assumptions after forecast period	0.4	3	0 to 2	0.5	0 to 2
Discount rate (post-tax)	7	7	7	7	7

In 2011, intangible asset impairment charges of $627 million were recorded. $552 million of these arose in the Pharmaceuticals Division, principally due to the expected reduction in demand for *Tekturna*/*Rasilez* (aliskiren) and discontinuation of PRT128 (elinogrel), SMC021 (oral calcitonin), PTK796 (omadacycline) and AGO178 (agomelatine) development programs. $75 million of impairment charges arose in all other Divisions.

In 2010, Novartis recorded impairment charges totaling approximately $1.0 billion. These related to impairment charges of $356 million for *Mycograb*, $250 million for PTZ601, $228 million for albinterferon alfa-2b and $120 million for ASA404 as Novartis decided to discontinue the related development projects. Additionally, $40 million were recorded for various other impairment charges in the Pharmaceuticals Division. Novartis also recorded various impairment charges of $24 million in Sandoz and Consumer Health.

Reversal of prior year impairment charges amounted to $8 million (2010: $107 million).

The amount of goodwill and other intangible assets on our consolidated balance sheet has increased significantly in recent years, primarily due to acquisitions. Although no significant additional impairments are currently anticipated, impairment testing could lead to material impairment charges in the future. For more information, see note 11 to the Group's consolidated financial statements.

Additionally, impairment charges for property, plant and equipment during 2011 amounted to $413 million (2010: $10 million) of which $403 million was in Pharmaceuticals primarily related to the expected reduction in demand for *Tekturna*/*Rasilez* and the discontinuation of the SMC021 development program.

Investments in associated companies

We use the equity method to account for investments in associated companies (generally defined as investments in companies that correspond to holdings of between 20% and 50% of a company's voting shares or over which we otherwise have significant influence).

Various estimates are used in applying the equity method, so subsequent adjustments may be required once an associated company publishes financial results or makes public other information. This applies in particular to our investment in Roche Holding AG.

We consider investments in associated companies for impairment testing whenever a company's quoted share price has fallen to a fair value below our per-share carrying value. For unquoted investments in associated companies, the latest available financial information is used to assess whether impairment testing is necessary. Where there is an indication that separately identified assets of the associated company, other than implicit goodwill, might be impaired an impairment test is performed. Any impairment charge is recorded in the consolidated income statement under "Income from associated companies".

Retirement and other post-employment benefit plans

We sponsor pension and other post-employment benefit plans in various forms that cover a significant portion of our current and former associates. For post-employment plans with defined benefit obligations, we are required to make significant assumptions and estimates about future events in calculating the expense and the present value of the liability related to these plans. These include assumptions about the discount rates we apply to estimate future liabilities, expected returns on plan assets and rates of future compensation increases. In addition, our actuarial consultants provide our management with historical statistical information such as withdrawal and mortality rates in connection with these estimates.

Assumptions and estimates used by the Group may differ materially from the actual results we experience due to changing market and economic conditions, higher or lower withdrawal rates, or longer/shorter life spans of participants among other factors. For example, a decrease in the discount rate we apply in determining the present value of the obligations of one-half of one percent would have increased our year-end defined benefit obligation by approximately $1.3 billion. If the 2011 discount rate had been one-half of one percentage point lower than actually assumed, interest expense would have decreased by approximately $60 million, and if the same decrease was also assumed for the return on assets, it would have decreased by approximately $100 million. We record differences between assumed and actual income and expense as "Actuarial gains/losses" in the consolidated statement of comprehensive income. These differences could have a material effect on our total equity. For more information on obligations under retirement and other post-employment benefit plans and underlying actuarial assumptions, see note 25 to the Group's consolidated financial statements.

Derivative financial instruments and related cash flow hedging

Derivative financial instruments are initially recognized in the balance sheet at fair value and subsequently re-measured to their current fair value. Any gain or loss on the hedging instrument relating to the effective portion of changes in the fair value of derivatives in cash flow hedges are recognized in the consolidated statement of comprehensive income. The gain or loss relating to the ineffective portion is recognized immediately in the consolidated income statement.

When a hedging instrument expires or is sold, or when a hedge no longer meets the criteria for hedge accounting, any cumulative gain or loss existing in the consolidated statement of comprehensive income at that time is immediately recognized in the consolidated income statement. Management assesses the probability of the forecasted transaction occurring when determining whether the impact of a cash flow hedge can be deferred in the consolidated statement of comprehensive income. Amounts are only deferred when management judges the forecasted transaction to be probable.

Equity-based compensation

The fair value of Novartis shares, restricted shares, restricted share units (RSU) and American Depositary Shares (ADS) and related options granted to associates as compensation is recognized as an expense over the related vesting or service period adjusted to reflect actual and expected vesting levels. The charge for equity-based compensation is included in the personnel expenses which are allocated to functional costs and credited to consolidated equity for equity-settled amounts or to other current liabilities for cash-settled amounts. An option's fair value at grant date is calculated using the trinomial valuation method. Accurately measuring the value of

share options is difficult and requires an estimate of factors used in the valuation model. These key factors involve uncertain future events, such as expected dividend yield and expected share price volatility. Expected volatilities are based on those implied from listed warrants on Novartis shares, and—to the extent that equivalent options are not available—a future extrapolation based on historical volatility. Novartis shares, restricted shares, RSUs and ADSs are valued using the market value on the grant date. For detailed information on the Group's equity-based compensation plans and underlying assumptions for valuation of share options granted in 2011, see note 26 to the Group's consolidated financial statements.

Contingencies

A number of our subsidiaries are involved in various government investigations and legal proceedings (intellectual property, product liability, commercial, employment and wrongful discharge, environmental claims, etc.) arising out of the normal conduct of their businesses. For more information, see note 20 to the Group's consolidated financial statements.

We record accruals for contingencies when it is probable that a liability has been incurred and the amount can be reliably estimated. These accruals are adjusted periodically as assessments change or additional information becomes available. For product liability claims, a significant portion of the overall accrual is actuarially determined based on factors such as past experience, amount and number of claims reported, and estimates of claims incurred but not yet reported. We provide for individually significant cases when probable and the amount can be reliably estimated. Legal defense costs are accrued when they are expected to be incurred and the amount can be reliably estimated.

In some instances, the inherent uncertainty of litigation, the resources required to defend against governmental actions, the potential impact on our reputation, and the potential for exclusion from US federal and other government reimbursement programs have contributed to decisions by companies in our industry to enter into settlement agreements with governmental authorities. These settlements have had in the past, and may continue in the future, to involve large cash payments, including potential repayment of amounts that were allegedly improperly obtained and penalties of up to treble damages. In addition, matters underlying governmental investigations and settlements may be the subject of separate private litigation.

Provisions are recorded for environmental remediation costs when expenditure on remedial work is probable and the cost can be reliably estimated. Remediation costs are provided for under "Current liabilities" and "Non-current liabilities" in the Group's consolidated balance sheet. They are estimated by calculating the present value of expected costs. Provisions relating to estimated future expenditure for liabilities do not usually reflect any insurance or other claims or recoveries, since these are only recognized when the amount is reasonably estimable and collection is virtually certain.

Research & Development

Internal Research & Development (R&D) costs are fully charged to the consolidated income statement in the period in which they are incurred. We consider that regulatory and other uncertainties inherent in the development of new products preclude the capitalization of internal development expenses as an intangible asset until marketing approval from the regulatory authority is obtained in a relevant major market, such as for the US, the EU, Switzerland or Japan.

Payments made to third parties in compensation for subcontracted R&D that is deemed not to enhance our intellectual property, such as to contract research and development organizations, are expensed as internal R&D expenses in the period in which they are incurred. Such payments are only capitalized if they meet the criteria for recognition as an internally generated intangible asset, usually when marketing approval has been achieved from a regulatory authority in a major market.

Payments made to third parties in order to in-license or acquire intellectual property rights, compounds and products (In-Process Research & Development assets, "IPR&D"), including initial upfront and subsequent milestone payments, are capitalized as are payments for other assets, such as technologies to be used in R&D activities. If additional payments are made to the originator company to continue to perform R&D activities, an evaluation is made as to the nature of the payments. Such additional payments will be expensed if such additional payments are deemed to be compensation for subcontracted R&D services not resulting in an additional transfer of intellectual property rights to Novartis. By contrast, such additional payments will be capitalized if these additional payments are deemed to be compensation for the transfer to Novartis of additional intellectual property developed at the risk of the originator company. Subsequent internal R&D costs in relation to IPR&D and other assets are expensed since the technical feasibility of the internal R&D activity can only be

demonstrated by the receipt of marketing approval for a related product from a regulatory authority in a major market.

Costs for post-approval studies performed to support the continued registration of a marketed product are recognized as marketing expenses. Costs for activities that are required by regulatory authorities as a condition for obtaining marketing approval are charged as development expenses as they are incurred, in cases where it is anticipated that the related product will be sold over a longer period than the activities required to be performed to obtain the marketing approval. In the rare cases where costs related to the conditional approval need to be incurred over a period beyond that of the anticipated product sales, then the expected costs of these activities will be expensed over the shorter period of the anticipated product sales.

IPR&D assets are amortized in the consolidated income statement over their useful life once the related project has been successfully developed and regulatory approval for a product launch has been obtained. Other acquired technologies are amortized over their estimated useful lives.

Taxes

We prepare and file our tax returns based on an interpretation of tax laws and regulations and record estimates based on these judgments and interpretations. Our tax returns are subject to examination by the competent taxing authorities, which may result in an assessment being made requiring payments of additional tax, interest or penalties. Inherent uncertainties exist in our estimates of our tax positions. We believe that our estimated amounts for current and deferred tax assets or liabilities, including any amounts related to any uncertain tax positions, are appropriate based on currently known facts and circumstances.

New Accounting Pronouncements

Based on a Novartis analysis, the following new or amended IFRS standards will be of significance to the Group, but have not yet been adopted.

In 2009, 2010 and 2011, sections of IFRS 9 *Financial Instruments* were issued. This standard will ultimately substantially change the classification and measurement of financial instruments, hedging requirements, impairments of financial instruments and the recognition of certain fair value changes in the consolidated financial statements. Currently, only new requirements on the classification and measurement for financial assets and financial liabilities have been issued. The mandatory effective date for requirements issued as part of IFRS 9 will be on or after January 1, 2015. Early application of the requirements is permitted.

In 2011, IAS 19 revised on *Employee Benefits* was issued, for adoption by January 1, 2013. The principal impact for Novartis will be that the concepts of expected return on assets and interest expense on the defined benefit obligation as separate components of defined benefit cost will be replaced by a concept that interest will be calculated on the net of the defined benefit obligation and funded post-employment obligation assets using an interest rate reflecting market yields of high quality corporate bonds in a deep market. If this concept had been adopted by Novartis in 2011, it is estimated that operating income would have been lower by approximately $260 million. As required by the standard, Novartis will retrospectively adopt the standard on January 1, 2013.

Two other new standards were also issued in 2011, IFRS 10 *Consolidated Financial Statements* and IFRS 11 *Joint Arrangements* which are potentially important for Novartis. Under IFRS 10, Novartis will need to consolidate an investee based on control, i.e. when it is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee. IFRS 11 will require that Novartis classifies joint arrangements as either joint operations, where assets, liabilities, revenues and expenses are accounted for proportionally in accordance with the agreement, or as joint ventures, which are accounted for under the equity method. These new standards become effective on January 1, 2013.

The following IFRSs and amendments are not yet effective and are not early adopted by the Group.

- IFRS 12, *Disclosures of interests in other entities*, effective for annual periods beginning on or after January 1, 2013
- IFRS 13, *Fair value measurement*, effective for annual periods beginning on or after January 1, 2013
- Amendment to IAS 1, *Presentation of items of other comprehensive income*, effective for annual periods beginning on or after July 1, 2012

Although Novartis is still completing its evaluation of these new standards, apart from where indicated, Novartis does not currently consider that the other new standards will have a significant impact on the Group's consolidated financial statements.

FACTORS AFFECTING COMPARABILITY OF YEAR-ON-YEAR RESULTS OF OPERATIONS

Recent Acquisitions and Divestments

The comparability of the year-on-year results of our operations for the total Group can be significantly affected by acquisitions and divestments. For more detail how these actions have affected our results, see "Significant Transactions" below.

Significant Transactions

Alcon majority control in 2010; full ownership and merger in 2011

On August 25, 2010 Novartis completed the acquisition of a further 52% interest in Alcon, Inc. (Alcon) following the January 4, 2010 announcement that Novartis had exercised its call option to acquire Nestlé's remaining 52% Alcon interest for approximately $28.3 billion or $180 per share. This increased the interest in Alcon to a 77% controlling interest as Novartis had already acquired an initial 25% Alcon interest from Nestlé for $10.4 billion or $143 per share in July 2008. The overall purchase price for the 77% interest in Alcon of $38.7 billion included certain adjustments for Alcon dividends and interest due.

On December 14, 2010 Novartis entered into a definitive agreement to merge Alcon into Novartis in consideration for Novartis shares and a Contingent Value Amount. The acquisition of the remaining outstanding non-controlling interests in Alcon were separate transactions following the previous acquisition of majority ownership in Alcon by Novartis on August 25, 2010. On April 8, 2011 a Novartis Extraordinary General Meeting approved the merger with Alcon, Inc. creating the Alcon Division which became the fifth reported segment in Novartis' strategically diversified healthcare portfolio. The Extraordinary General Meeting also authorized the issuance of 108 million new shares.

Alcon shareholders received 2.9228 Novartis shares (which included a dividend adjustment) and $8.20 in cash for each share of Alcon, resulting in a total consideration of $168.00 per share.

Following the change in majority control of Alcon on August 25, 2010, it was required for Novartis to reassess the fair value of the initial 25% non-controlling interest in Alcon it acquired from Nestlé in 2008. As the estimated fair value of the initial non-controlling interest exceeded the recorded book value of the initial non-controlling interest, Novartis recorded a revaluation gain. After adjusting for accumulated losses recorded in the Group's consolidated statement of comprehensive income since the initial 25% interest in Alcon was acquired in July 2008, a net amount of $335 million was recorded as a gain under "Income from Associated Companies".

After the acquisition of majority ownership in Alcon, Inc. on August 25, 2010, Alcon contributed net sales of $2.4 billion and operating income of $323 million to the consolidated income statement in 2010.

During 2011, prior to the merger of Alcon, Inc. into Novartis AG on April 8, 4.8% of the non-controlling interests in Alcon, Inc. were acquired for $2.4 billion.

Completion of the acquisition of the outstanding 18.6% interest in Alcon on April 8, 2011 and subsequent merger, resulted in the issuance of Novartis shares with a fair value of $9.2 billion and a contingent value payment of $0.5 billion.

The final purchase price allocation was completed in 2011 and resulted in a fair value of net identifiable assets of $27.0 billion and goodwill of $18.0 billion. Also, the excess of the value exchanged for these 2011 transactions over the recorded value of the non-controlling interest together with merger related transaction costs resulted in a reduction in equity of $5.7 billion.

For more detail on accounting for these transactions, see "Item 18, Financial Statements—note 1, 2 and 24".

Other Acquisitions in 2011

Pharmaceuticals—Acquisition of Genoptix, Inc.

On March 7, 2011 Novartis completed the acquisition of Genoptix, Inc., a specialized laboratory providing personalized diagnostic services to community-based hematologists and oncologists. Genoptix employed

approximately 500 people and became part of the Novartis Molecular Diagnostics unit within the Pharmaceuticals Division.

The acquisition in cash of 100% of the shares of Genoptix totaled $458 million, excluding the $24 million of cash acquired. The final purchase price allocation resulted in net identified assets of $237 million and goodwill of $221 million. Results of operations since the acquisition date were not material.

Vaccines and Diagnostics—Acquisition of Zhejiang Tianyuan

On March 22, 2011 Novartis completed the acquisition in cash of an 85% stake in the Chinese vaccines company, Zhejiang Tianyuan Bio-Pharmaceutical Co. Ltd. The acquisition provides Novartis with an expanded presence in the Chinese vaccines market and is expected to facilitate the introduction of additional Novartis vaccines into China. The total amount paid for the 85% interest was $194 million, excluding $39 million of cash acquired. The final purchase price allocation resulted in net identified assets of $131 million and goodwill of $82 million. Non-controlling interests have increased by $19 million from this transaction. Results of operations since the acquisition date were not material.

Other significant transactions in 2011

Pharmaceuticals—Divestment of Elidel®

On May 11, 2011 Novartis completed the divestment of *Elidel®* Cream 1% to Meda Pharma Sarl and Novartis received an upfront payment of $420 million and recognized a gain of $324 million in "Other Income".

Acquisitions in 2010

Pharmaceuticals—Acquisition of Corthera

On February 3, 2010 Novartis completed the 100% acquisition (announced on December 23, 2009) of the privately held US-based Corthera Inc., gaining worldwide rights to relaxin for the treatment of acute decompensated heart failure and assumed full responsibility for development and commercialization for a total purchase consideration of $327 million. This amount consists of an initial cash payment of $120 million and $207 million of deferred contingent consideration. The deferred contingent consideration is the net present value of the additional milestone payments due to Corthera's previous shareholders which they are eligible to receive contingent upon the achievement of specified development and commercialization milestones. The final purchase price allocation resulted in net identified assets of $309 million and goodwill of $18 million. Results of operations since the acquisition date were not material.

Sandoz—Acquisition of Oriel Therapeutics

On June 1, Sandoz completed the 100% acquisition of the privately held US-based Oriel Therapeutics Inc., to broaden its portfolio of projects in the field of respiratory drugs for a total purchase consideration of $332 million. This amount consists of an initial cash payment of $74 million and $258 million of deferred contingent consideration. Oriel's previous shareholders are eligible to receive milestone payments, which are contingent upon the company achieving future development steps, regulatory approvals and market launches, and sales royalties. The total $258 million of deferred contingent consideration represents the net present value of expected milestone and royalty payments. The final purchase price allocation, including the valuation of the contingent payment elements of the purchase price, resulted in net identified assets of $281 million and goodwill of $51 million. Results of operations since the acquisition date were not material. During 2011, $106 million of contingent consideration has been released to the consolidated income statement as it is remote that the related contingent event will occur.

Other Significant Transactions in 2010

Pharmaceuticals—Divestment of Enablex®

On October 18, 2010 Novartis finalized the sale of the US rights for *Enablex®* (darifenacin) to Warner Chilcott Plc for $400 million and recongized a gain of $392 million.

Corporate—Issuance of bond in US dollars

On March 9, 2010 Novartis issued a three-tranche bond totaling $5.0 billion registered with the US Securities and Exchange Commission as part of a shelf registration statement filed by Novartis in 2008. A 1.9% three-year

tranche totaling $2.0 billion, a 2.9% five-year tranche totaling $2.0 billion and a 4.4% 10-year tranche totaling $1.0 billion were issued by the Group's US entity, Novartis Capital Corp. All tranches are unconditionally guaranteed by Novartis AG.

Corporate—Change of pension plan in Switzerland

On April 23, 2010 the Board of Trustees of the Novartis Swiss Pension Fund agreed to amend the conditions and insured benefits of the current Swiss pension plan with effect from January 1, 2011. These amendments do not have an impact on existing pensions in payment or on plan members born before January 1, 1956. Under the previous rules, benefits from the plan are primarily linked to the level of salary in the years prior to retirement while under the new rules benefits are also partially linked to the level of contributions made by the members during their active service period up to their retirement. This has led to changes in the amounts that need to be included in the Group's consolidated financial statements prepared using IFRS in respect of the Swiss Pension Fund.

As part of this change, Novartis, supported by the Swiss Pension Fund, will make transitional payments, which vary according to the member's age and years of service. As a result, it is estimated that additional payments will be made over a ten-year period of up to approximately $481 million (CHF 453 million) depending on whether or not all current members affected by the change remain in the plan over this ten-year period.

The accounting consequence of this change in the Swiss pension plan rules results in the Group's consolidated financial statements prepared under IFRS reflecting a net pre-tax curtailment gain of $265 million (CHF 283 million) in 2010. This calculation only takes into account the discounted value of transition payments of $202 million (CHF 219 million) attributed to already completed years of service of the affected plan members as calculated in accordance with IFRS requirements. It does not take into account any amount for transitional payments related to their future years of service.

Acquisitions in 2009

Sandoz—Acquisition of EBEWE Pharma

On May 20, Novartis announced a definitive agreement for Sandoz to acquire the specialty generic injectables business of EBEWE Pharma for EUR 925 million ($1.3 billion) in cash, to be adjusted for any cash or debt assumed at closing. This transaction was completed on September 22, 2009. The first payment of EUR 600 million ($0.9 billion) was made in 2009, with the balance to be paid in 2010. Based on a final purchase price allocation, EBEWE's identified net assets were $0.7 billion, which resulted in goodwill of $0.5 billion in 2009. Results of operations from this acquisition, which were not material in 2009, were included from the completion date of this transaction.

Vaccines and Diagnostics—Agreement to acquire Zhejiang Tianyuan

On November 4, Novartis announced a definitive agreement to acquire an 85% stake in the Chinese vaccines company Zhejiang Tianyuan Bio-Pharmaceutical Co., Ltd. as part of a strategic initiative to build a vaccines industry leader in China and expand the Group's limited presence in this fast-growing market segment. China is the world's third-largest vaccines market, with annual industry sales of more than $1 billion and expectations for sustained double-digit growth given the government's commitment to improve access to quality healthcare. Terms call for Novartis to purchase an 85% majority interest for approximately $125 million in cash. The transaction was completed in 2011.

Other Significant Transactions in 2009

Corporate—Issuance of bond in US dollars

On February 5, Novartis issued a two-tranche bond totaling $5.0 billion registered with the US Securities and Exchange Commission as part of a shelf registration statement filed by Novartis in 2008. A 4.125% five-year tranche totaling $2.0 billion was issued by the Group's US entity, Novartis Capital Corp., while a 5.125% 10-year tranche totaling $3.0 billion was issued by the Group's Bermuda unit, Novartis Securities Investment Ltd. Both tranches are unconditionally guaranteed by Novartis AG.

Corporate—Issuance of bond in euros

On June 2, Novartis issued a EUR 1.5 billion bond (approximately $2.1 billion) with a coupon of 4.25% under its EUR 15 billion Euro Medium Term Note Programme. The seven-year bond, issued by Novartis Finance S.A., Luxembourg, has a maturity date of June 15, 2016, and is guaranteed by Novartis AG.

Corporate—Tender offer for additional interest in Novartis India Ltd.

On June 8, Novartis completed a tender offer to acquire additional shares from public shareholders and increased its stake in the majority-owned Indian subsidiary, Novartis India Ltd., to 76.4% from 50.9% for approximately INR 3.8 billion ($80 million). Almost all large institutional investors and quasi-institutional shareholders participated in the offer. This transaction resulted in $57 million of goodwill.

Pharmaceuticals—Loss of majority control of Idenix

On August 5, Novartis did not participate in an underwritten public offering by Idenix Pharmaceuticals, which reduced the Group's stake to 47% from the pre-offering level of 53%. As a result of this offering, Novartis no longer controls this company, so Idenix was deconsolidated with effect from September 1, 2009. Idenix has been accounted for on an equity basis since this date, which had no material impact on the Group's consolidated income statement.

SEGMENT REPORTING

The businesses of Novartis are divided on a worldwide basis into five reporting segments (Pharmaceuticals, Alcon, Sandoz, Vaccines and Diagnostics and Consumer Health) and Corporate activities. Following the acquisition of all of Alcon, Inc., and merger into Novartis AG on April 8, 2011 a new segment allocation was introduced. As a result, the Alcon Division includes CIBA Vision and certain Pharmaceuticals Division ophthalmology products. Falcon, the US generics business of Alcon, Inc. was transferred to the Sandoz Division. Certain residual operational costs incurred from Alcon by the now disbanded Consumer Health Divisional headquarters were transferred to Corporate and Corporate R&D was transferred to the Pharmaceuticals Division. All segment results for 2010 and 2011 are presented using this new allocation. Except for Consumer Health, these segments reflect the Group's internal management structure. These segments are managed separately because they each manufacture, distribute and sell distinct products which require differing marketing strategies. In the case of Consumer Health, the segment comprises two divisions which are also managed separately, however, neither of these two divisions is material enough to the Group to be separately disclosed as a segment.

Inter-segmental sales are made at amounts considered to approximate arm's-length transactions. Currently, we principally evaluate segment performance and allocate resources based on operating income, cash flow and cash flow return on invested capital (CFROI).

The following shows an overview of the impact of the restatement on the segmentation structure. Unless otherwise stated this has been used for all years presented in this Annual Report.

Segment	Newly included	Newly excluded
Pharmaceuticals	Corporate R&D	Certain ophthalmic products
Alcon	CIBA Vision, certain ophthalmic products	Falcon
Sandoz	Falcon	
Consumer Health		CIBA Vision; disbanded Consumer Health divisional management costs
Corporate	Disbanded Consumer Health divisional management costs	Corporate R&D

A summary of the above restatements on 2010 sales, operating income and core operating income is as follows:

Segment	Net sales	Operating income	Core operating income
	$ millions	$ millions	$ millions
Pharmaceuticals	(252)	(327)	(323)
Alcon	2,020	473	498
Sandoz	74	49	57
Consumer Health	(1,842)	(375)	(408)
Corporate		180	176
Total	**0**	**0**	**0**

Pharmaceuticals

Pharmaceuticals researches, develops, manufactures, distributes, and sells patented prescription medicines in the following therapeutic areas: Cardiovascular and Metabolism; Oncology; Neuroscience and Ophthalmics; Respiratory; Integrated Hospital Care; and additional products. Pharmaceuticals is organized into global business franchises responsible for the development and marketing of various products as well as a business unit, called Novartis Oncology, responsible for the global development and marketing of oncology products. The Novartis Oncology Business Unit is not required to be disclosed separately as a segment since it shares common long-term economic perspectives, customers, research, development, production, distribution and regulatory factors with the rest of the division.

Pharmaceuticals is the largest contributor among the segments, accounting in 2011 for $32.5 billion, or 56%, of net sales and for $8.3 billion, or 71%, of operating income (excluding Corporate Income & Expense, net).

Alcon

Alcon discovers, develops, manufactures, distributes and sells eye care products. Alcon is the global leader in eye care with product offerings in Surgical, Ophthalmic Pharmaceuticals and Vision Care. In Surgical, Alcon develops, manufactures, distributes and sells ophthalmic surgical equipment, instruments, disposable products

and intraocular lenses. In Ophthalmic Pharmaceuticals, Alcon discovers, develops, manufactures, distributes and sells medicines to treat chronic and acute diseases of the eye, as well as over-the-counter medicines for the eye. In Vision Care, Alcon develops, manufactures, distributes and sells contact lenses and lens care products.

In 2011, Alcon accounted for $10.0 billion, or 17%, of Group net sales, and for $1.5 billion, or 13%, of Group operating income (excluding Corporate income and expense, net).

In addition to the restated segmentation structure, the Alcon segment is also discussed on a pro forma basis. This is necessary since the restated 2010 segmentation only includes the consolidated results of Alcon, Inc. from the date of acquisition of majority control on August 25, 2010. In order to provide a meaningful description of the results of this segment in 2011 compared to 2010, the pro forma results of Alcon, Inc. from January 1, 2010 to August 25, 2010 have been included. The pro forma results of the Alcon segment therefore have been prepared assuming that the acquisition of Alcon, Inc., had occurred as of January 1, 2010 and that the purchase price allocation had been performed as of this date. As a result, the pro forma results include the full year charge for additional amortization of the acquired intangible assets and the impact of other revaluations of assets and liabilities. Exceptional items included in the results for 2010 resulting from the change of control on August 25, 2010 such as change of control and other exceptional costs as well as the impact of revaluing the inventory and charging this to the post August 25, 2010 consolidated income statement have also been excluded. Also excluded is the impact of any divestments in 2010 and 2011 required by regulators to approve the merger.

The additional impact on the 2010 and 2011 restated Alcon segment results from incorporating the pro forma adjustments can be summarized as follows:

	Net sales	Operating income	Core operating income
	$ millions	$ millions	$ millions
2010			
Alcon restated	4,446	796	1,350
Pro forma adjustments	4,585	385	1,745
Alcon pro forma	**9,031**	**1,181**	**3,095**
2011			
Alcon restated	9,958	1,472	3,492
Pro forma adjustments	(9)	(11)	(2)
Alcon pro forma	**9,949**	**1,461**	**3,490**

Sandoz

Sandoz is a leading global generic pharmaceuticals company that develops, manufactures, distributes and sells prescription medicines, as well as pharmaceutical and biotechnological active substances, which are not protected by valid and enforceable third-party patents. Sandoz has activities in Retail Generics, Anti-Infectives, Biopharmaceuticals and Oncology Injectables. In Retail Generics, Sandoz develops, manufactures and markets active ingredients and finished dosage forms of pharmaceuticals, as well as supplying active ingredients to third parties. In Anti-Infectives, Sandoz develops and manufactures active pharmaceutical ingredients and intermediates—mainly antibiotics—for internal use by Retail Generics and for sale to third-party customers. In Biopharmaceuticals, Sandoz develops manufactures and markets protein- or other biotechnology-based products (known as biosimilars or follow-on biologics) and sells biotech manufacturing services to other companies. In Oncology Injectables, Sandoz develops, manufactures and markets cytotoxic products for the hospital market.

In 2011, Sandoz accounted for $9.5 billion, or 16%, of net sales and for $1.4 billion, or 12% of operating income (excluding Corporate Income & Expense, net).

Vaccines and Diagnostics

Vaccines and Diagnostics researches, develops, manufactures, distributes and sells preventive vaccines and diagnostic tools. Novartis Vaccines is a leading global developer and manufacturer of human vaccines.

Novartis Diagnostics is a blood testing and molecular diagnostics business dedicated to preventing the spread of infectious diseases through novel blood-screening tools that protect the world's blood supply.

In 2011, Vaccines and Diagnostics accounted for $2.0 billion, or 3%, of net sales and an operating loss of $249 million, or 2%, of operating income (excluding Corporate Income & Expense, net).

Consumer Health

Consumer Health now consists of two divisions: OTC (over-the-counter medicines) and Animal Health. Each has its own research, development, manufacturing, distribution and selling capabilities. However, neither is material enough to the Group to be separately disclosed as a segment. OTC offers readily available consumer medicine and Animal Health provides veterinary products for farm and companion animals.

In 2011, Consumer Health accounted for $4.6 billion, or 8%, of net sales and for $727 million, or 6% of operating income (excluding Corporate Income & Expense, net).

Corporate

Income and expenses relating to Corporate include the costs of our headquarters and corporate coordination functions in major countries. In addition, Corporate includes certain items of income and expense that are not attributable to specific divisions, including global IT infrastructure.

EFFECTS OF CURRENCY FLUCTUATIONS

We transact our business in many currencies other than the US dollar, our reporting currency.

The following provides an overview of net sales and expenses for 2011 and 2010 for currencies most important to the Group:

Currency		2011	2010	2009
		%	%	%
US dollar ($)	Net sales	36	36	35
	Operating expenses	38	36	33
Euro (EUR)	Net sales	27	28	31
	Operating expenses	25	26	31
Swiss franc (CHF)	Net sales	2	2	3
	Operating expenses	14	13	12
Japanese yen (JPY)	Net sales	9	8	8
	Operating expenses	4	4	4
Other currencies	Net sales	26	26	23
	Operating expenses	19	21	20

We prepare our consolidated financial statements in US dollars. As a result, fluctuations in the exchange rates between the US dollar and other currencies can have a significant effect on both the Group's results of operations as well as on the reported value of our assets, liabilities, revenue and expenses as measured in US dollars. This in turn may significantly affect reported earnings (both positively and negatively) and the comparability of period-to-period results of operations.

For purposes of our consolidated balance sheets, we translate assets and liabilities denominated in other currencies into US dollars at the prevailing market exchange rates as of the relevant balance sheet date. As a result, even if the amounts or values of these items remain unchanged in the respective local currency, changes in exchange rates have an impact on the amounts or values of these items in our consolidated financial statements. For purposes of the Group's consolidated income and cash flow statements, revenue, expense and cash flow items in local currencies are translated into US dollars at average exchange rates prevailing during the relevant period.

We seek to manage currency exposure by engaging in hedging transactions where management deems appropriate. For 2011, we entered into various contracts that change in value with movements in foreign exchange

rates in order to preserve the value of assets, commitments and expected transactions. We also use forward contracts and foreign currency options to hedge expected net revenues in foreign currencies. For more information on how these transactions affect our consolidated financial statements and on how foreign exchange rate exposure is managed, see notes 1, 5 and 16 to the Group's consolidated financial statements.

The average value of the US dollar in 2011 decreased against the EUR, CHF and JPY. The following table sets forth the foreign exchange rates of the US dollar against these currencies, used for foreign currency translation when preparing the Group's consolidated financial statements:

	Average for year		Change	Year end		Change
$ per unit	**2011**	**2010**	**in %**	**2011**	**2010**	**in %**
EUR	1.392	1.327	5%	1.294	1.324	(2)%
CHF	1.130	0.961	18%	1.064	1.063	0%
JPY (100)	1.255	1.141	10%	1.289	1.227	5%

	Average for year		Change	Year end		Change
$ per unit	**2010**	**2009**	**in %**	**2010**	**2009**	**in %**
EUR	1.327	1.393	(5)%	1.324	1.436	(8)%
CHF	0.961	0.923	4%	1.063	0.965	10%
JPY (100)	1.141	1.070	7%	1.227	1.086	13%

The following table provides a summary of the currency impact on key Group figures due to their conversion into $, the Group's reporting currency, of the financial data from entities reporting in non-US dollars. Constant currency (cc) calculations apply the exchange rates of the prior year to the current year financial data for entities reporting in non-US dollars.

CURRENCY IMPACT ON KEY FIGURES

	Change in constant currencies % 2011	Change in $ % 2011	Percentage point currency impact 2011	Change in constant currencies % 2010	Change in $ % 2010	Percentage point currency impact 2010
Net sales	12	16	4	14	14	—
Operating income	1	(5)	(6)	17	15	(2)
Net income	(2)	(7)	(5)	20	18	(2)
Core operating income	16	14	(2)	24	22	(2)
Core net income	15	12	(3)	18	17	(1)

For additional information on the effects of currency fluctuations, see "Item 11. Quantitative and Qualitative Disclosures about Non-Product-Related Market Risk".

RESULTS OF OPERATIONS

2011 Compared to 2010

Key Figures

	Year ended December 31, 2011	Year ended December 31, 2010	Change in $	Change in constant currencies
	$ millions	$ millions	%	%
Net sales	**58,566**	**50,624**	**16**	**12**
Other revenues	809	937	(14)	(15)
Cost of Goods Sold	(18,983)	(14,488)	31	25
Gross profit	**40,392**	**37,073**	**9**	**7**
Marketing & Sales	(15,079)	(13,316)	13	9
Research & Development	(9,583)	(9,070)	6	(2)
General & Administration	(2,970)	(2,481)	20	12
Other income	1,354	1,234	10	(4)
Other expense	(3,116)	(1,914)	63	48
Operating income	**10,998**	**11,526**	**(5)**	**1**
Income from associated companies	528	804	(34)	(34)
Interest expense	(751)	(692)	9	5
Other financial income and expense	(2)	64	(103)	(140)
Income before taxes	**10,773**	**11,702**	**(8)**	**(2)**
Taxes	(1,528)	(1,733)	(12)	(6)
Group net income	**9,245**	**9,969**	**(7)**	**(2)**
Attributable to:				
Shareholders of Novartis AG	*9,113*	*9,794*	*(7)*	*(1)*
Non-controlling interests	*132*	*175*	*(25)*	*(25)*
Basic earnings per share	**3.83**	**4.28**	**(11)**	**(5)**

Core Key Figures

	Year ended December 31, 2011	Year ended December 31, 2010	Change in $	Change in constant currencies
	$ millions	$ millions	%	%
Core operating income	**15,909**	**14,006**	**14**	**16**
Core net income	**13,490**	**12,029**	**12**	**15**
Core basic earnings per share	**5.57**	**5.15**	**8**	**11**

The Group's core results—including core operating income, core net income and core earnings per share—exclude the amortization of intangible assets, impairment charges, expenses relating to the integration of acquisitions as well as other items that are, or are expected to accumulate within the year to be, over a $25 million threshold that management deems exceptional.

Overview—Results of operations

Net sales rose 16% (+12% cc) to $58.6 billion in 2011, with a positive currency impact of 4% arising from the weakness of the US dollar against most major currencies during much of 2011. Recently launched products sales grew 38% (in $, excluding the A(H1N1) pandemic flu vaccine including Alcon on a pro forma basis for 2010) over 2010 to $14.4 billion. These products contributed 25% of Group net sales, up from 19% in 2010.

Operating income was down 5% (+1% cc) to $11.0 billion. The weakness of the US dollar, combined with the strong Swiss franc, resulted in a negative currency impact of 6 percentage points. Cost of Goods Sold rose by 31% (25% cc) to $19.0 billion in 2011, increasing by 3.8 percentage points to 32.4% of net sales. This led to a reduction in the gross margin by 4.2% to 69.0%. Marketing & Sales rose 13% (9% cc) to $15.1 billion, improving 0.6 percentage points to 25.7% of net sales, as productivity improvements and changes in the portfolio mix were partly offset by investments in new launch products. Research & Development expenses increased by 6% (–2% cc) in 2011 to $9.6 billion. This included $341 million in impairments of intangible assets. General & Administration expenses increased 20% (12% cc) to $3.0 billion. Other income was up 10% (–4% cc) to $1.4 billion and largely consists of gains from product disposals, legal settlements and certain items of net periodic pension cost. Other expense was up 63% (48% cc) to $3.1 billion and includes impairment of financial assets as well as property plant and equipment, litigation settlement costs, restructuring and related charges and acquisition related integration expenses.

Core operating income, which excludes exceptional items and amortization of intangible assets, was up 14% (16% cc) to $15.9 billion. Core operating income margin in constant currencies increased by 1.1 percentage points. However, this improvement was more than offset by a negative currency impact of 1.6 percentage points, resulting in a net decrease in core operating income margin of 0.5 percentage points to 27.2% of net sales. Total net exceptional income and expense adjusted in core results in the various line items in 2011 amounted to $1.9 billion expense compared to $1.3 billion in the prior year. It comprised charges of $2.9 billion (2010: $2.1 billion) partly offset by exceptional income of $1.0 billion (2010: $732 million). Exceptional charges included: *Tekturna*/*Rasilez* ($903 million); $348 million related to the discontinuation of the PRT128 (elinogrel), SMC021 (oral calcitonin), AGO178 (agomelatine), and PTK796 (omadacycline) development programs; a charge of $115 million related to the temporary suspension of production at one of our US Consumer Health sites; other intangible asset impairment charges of $71 million principally relating to development projects; financial asset impairment charges of $192 million; integration charges of $250 million (mainly for Alcon); and restructuring and related costs of $492 million. Exceptional income includes divestment proceeds ($480 million) and a $106 million reduction of a contingent consideration obligation in Sandoz. In 2011, amortization of intangible assets amounted to $3.0 billion compared to $1.1 billion in 2010 as a result of a full year of incorporating Alcon.

Net income decreased 7% (–2% cc) to $9.2 billion, more than the decline in operating income as a result of lower associated company income, higher financing costs following the Alcon acquisition, partly offset by a lower tax rate (14.2% compared to 14.8%). EPS declined 11% (–5% cc), more than the decline in net income, mainly as a result of the increase in issued shares following the Alcon merger, partially offset by a lower impact from non-controlling interests.

Core net income grew 12% (+15% cc) to $13.5 billion broadly in line with core operating income. Core EPS was up by 8% (+11% cc): a lower rate than net income as a result of a higher number of outstanding shares in 2011.

The average number of shares outstanding in 2011 rose 4% to 2,382 million from 2,286 million in the year ago, while a total of 2,407 million shares were outstanding at December 31, 2011.

Free cash flow reached $12.5 billion (2010: $12.3 billion), an increase of 1% over the previous year. Free cash flow in 2010 included substantial cash flows from sales of A(H1N1) amounting to $1.8 billion.

Net sales

	Year ended December 31, 2011	Year ended December 31, 2010[1]	Change in $	Change in constant currencies
	$ millions	$ millions	%	%
Pharmaceuticals	**32,508**	**30,306**	**7**	**4**
Alcon	**9,958**	**4,446**	**124**	**118**
Sandoz	**9,473**	**8,592**	**10**	**7**
Vaccines and Diagnostics	**1,996**	**2,918**	**(32)**	**(34)**
Consumer Health	**4,631**	**4,362**	**6**	**3**
Net sales	**58,566**	**50,624**	**16**	**12**

(1) Restated to reflect new divisional segment allocation introduced during 2011. For additional information, see "Item 5. Operating and Financial Review and Prospects—Item 5.A, Operating Results—Segment Reporting".

Pharmaceuticals net sales grew 7% (+4% cc) to $32.5 billion, and Alcon net sales of $10.0 billion rose 10% (+7% cc) on a pro forma basis. Sandoz net sales also grew 10% (+7% cc) to $9.5 billion. Vaccines and Diagnostics net sales were down 32% (–34% cc) to $2.0 billion, mainly due to $1.3 billion of A(H1N1) pandemic flu vaccine sales in 2010. Net sales of the two Consumer Health businesses together grew 6% (+3% cc) to $4.6 billion.

Pharmaceuticals

Net sales expanded 7% (+4% cc) to $32.5 billion in 2011 driven by 9 percentage points of increased volume, partly offset by a negative pricing impact of 1 percentage point and the combined impact of generic entries and product divestments of an additional 4 percentage points. Recently launched products contributed $9.2 billion of net sales, growing 35% in constant currencies over the previous year. These products now represent 28% of division sales compared to 22% in 2010.

Europe remained the largest region ($11.6 billion, +2% cc) for Pharmaceuticals, particularly benefiting from recently launched products, which generated 35% of net sales, more than offsetting health care cost-containment measures and generic erosion. The US ($10.0 billion, 0% cc) contributed 31% of net sales for the division. Japan's performance ($3.9 billion, +7% cc) improved versus the prior year due to new launches. Latin America and Canada ($3.0 billion, +10% cc) achieved strong growth rates. The top six emerging markets ($3.2 billion, +7% cc) were led by double-digit growth from China and India.

Top 20 Pharmaceuticals Division Product Net Sales—2011

Brands		United States	Change in constant currencies	Rest of world	Change in constant currencies	Total	Change in $	Change in constant currencies
		$m	%	$ m	%	$ m	%	%
Diovan/Co-Diovan	Hypertension	2,333	(7)	3,332	(11)	5,665	(6)	(9)
Gleevec/Glivec	Chronic myeloid leukemia	1,459	14	3,200	2	4,659	9	5
Lucentis	Age-related macular degeneration			2,050	26	2,050	34	26
Zometa	Cancer complications	642	(11)	845	0	1,487	(2)	(5)
Sandostatin	Acromegaly	574	12	869	7	1,443	12	9
Exforge	Hypertension	325	14	884	36	1,209	34	30
Exelon/Exelon Patch	Alzheimer's disease	375	(1)	692	7	1,067	6	4
Femara	Breast cancer	219	(66)	692	(11)	911	(34)	(37)
Neoral/Sandimmun	Transplantation	71	(13)	832	(1)	903	4	(2)
Exjade	Iron chelator	259	(2)	591	13	850	12	8
Top ten products total		**6,257**	**(7)**	**13,987**	**3**	**20,244**	**3**	**0**
Voltaren (excl. OTC)	Inflammation/pain	4	0	790	1	794	0	2
Tasigna	Chronic myeloid leukemia	255	90	461	66	716	79	74
Galvus	Diabetes			677	66	677	73	66
Comtan/Stalevo	Parkinson's disease	214	(7)	400	3	614	2	(1)
Reclast/Aclasta	Osteoporosis	386	(2)	227	18	613	6	5
Tekturna/Rasilez	Hypertension	216	4	341	41	557	27	24
Ritalin/Focalin	Attention Deficit/ Hyperactive Disorder	398	17	152	14	550	19	17
Myfortic	Transplantation	200	23	318	11	518	17	15
Gilenya	Relapsing Multiple Sclerosis	383	nm	111	nm	494	nm	nm
Xolair	Asthma	15	(38)	463	35	478	30	29
Top 20 products total		**8,328**	**2**	**17,927**	**8**	**26,255**	**9**	**6**
Rest of portfolio		1,645	(9)	4,608	(1)	6,253	0	(4)
Total Division sales		**9,973**	**0**	**22,535**	**6**	**32,508**	**7**	**4**

nm—not meaninful

Pharmaceuticals Division Product Highlights—Selected Leading Products

Net sales growth data below refer to 2011 worldwide performance. Growth rates are not provided for some recently launched products since they are not meaningful.

Cardiovascular and Metabolism

Diovan Group (–6% to $5.7 billion, –9% cc) worldwide sales declined due to loss of exclusivity in the EU. *Diovan* Group remains the top-selling anti-hypertensive medication worldwide, with 13.27% of the global hypertension market.

Exforge Group (+34% to $1.2 billion, +30% cc), showed strong worldwide growth fueled by continued prescription demand in the EU, US and other key regions, as well as ongoing *Exforge HCT* launches in Europe, Asia and Latin America. *Exforge*, a single-pill combination of *Diovan* and the calcium channel blocker amlodipine, has delivered excellent growth globally and is now available in over 80 countries. *Exforge HCT*, *Exforge* with a diuretic (hydrochlorothiazide) in a single pill, is now available for patients in over 40 countries with additional launches expected in 2012.

Tekturna/*Rasilez* (+27% to $557 million, +24% cc), the first in a class of medicines known as direct renin inhibitors to treat high blood pressure, has been growing consistently since its launch in 2007. However, in late December, following the seventh interim review of data from the ALTITUDE study with *Tekturna*/*Rasilez*, Novartis announced that the trial was halted on the recommendation of the independent Data Monitoring Committee (DMC) overseeing the study. The DMC concluded that patients were unlikely to benefit from treatment on top of standard anti-hypertensive medicines, and identified higher adverse events in patients receiving *Tekturna*/*Rasilez* in addition to standard of care as part of the trial. Novartis has written to healthcare professionals worldwide recommending that hypertensive patients with diabetes should not be treated with *Tekturna*/*Rasilez*, or combination products containing aliskiren (the active ingredient in *Tekturna*/*Rasilez*), if they are also receiving an angiotensin-converting enzyme (ACE) inhibitor or angiotensin receptor blocker (ARB). As an additional precautionary measure, Novartis has ceased promotion of *Tekturna*/*Rasilez*-based products for use in combination with an ACE inhibitor or ARB. In 2011, single-pill combinations *Rasilamlo*, a dual combination of aliskiren and amlodipine, and *Rasitrio*, a triple combination of aliskiren, amlodipine and hydrochlorothiazide, were approved in the EU. These single-pill combinations were also launched in the US in 2011 under the brand names *Tekamlo* and *Amturnide*, respectively.

Galvus/*Eucreas* (+73% to $677 million, +66% cc), which includes oral treatments with vildagliptin for type 2 diabetes, has shown strong growth in Japan and many European, Latin American and Asian Pacific markets since launch in 2007. The single-pill combination *Eucreas*/*GalvusMet* (vildagliptin and metformin) accounted for the majority of sales, with the expanded use of *Galvus* in elderly patients over 75 years old in the EU also fueling growth in 2011. Additional EU approvals for use in moderate or severe renally impaired type 2 diabetes patients are expected to drive growth in 2012. Vildagliptin is now approved in more than 90 countries with an additional launch expected in China in 2012.

Oncology

Gleevec/*Glivec* (+9% to $4.7 billion, +5% cc), a targeted therapy for some forms of chronic myeloid leukemia (CML) and gastrointestinal stromal tumors (GIST), maintained solid growth based on its leadership position in treating these cancers. New clinical data showing significant survival benefits for adult patients with resected KIT+ GIST who received adjuvant (post-surgery) treatment with *Gleevec*/*Glivec* (imatinib) for three years compared to one year following surgery served as the basis for worldwide regulatory filings to update the label. *Gleevec*/*Glivec* was approved in 2008 for use in certain adjuvant (post-surgery) KIT+ GIST patients and is now approved in more than 60 countries for this indication.

Tasigna (+79% to $716 million, +74% cc), has shown rapid growth as a next-generation targeted therapy for newly diagnosed Ph+ CML patients following approvals in more than 50 markets globally including the US, EU, Japan and Switzerland, with additional submissions pending worldwide. *Tasigna* market share continues to rise in Ph+ CML in the second-line indication with approvals in over 95 countries.

Zometa (–2% to $1.5 billion, –5% cc) is an intravenous bisphosphonate therapy for patients with certain types of cancer that has spread to the bones. Zoledronic acid, the active ingredient in *Zometa* (4 mg), is also available under the trade names *Reclast*/*Aclasta* (5 mg) for use in non-oncology indications with different dosing. *Zometa* is facing new competition from denosumab, a product of Amgen.

Femara (–34% to $911 million, –37% cc), a treatment for early stage and advanced breast cancer in postmenopausal women, experienced a decline in sales due to multiple generic entries in the US, Europe and other key markets.

Sandostatin (+12% to $1.4 billion, +9% cc) benefited from the increasing use of *Sandostatin LAR* in treating symptoms of patients with neuroendocrine tumors as well as approvals in 25 countries for the delay of tumor progression in patients with midgut carcinoid tumors. It is currently under review in more than 20 additional countries for this indication.

Exjade (+12% to $850 million, +8% cc) continued to expand with strong growth based on new patients and expanded access led by Asia and Europe. *Exjade* is currently approved in more than 100 countries as the only once-daily oral therapy for transfusional iron overload. Filings for a potential new indication in the treatment of non-transfusion-dependent thalassemia were submitted in the US and EU.

Afinitor/*Votubia* (+82% to $443 million, +77% cc) is an oral inhibitor of the mTOR pathway used across multiple diseases. *Afinitor* continues to achieve strong growth in key markets as the only approved treatment for patients with advanced renal cell carcinoma following VEGF-targeted therapy. *Afinitor* expanded its indications with approvals in the US, EU and Japan for the treatment of advanced pancreatic neuroendocrine tumors. Everolimus, the active ingredient in *Afinitor*, is also approved in the US as *Afinitor* and in the EU as *Votubia* for the treatment of subependymal giant cell astryocytomas associated with tuberous sclerosis complex (TSC). A Phase III study of everolimus in patients with non-cancerous kidney tumors, or angiomyolipomas, associated with TSC formed the basis of regulatory filings currently underway for this potential indication. In addition, results of another Phase III study, which showed *Afinitor* plus exemestane met the primary endpoint of progression-free survival versus exemestane alone in postmenopausal women with ER+HER2- advanced breast cancer, are supporting worldwide regulatory filings for this potential indication. Everolimus is also available under the trade names *Zortress*/*Certican* for use in other non-oncology indications and is exclusively licensed to Abbott and sublicensed to Boston Scientific for use in drug-eluting stents.

Neuroscience and Ophthalmics

Lucentis (+34% to $2.0 billion, +26% cc) is a biotechnology eye therapy now approved in more than 100 countries for the treatment of wet age-related macular degeneration, and in more than 50 countries for the treatment of visual impairment due to diabetic macular edema. *Lucentis* was approved in June 2011 in Europe for visual impairment due to macular edema secondary to branch- and central-retinal vein occlusion, and is now approved for this indication in more than 50 countries, including China. Genentech/Roche holds the US rights to this medicine.

Exelon/*Exelon* Patch (+6% to $1.1 billion, +4% cc) is a therapy for mild to moderate forms of Alzheimer's disease dementia as well as dementia linked with Parkinson's disease. The majority of sales are for *Exelon* Patch, the novel skin patch launched in 2007 which is now available in more than 80 countries worldwide for Alzheimer's disease dementia, including more than 20 countries where it is also approved for dementia associated with Parkinson's disease.

Extavia (+24% to $154 million, +19% cc), available in the US and more than 35 other countries for relapsing forms of multiple sclerosis (MS), marked the entry of Novartis into the field of MS. *Extavia* is the Novartis-patented version of Betaferon®/Betaseron®.

Gilenya ($494 million) is approved in more than 55 countries and showed continued rapid growth as a once-daily, oral disease-modifying treatment for relapsing remitting and/or relapsing forms of MS in adult patients. *Gilenya* was approved in the EU in March 2011 as a disease modifying therapy in patients with highly active relapsing-remitting multiple sclerosis (RRMS) despite treatment with beta interferon, or in patients with rapidly evolving severe RRMS. Novartis also received approval for *Gilenya* in September 2011 in Japan for the prevention of relapse and delay of progression of physical disability in adults with MS. It is licensed from Mitsubishi Tanabe Pharma Corporation.

Respiratory

Xolair (+30% to $478 million, +29% cc, ex-US), a biotechnology drug approved for severe persistent allergic asthma in Europe and moderate to severe persistent allergic asthma in the US, gained blockbuster status when annual global sales (including US sales recorded by Genentech/Roche) reached $1 billion in November 2011. *Xolair* is now approved in 90 countries and has shown strong growth during 2011 in Europe, major Latin American markets and Japan. A Phase III trial is progressing to support registration in China. Launches are continuing across Europe for *Xolair* Liquid, a new formulation in pre-filled syringes that enables easier administration than the original lyophilized formulation. Phase III studies are also being conducted in an

additional potential indication, chronic idiopathic urticaria. Novartis co-promotes *Xolair* with Genentech/Roche in the US and shares a portion of operating income, but does not record any US sales. Novartis has the sole rights to market *Xolair* outside the US.

Onbrez Breezhaler/Arcapta Neohaler ($103 million) has shown strong sales growth since its approval in the EU in November 2009 as a once-daily long-acting beta2-agonist (LABA) for the maintenance bronchodilator treatment of airflow obstruction in adult patients with chronic obstructive pulmonary disease (COPD). *Onbrez Breezhaler* (indacaterol, formerly QAB149) is now approved in more than 80 countries, including the US (under the trade name *Arcapta Neohaler*) as of July 2011 and Japan (under the trade name *Onbrez* Inhalation Capsules), where it has been co-promoted with Eisai Co. Ltd. since December 2011. Results of two Phase III studies announced in February 2011 showed that patients treated with once-daily *Onbrez Breezhaler* in conjunction with once-daily tiotropium 18 mcg experienced a significantly greater improvement in lung function than those treated with tiotropium alone, adding to the growing body of evidence supporting the use of *Onbrez Breezhaler* as an effective treatment for COPD. Sales in Germany were negatively impacted in the fourth quarter of 2011 following a reference pricing review in which the reimbursed price of *Onbrez Breezhaler* was reduced below that of generic LABAs. Novartis has maintained prices for *Onbrez Breezhaler* in Germany, since it offers additional benefits over existing LABAs as described in the EU-approved label. An additional co-payment for *Onbrez Breezhaler* is now required for many patients in Germany.

TOBI Podhaler ($296 million, including *TOBI* nebulizer solution) was approved in the EU in July 2011 as a suppressive therapy for chronic Pseudomonas aeruginosa lung infections in patients with cystic fibrosis (CF) aged six years and older. *TOBI Podhaler* (tobramycin inhalation powder) is a dry powder formulation of the antibiotic tobramycin, developed using novel *PulmoSphere* technology. This means that instead of using a nebulizer, treatment can be delivered using a more convenient, patient-friendly device that reduces administration time by 72% relative to *TOBI* (nebulizer solution), with comparable efficacy. *TOBI Podhaler* is designed to help CF patients, who are often young, to comply with treatment and lead more independent lives.

Integrated Hospital Care

Zortress/Certican (+30% to $187 million, +25% cc) is a transplantation medicine indicated to prevent organ rejection in adult kidney and heart transplant patients. It generated solid growth based on its availability in more than 85 countries, including the US, where it was launched in April 2010 for adult kidney transplantation under the brand name *Zortress*. This medicine, which has the same active ingredient as *Afinitor* (everolimus), has demonstrated immunosuppressive efficacy and a well characterized side-effect profile.

Ilaris (+85% to $48 million, +82% cc) is a fully human monoclonal antibody that selectively binds and neutralizes interleukin-1ß (IL-1ß), a proinflammatory cytokine. Since 2009, *Ilaris* has been approved in over 50 countries for the treatment of children and adults suffering from cryopyrin-associated periodic syndrome (CAPS), a group of rare auto-inflammatory disorders characterized by chronic recurrent fever, urticaria, occasional arthritis, deafness and potentially life threatening amyloidosis. Novartis has filed for regulatory approval of *Ilaris* in the EU and the US for the treatment of acute attacks in gouty arthritis based on data from two Phase III registration studies that met their primary endpoints. In August 2011, Novartis received a Complete Response letter from the FDA requesting additional information, including clinical data to evaluate the benefit risk profile in refractory gouty arthritis patients. Novartis is currently working with the FDA to determine next steps for ACZ885 in gouty arthritis. Novartis is also pursuing other diseases in which IL-1ß may play a prominent role, such as systemic juvenile idiopathic arthritis, secondary prevention of cardiovascular events and diabetes. Select subsets of patients with these diseases would be eligible for treatment with *Ilaris*, if approved.

Neoral/Sandimmun (+4% to $903 million, –2% cc), for organ transplantation and autoimmune diseases, has experienced only modestly declining sales despite ongoing generic competition in recent years due to its pharmacokinetic profile, reliability and use in treating a life-threatening condition.

Myfortic (+17% to $518 million, +15% cc), a transplantation medicine, is approved in more than 90 countries for the prevention of acute rejection of kidney allografts and is indicated in combination with cyclosporine and corticosteroids. *Myfortic* was first approved in the US in 2004 and in the EU in 2003.

Other

Reclast/Aclasta (+6% to $613 million, +5% cc), a once-yearly infusion therapy for osteoporosis, continues to expand on increasing patient access to infusion centers and a broad range of use in patients with various types of this debilitating bone disease. Approvals have been received in over 100 countries for up to six indications, including the treatment of osteoporosis in men and postmenopausal women. Six year data from a pivotal fracture trial reinforced the long-term efficacy and safety profile of *Reclast/Aclasta*. Zoledronic acid, the active ingredient

in *Reclast/Aclasta*, is also available in a number of countries in a different dosage for use in oncology indications under the trade name *Zometa*.

Voltaren (0% at $794 million, +2% cc, excluding OTC sales), a treatment for various inflammation and pain conditions, no longer has patent protection in key markets around the world, but has continued to generate growth in regions such as Latin America, the Middle East, Africa and Asia based on long-term trust in the brand.

Ritalin/Focalin (+19% to $550 million, +17% cc), for treatment of Attention Deficit/Hyperactivity Disorder (ADHD), has benefited from the use of long-acting *Ritalin LA* and *Focalin XR* patent-protected formulations that involve methylphenidate, the active ingredient in *Ritalin* faces generic competition in many countries.

Alcon

Net sales in 2011 of Alcon increased by 124% to $10.0 billion on a restated basis. Since however the 2010 base only includes the net sales of Alcon, Inc. from August 25, 2010, as indicated above, a comparison on a 2010 pro forma basis is more meaningful.

Net sales of $10.0 billion rose 10% (+7% cc) on a pro forma basis, driven by strong global Ophthalmic Pharmaceuticals product growth of 12% (+10% cc), Surgical products growth of 11% (+8% cc), and by the top six emerging markets, which grew 26% (+22% cc) over 2010.

Alcon division pro forma net sales by product category:

	Year ended December 31, 2011	Year ended December 31, 2010	Change in $	Constant currencies change
	$ m	$ m	%	%
Surgical				
Cataract products	2,858	2,668	7	4
of which Cataract IOLs	*1,276*	*1,207*	*6*	*3*
Vitreoretinal products	529	424	25	21
Refractive/Other	200	129	55	51
Total	**3,587**	**3,221**	**11**	**8**
Ophthalmic Pharmaceuticals				
Glaucoma	1,287	1,136	13	10
Allergy/Otic/Nasal	884	813	9	7
Infection/inflammation	967	839	15	14
Dry Eye/Other	810	727	11	10
Total	**3,948**	**3,515**	**12**	**10**
Vision Care				
Contact lenses	1,701	1,579	8	3
Solutions/Other	713	716		(4)
Total	**2,414**	**2,295**	**5**	**1**
Total net sales	**9,949**	**9,031**	**10**	**7**

Alcon Division Franchise Highlights

Net sales growth data below refer to 2011 worldwide performance on a pro forma basis.

Surgical

In 2011, global Surgical net sales were $3.6 billion, an increase of 11% (+8% cc) over the previous year. Emerging markets grew strongly, while intraocular lens unit sales (IOL) in the US showed slower growth versus 2010. Global sales of advanced technology intraocular lenses rose 16% (+15% cc), mostly due to strong sales of the *AcrySof IQ Toric* and *AcrySof IQ ReSTOR+3.0* intraocular lenses. The successful launch of the *LenSx* femtosecond refractive cataract laser, with over 500 surgeons now trained to use this cutting-edge technology, expands the cataract surgical market opportunities for Alcon. The *Constellation* vitreoretinal surgical system

contributed to robust sales growth within the vitreoretinal category. Strong growth in the refractive segment was driven both by sales of equipment and increased market share in the US.

Ophthalmic Pharmaceuticals

Global net sales of Ophthalmic Pharmaceuticals products increased 12% (+10% cc) to $3.9 billion in 2011. Glaucoma product sales rose 13% (+10% cc), with growth driven by non-US combination products *DuoTrav* and *Azarga*, with a combined growth of 41% (+34% cc). Infection/inflammation product sales advanced 15% (+14% cc) led by strong growth of *Nevanac* ophthalmic suspension, as well as solid performance of *Durezol* ophthalmic suspension. Allergy, otic, and nasal products showed solid growth, led by the *Patanol*/*Pataday* franchise. Dry eye products *Systane* and *Systane Balance* were the key contributors to growth in that product segment.

Vision Care

Global net sales of Vision Care products rose 5% (+1% cc) in 2011 to $2.4 billion. Contact lens growth was driven by the continued strong performance of *Air Optix*, which leads the marketplace in the multifocal segment and achieved 18% (cc) growth over the previous year, and by strong *Dailies* growth in the US. Sales of contact lenses were impacted by the discontinuation of the Specialty contact lens business as well as slower market growth in European countries. Contact lens solutions sales were led by strong growth of the *Clear Care* hydrogen peroxide solution, offset by weakness in the category for multi-purpose product sales.

Sandoz

Sandoz achieved strong sales growth in 2011 (+10% to $9.5 billion, +7% cc) versus prior year driven by significant growth in US retail generics and biosimilars (+22% cc), with sales of over $1 billion for enoxaparin. Strong performances in Canada (+13% cc), Western Europe (+13% cc), Latin America (+12% cc), Asia (+12% cc) and Central and Eastern Europe (+6% cc) also contributed to growth in 2011. Germany retail generics and biosimilars declined (−13% cc) in a market that is estimated to have contracted 17% in net terms due to the impact of statutory health insurance tenders and new lower reference prices. Biosimilars grew 37% in constant currencies to $261 million globally. Sales volume expanded 14 percentage points due to new product launches, and Falcon (transferred from Alcon) contributed 2 additional percentage points of growth, more than compensating price erosion of 9 percentage points.

Vaccines and Diagnostics

Net sales declined 32% to $2.0 billion in 2011 (–34% cc) compared to $2.9 billion in 2010. The primary driver of the net sales variance against the prior year was $1.3 billion of A(H1N1) pandemic flu vaccine sales in 2010 not repeated in 2011.

Excluding the impact of A(H1N1) pandemic flu vaccines sales in 2010, net sales growth was 22% in constant currencies, driven by growth across all strategic franchises, with a particularly strong contribution from our meningococcal disease franchise.

The growth of our meningococcal disease franchise was underpinned by *Menveo*, which continues to gain market share both in the US and worldwide, with net sales of $142 million in 2011.

Consumer Health

Consumer Health (comprising OTC and Animal Health) delivered combined 2011 net sales of $4.6 billion producing growth of 6% (+3% cc).

OTC delivered low-single-digit growth driven by emerging markets and priority brands. In nine out of the top ten countries for OTC, volume growth outpaced the market. Cough and cold brands, including *Theraflu*, grew strongly behind sustained investment and a stronger season in several markets compared to 2010. *Voltaren* continued to grow through the use of innovative commercial models and a focus on marketing fundamentals, while *Prevacid24HR* benefitted from normalized stock movements compared to 2010. In the US, *Excedrin* sales declined in the fourth quarter due to the temporary suspension of operations and voluntary product recall at OTC's Lincoln, Nebraska, USA site. Expired distribution contracts and divested brands also negatively impacted net sales growth versus the prior year.

Animal Health contributed mid-single-digit net sales growth over the previous year, driven by Germany, Japan, Australia and emerging markets. *CliK* and *Vetrazin* retained their leadership positions in the sheep market in Australia and the UK. *Milbemax* delivered double-digit growth as the number one cat and dog de-wormer in Europe, while *Onsior* gained market share across key European markets and Japan. In the swine business,

Denagard continued to drive strong double-digit growth led by the US. Total US sales were flat despite the negative impact of a competitor entry in the heartworm and flea categories.

Operating income by segments

	Year ended December 31, 2011	% of net sales	Year ended December 31, 2010[1]	% of net sales	Change in $	Change in constant currencies
	$ m		$ m		%	%
Pharmaceuticals	**8,296**	**25.5**	**8,471**	**28.0**	**(2)**	**4**
Alcon	**1,472**	**14.8**	**796**	**17.9**	**85**	**67**
Sandoz	**1,422**	**15.0**	**1,321**	**15.4**	**8**	**10**
Vaccines and Diagnostics	**(249)**	**(12.5)**	**612**	**21.0**	**(141)**	**(131)**
Consumer Health	**727**	**15.7**	**778**	**17.8**	**(7)**	**4**
Corporate income & expenses, net	(670)		(452)			
Operating income	**10,998**	**18.8**	**11,526**	**22.8**	**(5)**	**1**

(1) Restated to reflect new divisional segment allocation introduced during 2011. For additional information, see "Item 5. Operating and Financial Review and Prospects—Item 5.A, Operating Results—Segment Reporting".

Core Operating income by segments

	Year ended December 31, 2011	% of net sales	Year ended December 31, 2010[1]	% of net sales	Change in $	Change in constant currencies
	$ m	%	$ m	%	%	%
Pharmaceuticals	**10,040**	**30.9**	**9,586**	**31.6**	**5**	**8**
Alcon	**3,492**	**35.1**	**1,350**	**30.4**	**159**	**146**
Sandoz	**1,921**	**20.3**	**1,742**	**20.3**	**10**	**11**
Vaccines and Diagnostics	**135**	**6.8**	**1,066**	**36.5**	**(87)**	**(85)**
Consumer Health	**873**	**18.9**	**845**	**19.4**	**3**	**12**
Corporate income & expenses, net	(552)		(583)			
Core operating income	**15,909**	**27.2**	**14,006**	**27.7**	**14**	**16**

(1) Restated to reflect new divisional segment allocation introduced during 2011. For additional information, see "Item 5. Operating and Financial Review and Prospects—Item 5.A, Operating Results—Segment Reporting".

Pharmaceuticals

Operating income decreased 2% (+4% cc) in 2011 to $8.3 billion. Exceptional items including amortization amounted to a net $1.7 billion expense compared to $1.1 billion expense in 2010. Exceptional items include *Tekturna*/*Rasilez* charges of $903 million, restructuring charges of $420 million and other intangible asset impairments of $302 million (mainly AGO178, PTK796, PRT128 and SMC021). These were partly offset by higher prior-year impairment charges, and divestment income from *Elidel*® ($324 million) and from ophthalmic pharmaceutical products related to the Alcon acquisition ($81 million).

Core operating income in 2011 grew 5% (+8% cc) to $10.0 billion. In constant currencies, core operating income margin increased by 1.4 percentage points due to continuing productivity efforts. However, this improvement was more than offset by a negative currency impact of 2.1 percentage points, resulting in a net decrease in core operating income margin of 0.7 percentage points to 30.9% of net sales. The underlying gross margin decreased by 0.6 percentage points (cc) mainly driven by increased royalties. Functional costs—which include General & Administration, Marketing & Sales and R&D expenses—improved by 2.0 percentage points, driven by productivity gains in Marketing & Sales and R&D despite significant investments in new product launches. Other Income & Expense, net, remained flat in constant currencies.

Alcon

In 2011, Alcon operating income increased 85% to $1.5 billion on a restated basis. Since however the 2010 base only includes Alcon, Inc. from August 25, 2010, as indicated above, a comparison on a 2010 pro forma basis is more meaningful.

Operating income in 2011 of $1.5 billion rose 24% (+14% cc) on a pro forma basis. Operating income was impacted by the inclusion of exceptional income from a litigation settlement ($183 million), amortization of intangible assets ($1.9 billion), integration costs ($221 million), and the impact of manufacturing optimization ($57 million).

Core operating income in 2011 of $3.5 billion increased by 13% (+9% cc) on a pro forma basis. Core operating income margin in constant currencies increased by 0.7 percentage points on a pro forma basis. In addition, there was a positive currency impact of 0.1 percentage points, resulting in a net increase in core operating income margin of 0.8 percentage points to 35.1% of net sales.

Sandoz

Operating income grew 8% (+10% cc) over the prior year to $1.4 billion. The operating income margin improved by 0.5 percentage points in constant currencies, more than offset by a negative currency impact of 0.9 percentage points, resulting in a net decrease of 0.4 percentage points to 15.0% of net sales. The constant currency margin improvement was the result of productivity improvements, the addition of the Falcon business and income from reduction of a contingent consideration obligation, partly offset by charges and provisions for legal cases in the US ($204 million) as well as price erosion.

In 2011, core operating income rose 10% (+11% cc) to $1.9 billion, as declining prices were more than offset by additional sales volume, new product launches and productivity improvements in all areas. Core operating income margin in constant currencies increased by 0.8 percentage points to 21.2% of net sales. Currency had a negative impact, resulting in a 20.3% core operating income margin.

Vaccines and Diagnostics

Operating loss was $249 million for 2011 compared to an operating income of $612 million in 2010, due in large part to the operating income associated with A(H1N1) pandemic flu vaccine sales from the prior year not repeated in 2011.

Excluding the impact of A(H1N1), profitability improved, despite continued investment in our pipeline and meningococcal disease franchise, driven by solid underlying sales growth. 2011 included impairments of $143 million related to financial and intangible assets compared to $98 million in 2010; 2010 also included charges related to a legal settlement of $45 million and restructuring charges of $52 million.

Core operating income for the year was $135 million compared to $1.1 billion for 2010. Excluding the impact of A(H1N1), core operating income also improved over 2010.

Consumer Health

Operating income for 2011 decreased 7% to $727 million (but increased 4% cc), with operating income margin in constant currencies increasing by 0.2 percentage points, more than offset by a negative currency impact of 2.3 percentage points, resulting in an operating income margin of 15.7% of net sales.

Core operating income in 2011 increased by 3% (+12% cc) to $873 million. Core operating income excludes the $115 million exceptional charge related to the product recall. Core operating income margin in constant currencies increased by 1.8 percentage points. This result demonstrates strong operating leverage with core operating income growing significantly ahead of net sales. $73 million of the product recall exceptional charge relates to sales returns. As no corresponding adjustment was made at the net sales level, it had a beneficial impact of 0.4 percentage points on the core operating income margin. Currency negatively impacted core operating income margin by 2.3 percentage points, resulting in a net core operating income margin decrease of 0.5 percentage points to 18.9% of net sales.

Gross margin improved slightly by 0.1 percentage points (cc) driven by productivity gains that were partially offset by product mix. Marketing & Sales expenses decreased by 0.7 percentage points (cc) versus prior year driven by efficiency improvements in OTC partially offset by increased investment in the Animal Health business. R&D expenses decreased by 0.1 percentage points (cc) from productivity measures that more then offset continued investment in innovation. General & Administrative expenses decreased by 0.2 percentage points (cc) due to strong cost control. Other Income and Expense, net, improved by 0.3 percentage points (cc) largely driven by income from smaller product divestments.

Corporate Income & Expense, Net

Corporate income & expense, net, includes the costs of Group headquarters. These net expenses of $670 million in 2011 were 48% higher than in 2010 primarily due to an exceptional pension curtailment gain of $265 million in the prior year.

Non-Operating Income and Expense

	Year ended December 31, 2011	Year ended December 31, 2010	Change in $	Change in constant currencies
	$ m	$ m	%	%
Operating income	**10,998**	**11,526**	**(5)**	**1**
Income from associated companies	528	804	(34)	(34)
Interest expense	(751)	(692)	9	5
Other financial income and expense	(2)	64	(103)	(140)
Income before taxes	**10,773**	**11,702**	**(8)**	**(2)**
Taxes	(1,528)	(1,733)	(12)	(6)
Group net income	**9,245**	**9,969**	**(7)**	**(2)**
Attributable to:				
Shareholders of Novartis AG	*9,113*	*9,794*	*(7)*	*(1)*
Non-controlling interests	*132*	*175*	*(25)*	*(25)*
Basic EPS ($)	3.83	4.28	(11)	(5)

Core Non-Operating Income and Expense

	Year ended December 31, 2011	Year ended December 31, 2010	Change in $	Change in constant currencies
	$ m	$ m	%	%
Core operating income	**15,909**	**14,006**	**14**	**16**
Income from associated companies	779	1,041	(25)	(28)
Interest expense	(751)	(692)	9	5
Other financial income and expense	(2)	64	(103)	(140)
Core income before taxes	**15,935**	**14,419**	**11**	**13**
Taxes	(2,445)	(2,390)	2	5
Core net income	**13,490**	**12,029**	**12**	**15**
Attributable to:				
Shareholders of Novartis AG	*13,273*	*11,767*	*13*	*16*
Non-controlling interests	*217*	*262*	*(17)*	*(17)*
Core basic EPS ($)	5.57	5.15	8	11

Income from Associated Companies

Associated companies are accounted for using the equity method generally when Novartis holds between 20% and 50% of the voting shares of these companies, or where Novartis has otherwise significant influence over them. Income from associated companies is mainly derived from the Group's investments in Roche Holding AG and, prior to August 25, 2010, Alcon.

The income from associated companies fell from $804 million in 2010 to $528 million in 2011, as since August 25, 2010 Alcon, Inc. is fully consolidated and no longer accounted for as an associated company.

The following is a summary of the individual components included in the income from associated companies:

	2011	2010
	$ m	$ m
Share of estimated Roche reported net income	702	648
Restructuring impact (2011 includes $41 million from 2010; 2010 includes $43 million from 2009)	(41)	(132)
Amortization of intangible assets	(162)	(136)
Net income effect from Roche	**499**	**380**
Share of Alcon net income		385
Catch-up for actual Alcon previous year net income		2
Revaluation of initial 25% interest to fair value		378
Recycling of losses accumulated in comprehensive income from July 7, 2008 to August 25, 2010		(43)
Amortization of intangible assets		(289)
Net income effect from Alcon (in 2010 up to August 25, 2010)		**433**
Net income from other associated companies	**29**	**(9)**
Income from associated companies	**528**	**804**

The Group's 33.3% interest in Roche's voting shares, which represents a 6.3% interest in Roche's total equity, generated income of $499 million in 2011, up from $380 million in 2010. The 2011 contribution reflects an estimated $702 million share of Roche's net income in 2011. This contribution, however, was reduced by $162 million for the amortization of intangible assets arising from the allocation of the purchase price paid by Novartis for this investment to Roche's intangible assets and an exceptional charge of $41 million taken in 2011 as part of Roche's restructuring charges.

The 2010 result from Alcon includes the net income up to August 25, 2010 of $385 million and a positive prior-year adjustment of $2 million which were reduced by $289 million for the amortization of intangible assets.

Adjusting for the exceptional items in both years, core income from associated companies decreased 25% to $779 million.

A survey of analyst estimates is used to estimate the Group's share of net income in Roche. Any differences between these estimates and actual results will be adjusted in the 2012 consolidated financial statements.

Interest Expense and other financial income/expense

In 2011, interest expense increased by 9% from $692 million to $751 million. Other financial income/expense was a net expense of $2 million, down from a net income of $64 million in the prior year mainly due to lower earnings from investments as a result of the decreased average liquidity. The currency result remained stable.

Taxes

Tax expenses in 2011 were $1.5 billion, a 12% (6% cc) decrease from 2010. The tax rate (taxes as a percentage of income before taxes) decreased to 14.2% in 2011 from 14.8% in 2010 mainly due to the favorable impact of the Alcon, Inc. merger and as a result the ability to undertake a related tax structure reorganization. For the same reason the core tax rate (taxes as percentage of core income before taxes) decreased to 15.3% in 2011 from 16.6% in 2010. The effective tax rate is different to the expected tax rate due to various adjustments made to the IFRS results to arrive at taxable income. For further information on the main elements contributing to the difference, see "—Core Results as Defined by Novartis" and "Item 18. Financial Statements—note 6".

2010 Compared to 2009

The businesses of Novartis are divided operationally on a worldwide basis into five reporting segments: Pharmaceuticals, Alcon, Sandoz, Vaccines and Diagnostics and Consumer Health and Corporate activities. Following the full acquisition of Alcon, Inc., on April 8, 2011 a new divisional segment allocation was introduced. As a result, Alcon includes CIBA Vision and certain Pharmaceuticals ophthalmology products. Falcon, the US generics business of Alcon, Inc. was transferred to Sandoz. Certain residual operational costs incurred for the

Consumer Health Division headquarters were transferred to Corporate and Corporate R&D was transferred to Pharmaceuticals.

A restatement of the previously reported 2010 and 2009 segment results has been prepared, as required by IFRS, consistent with the new divisional segment allocation introduced in 2011.

Key Figures

	Year ended December 31, 2010	Year ended December 31, 2009	Change in $	Change in constant currencies
	$ m	$ m	%	%
Net sales	**50,624**	**44,267**	**14**	**14**
Other revenues	937	836	12	11
Cost of Goods Sold	(14,488)	(12,179)	19	19
Gross profit	**37,073**	**32,924**	**13**	**12**
Marketing & Sales	(13,316)	(12,050)	11	10
Research & Development	(9,070)	(7,469)	21	20
General & Administration	(2,481)	(2,281)	9	7
Other income	1,234	782	58	56
Other expense	(1,914)	(1,924)	(1)	(1)
Operating income	**11,526**	**9,982**	**15**	**17**
Income from associated companies	804	293	174	173
Interest expense	(692)	(551)	26	25
Other financial income and expense	64	198	(68)	(68)
Income before taxes	**11,702**	**9,922**	**18**	**19**
Taxes	(1,733)	(1,468)	18	18
Group net income	**9,969**	**8,454**	**18**	**20**
Attributable to:				
Shareholders of Novartis AG	*9,794*	*8,400*	*17*	*18*
Non-controlling interests	*175*	*54*	*224*	*226*
Basic earnings per share	**4.28**	**3.70**	**16**	**17**

Core Key Figures

	Year ended December 31, 2010	Year ended December 31, 2009	Change in $	Change in constant currencies
	$ m	$ m	%	%
Core gross profit	**38,517**	**33,783**	**14**	**14**
Marketing & Sales	(13,315)	(12,050)	10	10
Research & Development	(8,080)	(7,287)	11	9
General & Administration	(2,477)	(2,281)	9	7
Other income	485	717	(32)	(32)
Other expense	(1,124)	(1,445)	(22)	(22)
Core operating income	**14,006**	**11,437**	**22**	**24**
Core net income	**12,029**	**10,267**	**17**	**18**
Core basic earnings per share	**5.15**	**4.50**	**14**	**15**

The Group's core results—including core operating income, core net income and core earnings per share—exclude the amortization of intangible assets, impairment charges, expenses relating to the integration of acquisitions as well as other items that are, or are expected to accumulate within the year to be, over a $25 million threshold that management deems exceptional.

Overview—Results Operations

Strong growth in all businesses including the consolidation of Alcon, Inc. (Alcon) drove the Group's healthcare portfolio in 2010 to another year of record results.

Net sales rose 14% (+14% cc) to $50.6 billion driven by strong growth in all businesses, including $2.4 billion from the consolidation of Alcon. Recently launched products provided $10.4 billion of net sales in the 2010 period (excluding Alcon), representing 21% of net sales compared to 16% in the 2009 period. Pharmaceuticals sales expanded 7% (+7% cc) to $30.3 billion driven by 8 percentage points of volume expansion. Recently launched products contributed 21% of Pharmaceuticals sales, up from 16% in 2009. Sandoz achieved double-digit sales growth in 2010 ($8.6 billion, +15%, +16% cc) supported by strong growth in US retail generics and biosimilars (+46% cc) and emerging markets such as Middle East, Turkey and Africa (+22% cc). Vaccines and Diagnostics grew to $2.9 billion (+25% cc), including $1.3 billion of A (H1N1) pandemic flu vaccines. Excluding A (H1N1) pandemic flu vaccines, the business grew 16%. Consumer Health grew 6% (+6% cc) to $4.4 billion, with both business units delivering solid growth in their respective markets.

Operating income rose 15% (+17% cc) to $11.5 billion on the volume- driven sales expansion. Unfavorable currency movements negatively impacted operating income by two percentage points. Operating income margin improved 0.3 percentage points to 22.8% of net sales. Exceptional items arising in the year totaled a net $1.3 billion, comprising: impairments ($1.0 billion), legal settlements ($240 million), restructuring costs ($198 million), and Alcon-related costs ($596 million), partially offset by divestment and pension curtailment gains ($690 million).

Core operating income rose 22% (+24% cc) to $14.0 billion, and the core operating income margin rose 1.9 percentage points to 27.7% of net sales. Included in the core operating margin improvement of 1.9 percentage points were a benefit from Alcon of 0.4 percentage points and higher A (H1N1) pandemic flu vaccine sales of 0.5 percentage points, resulting in the increase in the underlying margin of 1.0 percentage points.

Net income advanced 18% to $10.0 billion ahead of operating income growth due to higher income from associated companies (+173% cc), offset by higher financial expenses from the Alcon financing. Earnings per share (EPS) rose 16% (+17% cc) to $4.28 from $3.70 in the 2009 period. Core net income grew 17% (+18% cc) to $12.0 billion, while core EPS was up 14% (+15% cc) to $5.15 from $4.50 in the year-ago period.

Net sales

	Year ended December 31, 2010[1]	Year ended December 31, 2009[1]	Change in $	Change in constant currencies
	$ m	$ m	%	%
Pharmaceuticals	**30,306**	**28,287**	**7**	**7**
Alcon	**4,446**	**1,965**	**126**	**125**
Sandoz	**8,592**	**7,493**	**15**	**16**
Vaccines and Diagnostics	**2,918**	**2,424**	**20**	**25**
Consumer Health	**4,362**	**4,098**	**6**	**6**
Net sales	**50,624**	**44,267**	**14**	**14**

[1] Restated to reflect new divisional segment allocation introduced during 2011. For additional information, see "Item 5. Operating and Financial Review and Prospects—Item 5.A, Operating Results—Segment Reporting".

Pharmaceuticals

Net sales expanded 7% (+7% cc) to $30.3 billion driven by 9 percentage points of volume expansion, partly offset by a negative pricing impact of 2 percentage points. Recently launched products provided $6.6 billion of net sales in the 2010 period, representing 21% of net sales compared to 16% in the 2009 period.

Europe remained the largest region ($10.8 billion, +7% cc) particularly benefiting from recently launched products generating 28% of its net sales. The US ($10.0 billion, +5% cc), as well as Latin America and Canada ($2.8 billion, +14% cc), maintained solid growth rates. Japan's performance ($3.3 billion, 0% cc) was flat versus the prior year due to the biannual price cuts and angiotensin receptor blockers (ARB) market slowdown. The top six emerging markets ($2.9 billion, +8% cc) were led by double-digit growth from India, Russia, South Korea and China, partly offset by the impact of cost-containment measures in Turkey.

Top 20 Pharmaceuticals Division Product Net Sales—2010

Brands	Therapeutic area	United States	Change in constant currencies	Rest of world	Change in constant currencies	Total	Change in $	Change in constant currencies
		$ m	%	$ m	%	$ m	%	%
Diovan/*Co—Diovan*	Hypertension	2,520	1	3,533	(1)	6,053	1	0
Gleevec/*Glivec*	Chronic myeloid leukemia	1,285	18	2,980	3	4,265	8	7
Lucentis	Age-related macular degeneration			1,533	24	1,533	24	24
Zometa	Cancer complications	721	0	790	4	1,511	3	2
Femara	Breast cancer	650	14	726	5	1,376	9	9
Sandostatin	Acromegaly	511	12	780	11	1,291	12	11
Exelon/*Exelon* Patch	Alzheimer's disease	379	5	624	6	1,003	5	6
Exforge	Hypertension	284	24	620	41	904	35	35
Neoral/*Sandimmun*	Transplantation	82	(9)	789	(6)	871	(5)	(7)
Voltaren (excl. OTC)	Inflammation/pain		nm	791	0	791	(1)	(1)
Top ten products total		**6,432**	**7**	**13,166**	**5**	**19,598**	**6**	**6**
Exjade	Iron chelator	264	7	498	22	762	17	16
Comtan/*Stalevo*	Parkinson's disease	231	6	369	8	600	8	8
Reclast/*Aclasta*	Osteoporosis	393	20	186	29	579	23	23
Ritalin/*Focalin*	Attention Deficit/Hyperactivity Disorder	339	(1)	125	15	464	3	3
Myfortic	Transplantation	163	21	281	25	444	26	23
Tekturna/*Rasilez*	Hypertension	207	29	231	83	438	51	53
Lescol	Cholesterol reduction	97	(20)	339	(25)	436	(23)	(24)
Tasigna	Chronic myeloid leukemia	134	116	265	78	399	88	89
Galvus	Diabetes			391	122	391	117	122
Xolair	Asthma	24	(73)	345	44	369	9	12
Top 20 products total		**8,284**	**7**	**16,196**	**9**	**24,480**	**9**	**8**
Rest of portfolio		1,715	(4)	4,111	1	5,826	0	(1)
Total Division sales		**9,999**	**5**	**20,307**	**7**	**30,306**	**7**	**7**

nm = not meaningful

Pharmaceuticals Division product highlights—Selected leading products

Notes: Net sales growth data refer to 2010 worldwide performance in constant currencies. Growth rates are not provided for some recently launched products since they are not meaningful.

Cardiovascular and Metabolism

Diovan ($6.1 billion, 0% cc) maintained sales in 2010 based on its status as the only medicine in the angiotensin receptor blocker (ARB) class approved to treat high blood pressure, high risk heart attack survivors and heart failure. Japan, which accounts for 20% of annual sales contracted slightly due to biannual price cuts, while sales also declined modestly in Europe, where the entry of generic versions of losartan, another medicine in the ARB segment, occurred in early 2010. In the US (+1%), *Diovan* increased its leadership of the ARB segment despite the overall shrinking of the patented anti-hypertension market due to increasing use of generic medicines in other anti-hypertensive classes.

Exforge ($904 million, +35% cc), a single-pill combination of the angiotensin receptor blocker *Diovan* (valsartan) and the calcium channel blocker amlodipine, has delivered above-market growth and set new standards for high blood pressure combination therapies since its launch in 2007. *Exforge* gained approval in Japan in January 2010. *Exforge HCT*, which adds a diuretic (hydrochlorothiazide), was launched in the US in 2009 and in Europe and Latin America in 2010 as a single-pill therapy with three medicines.

Tekturna/*Rasilez* ($438 million, +53% cc), the first in a new class of medicines known as direct renin inhibitors to treat high blood pressure, has been growing consistently since its launch in 2007. *Valturna*—a single-pill combination with *Diovan* (valsartan)—was launched in the US in late 2009, joining the group of single-pill combinations that involve aliskiren, the active ingredient in *Tekturna*/ *Rasilez*. *Tekamlo*, a single-pill combination of aliskiren and amlodipine was approved in the US in August, 2010. *Amturnide*, a triple combination with amlodipine and a diuretic was approved in the US in December 2010. EU reviews for the

double combination of aliskiren and amlodipine as well as the triple combination incorporating a diuretic are ongoing in the EU. The EU application for *Rasival*, a combination of valsartan and aliskiren was withdrawn in September 2010.

Galvus/*Eucreas* ($391 million, +122% cc), oral treatments for type 2 diabetes, more than doubled sales in 2010 due to strong growth in many European, Latin American and Asia-Pacific markets since its launch in 2007. *Galvus* and *Eucreas*, a single-pill combination of *Galvus* with metformin that accounts for the majority of sales, have attained the highest sales in the DPP-4 market segment in some countries. *Galvus* was approved in Japan in January, 2010, under brand name *Equa*, and in November Novartis K.K. signed an agreement to co-promote the product in Japan with Sanofi-Aventis K.K.

Oncology

Gleevec/*Glivec* ($4.3 billion, +7% cc), a targeted therapy for some forms of chronic myeloid leukemia (CML) and gastrointestinal stromal tumors (GIST), maintained solid growth based on its leadership position in treating these cancers backed by new clinical data and regulatory approvals. *Gleevec*/*Glivec* was approved in 2009 was for use in adjuvant (post-surgery) GIST patients, which is now approved in 57 countries.

Tasigna ($399 million, +89% cc), has shown rapid growth as a next-generation targeted therapy for newly diagnosed CML patients following approvals in several key markets for this indication including the US, EU, Japan and Switzerland. *Tasigna* also gained increased share in imatinib resistant/intolerant patients. Trials are underway examining the use of *Tasigna* in CML with suboptimal response to *Glivec*, as well as a Phase III trial in patients with GIST.

Zometa ($1.5 billion, +2% cc), an intravenous bisphosphonate therapy for patients with certain types of cancer that has spread to the bones, is growing due to improved compliance and use in existing indications. Regulatory submissions in the US and EU for use of *Zometa* as an adjuvant therapy in pre- and post-menopausal women with breast cancer were withdrawn in Q4 2010 after the AZURE trial did not meet its primary endpoint in the overall population. However, in a pre-defined subgroup of women with well-established menopause, an improvement in disease-free survival was shown in the *Zometa* arm. Novartis will discuss future regulatory plans with health authorities based on these data. Zoledronic acid, the active ingredient in *Zometa* (4 mg), is also available under the trade names *Reclast*/*Aclasta* (5 mg) for use in non-oncology indications with different dosing. *Zometa* is facing new competition from denosumab, a product of Amgen.

Femara ($1.4 billion, +9% cc), a treatment for early stage or advanced breast cancer in postmenopausal women, achieved strong sustained growth in key markets. We anticipate new generic competition in the US in the first half of 2011 and later in the year in Europe's major markets thus significantly reducing future sales.

Sandostatin ($1.3 billion, +11% cc) benefited from the increasing use of *Sandostatin LAR* in treating symptoms of patients with neuroendocrine tumors (NET).

Exjade ($762 million, +16% cc), continued to expand with strong growth based on new patients, expanded access and increased dosing in the US and key markets around the world. *Exjade* is currently approved in more than 100 countries, including China since June 2010, as the only once-daily oral therapy for transfusional iron overload.

Afinitor ($243 million), an oral inhibitor of the mTOR pathway used across multiple diseases, expanded its indications in the US with an accelerated FDA approval for the treatment of patients with subependymal giant cell astrocytomas (SEGA), a benign brain tumor associated with tuberous sclerosis requiring therapeutic intervention but who are not candidates for curative surgical resection. The effectiveness of *Afinitor* is based on a 28-patient Phase II study. A Phase III study has completed enrollment to further explore the clinical benefits of *Afinitor* for patients with SEGA associated with tuberous sclerosis. Regulatory submissions have been filed in the EU for this indication under the trade name *Votubia*. *Afinitor* is also an approved treatment for advanced renal cell carcinoma (kidney cancer) following VEGF-targeted therapy. The FDA granted *Afinitor* priority review status for the treatment of advanced neuroendocrine tumors (NET) and a decision is expected in 2011. Worldwide submissions for the treatment of patients with advanced NET are underway. Everolimus, the active ingredient in *Afinitor*, is also available under the trade names *Zortress*/*Certican* for use in non-oncology indications. Everolimus is exclusively licensed to Abbott and sublicensed to Boston Scientific for use in drug-eluting stents.

Neuroscience and Ophtalmics

Lucentis ($1.5 billion, +24% cc), a biotechnology eye therapy now approved in more than 85 countries, delivered sustained growth particularly in France, the United Kingdom, Canada and Japan. *Lucentis* is the only

treatment proven to maintain and improve vision in patients with "wet" age-related macular degeneration, a leading cause of blindness in people over age 50. *Lucentis* was approved in January 2011 in Europe for the treatment of visual impairment due to diabetic macular edema (DME), an eye condition related to long-standing diabetes that may lead to blindness. In Q4 2010 Novartis filed an application in the EU for the treatment of visual impairment due to macular edema secondary to branch/central retinal vein occlusion. Genentech holds the US rights to this medicine.

Exelon/*Exelon* Patch ($1.0 billion, +6% cc), a therapy for mild to moderate forms of Alzheimer's disease dementia as well as dementia linked with Parkinson's disease, achieved blockbuster status in 2010. The majority of sales are for *Exelon* Patch, the novel skin patch launched in 2007, now available in more than 75 countries worldwide for Alzheimer's disease dementia, including more than 20 countries where it is also approved for dementia associated with Parkinson's disease.

Extavia ($124 million), for relapsing forms of multiple sclerosis (MS), was launched in 2009 in the US and more than 30 other countries, marked the entry of Novartis into the field of MS. *Extavia* is the Novartis-patented version of Betaferon®/Betaseron®.

Gilenya ($15 million) has launched as a first-line treatment for relapsing forms of MS in the US and for relapsing-remitting MS in Russia. It was also approved as a first-line treatment for relapsing forms of MS in Australia, Switzerland and the United Arab Emirates. *Gilenya* is currently under regulatory review in the EU, where it was filed in December 2009, and with health authorities worldwide, including Canada, Turkey and Brazil. Initial sales uptake in the US is in line with expectations with sales of $13 million since its launch in October 2010.

Comtan/*Stalevo* ($600 million, +8% cc), a treatment for Parkinson's disease, has grown mainly due to growing prescriber familiarity and continued geographical expansion of *Stalevo*, an enhanced levodopa therapy.

Respiratory

Xolair ($369 million, +12% cc, Novartis sales), a biotechnology drug for moderate to severe persistent allergic asthma in the US and severe persistent allergic asthma in Europe, maintained solid growth due to its global presence and approvals in more than 85 countries. A Phase III trial is progressing to support registration in China. *Xolair* Liquid, a new formulation in pre-filled syringes to enable easier administration than with the conventional lyophilized formulation, is expected to be launched in Europe in 2011. Novartis co-promotes *Xolair* with Genentech in the US and shares a portion of operating income.

Onbrez Breezhaler (QAB149, indacaterol) ($33 million) has demonstrated strong sales growth since its approval in the EU in November 2009 as a once-daily long-acting beta-2 agonist (LABA) for adults with chronic obstructive pulmonary disease (COPD). *Onbrez Breezhaler* is now approved in more than 40 countries and is available in 13 European markets, with further launches planned during 2011. In November 2010, Novartis announced results of the blinded Phase III INTENSITY study showing that *Onbrez Breezhaler* 150 mcg is as effective as tiotropium in improving lung function in patients with COPD, while providing greater clinical benefits in terms of reduced breathlessness, lower use of rescue medication and improved health status. The application for US approval (under the brand-name *Arcapta Neohaler*) is expected to be reviewed by an FDA Advisory Committee in March 2011.

Integrated Hospital Care

Reclast/*Aclasta* ($579 million, +23% cc), a once-yearly infusion therapy for osteoporosis, continues to expand on increasing patient access to infusion centers and a broad range of use in patients with various types of this debilitating bone disease. Approvals have been received in over 90 countries for up to six indications, including the treatment of osteoporosis in men and postmenopausal women. Six-year data from a pivotal fracture trial reinforced the long-term efficacy and safety profile of *Reclast*/*Aclasta*. Zoledronic acid, the active ingredient in *Reclast*/*Aclasta*, is also available in a number of countries in a different dosage for use in oncology indications under the trade name *Zometa*.

Zortress/*Certican* ($144 million, +25% cc), a transplantation medicine, generated solid growth based on its availability in more than 80 countries to prevent organ rejection in adult kidney and heart transplantation, including the US, where its was launched in April 2010 for adult kidney transplantation under the brand name *Zortress*. This medicine, which has the same active ingredient as *Afinitor* (everolimus), has been shown to have good immunosuppressive efficacy and a manageable side-effect profile.

Ilaris ($26 million) is a fully human monoclonal antibody that selectively binds and neutralizes interleukin-1ß (IL-1ß), a pro-inflammatory cytokine. Since 2009, *Ilaris* has been approved in over 40 countries for

the treatment of children aged four years and older and adults suffering from cryopyrin-associated periodic syndrome (CAPS), a group of rare auto-inflammatory disorders that affect approximately one out of one million people. Novartis has filed for European regulatory approval of *Ilaris* for the treatment of gouty arthritis attacks based on data from two Phase III registration studies that met their primary endpoints. US submission is on track for the first quarter of 2011. Novartis is also pursuing other diseases in which IL-1ß is believed to play an important role, such as systemic juvenile idiopathic arthritis (SJIA) and cardiovascular indications. Select subsets of patients with these diseases would be eligible for treatment with *Ilaris*, if approved.

Neoral/*Sandimmun* ($871 million, −7% cc), for organ transplantation, has experienced modestly declining sales despite ongoing generic competition in recent years based on its pharmacokinetic profile, reliability and use in treating a life-threatening condition.

Myfortic ($444 million, +23% cc), a transplantation medicine, is approved in more than 90 countries for the prevention of acute rejection of kidney allografts and is indicated in combination with cyclosporine and corticosteroids. *Myfortic* was first approved in the US in 2004 and in the EU in 2003.

Other

Voltaren ($791 million, −1% cc, excluding OTC sales), a treatment for various inflammation and pain conditions, no longer has patent protection in key markets around the world, but has continued to generate growth in regions such as Latin America, the Middle East, Africa and Asia based on long-term trust in the brand.

Lescol ($436 million, −24% cc), a statin drug used to reduce cholesterol, has experienced declining sales in the US following the 2007 launch of a generic version of simvastatin, another medicine in this class. Europe and other regions also have been hurt by the entry of generic versions of rival drugs in this class. Loss of exclusivity and launch of generics in Europe and Japan have negatively impacted performance. Key emerging markets, including China are showing growth.

Ritalin/*Focalin* ($464 million, +3% cc), for treatment of Attention Deficit/Hyperactivity Disorder (ADHD), has benefited from use of the long-acting *Ritalin LA* and *Focalin XR* patent-protected formulations that involve methylphenidate, the active ingredient in *Ritalin* that has faced generic competition for some time in many countries.

Alcon

Alcon's sales consolidated into Novartis Group results since August 25, 2010 totaled $2.4 billion. US sales of $1.0 billion accounted for 42% of total net sales, while non-US sales of $1.4 billion were 58% of total net sales. Sales in emerging markets continued to be strong, as they contributed $0.5 billion or 20% of total net sales. Pharmaceutical sales were $1.0 billion, Surgical sales were $1.1 billion and Consumer sales were $0.3 billion. Key product contributors to sales were the TRAVATAN® and Azopt® families of glaucoma products, Vigamox® for eye infections, Patanol® for eye allergies, AcrySof® intraocular lenses for cataract patients and OPTI-FREE®, EXPRESS®, and Replenish® contact lens disinfecting solutions.

CIBA Vision (+6% cc) continues to show robust growth in the growing contact lens and lens care markets on the strength of *Air Optix* across all regions. *Air Optix Aqua Multifocal* lens continues to grow after becoming the number one lens for presbyopic users in April 2010, less than 12 months after its launch. Launches of *FreshLook Illuminate* in Asia and Japan contributed to 2010 growth, and *ClearCare*, CIBA Vision's leading peroxide-based lens disinfectant solution, experienced its third year of double-digit growth as users continue to migrate to its clinically proven one-bottle regimen.

Vaccines and Diagnostics

Net sales were $2.9 billion for 2010 (+25% cc) compared to $2.4 billion in 2009. Deliveries for supply contracts with governments around the world for A (H1N1) pandemic flu vaccines and adjuvants generated net sales of $1.3 billion, significantly driving the sales increase compared to 2009. Excluding the A (H1N1) pandemic flu, the business experienced strong growth (+16% cc) driven by the strong seasonal flu season, expansion of the vaccines business in emerging markets and launch of *Menveo*.

Sandoz

Sandoz achieved double-digit sales growth in 2010 ($8.6 billion, +15%, +16% cc) versus 2009 driven by strong growth in US retail generics and biosimilars (+46% cc) and emerging markets. Volume expanded 22 percentage points due to new product launches, the inclusion of EBEWE Pharma's specialty generics business

(contributing 4 percentage points) and continued strong results from biosimilars which together more than compensated for price erosion of 7 percentage points. German retail generics and biosimilars declined by $100 million (−6% cc), as the market was impacted by numerous healthcare reforms.

US sales growth in 2010 was driven by successful execution of new product launches including enoxaparin ($462 million), tacrolimus ($184 million), losartan ($145 million), lansoprazole ($123 million) and gemcitabine ($58 million). Sandoz's enoxaparin exclusivity in the US could change at any time, whereas lansoprazole ODT and gemcitabine will face increased competition in the US in April and May 2011, respectively.

Biosimilar sales expanded rapidly (+63% cc) to $185 million.

Consumer Health

Sales grew 6% (+6% cc) to $4.4 billion and all Consumer Health businesses delivered growth ahead of their respective markets for 2010.

All regions contributed to sales growth in OTC (+5% cc), supported by double- digit growth of the key brands *Voltaren, Nicotinell* and *Excedrin. Pantoloc Control* was successfully launched in 14 European markets in 2010 and will continue to support growth in the gastrointestinal franchise. Retail sales of *Prevacid24HR* have driven the Novartis OTC business in the US to be the fastest growing in its peer group, while *Excedrin* established itself as a top four brand in its category and as the second fastest growing brand among its competitors.

Animal Health growth (+7% cc) was led mainly by the strong performance of *Interceptor* and *Sentinel* in the US and *Milbemax* in Europe, as well as by the robust growth of cattle vaccines in the US livestock market. Overall, the cattle and sheep brands in key markets, including the US and Australia, and the companion animal parasiticides fueled the high-single-digit business growth in 2010.

Operating Income by Segments

	Year ended December 31, 2010[1]	% of net sales	Year ended December 31, 2009[1]	% of net sales	Change in $	Change in constant currencies
	$ m	%	$ m	%	%	%
Pharmaceuticals	**8,471**	**28.0**	**8,072**	**28.5**	**5**	**6**
Alcon	**796**	**17.9**	**473**	**24.1**	**68**	**70**
Sandoz	**1,321**	**15.4**	**1,071**	**14.3**	**23**	**22**
Vaccines and Diagnostics	**612**	**21.0**	**372**	**15.3**	**65**	**87**
Consumer Health	**778**	**17.8**	**683**	**16.7**	**14**	**18**
Corporate income & expenses, net	(452)		(689)			
Operating income	**11,526**	**22.8**	**9,982**	**22.5**	**15**	**17**

(1) Restated to reflect new divisional segment allocation introduced during 2011. For additional information, see "Item 5. Operating and Financial Review and Prospects—Item 5.A, Operating Results—Segment Reporting".

Core Operating Income by Segments

	Year ended December 31, 2010[1]	% of net sales	Year ended December 31, 2009[1]	% of net sales	Change	Change in constant currencies
	$ m	%	$ m	%	%	%
Pharmaceuticals	**9,586**	**31.6**	**8,751**	**30.9**	**10**	**10**
Alcon	**1,350**	**30.4**	**504**	**25.6**	**168**	**170**
Sandoz	**1,742**	**20.3**	**1,395**	**18.6**	**25**	**25**
Vaccines and Diagnostics	**1,066**	**36.5**	**719**	**29.7**	**48**	**58**
Consumer Health	**845**	**19.4**	**754**	**18.4**	**12**	**15**
Corporate income & expenses, net	(583)		(686)			
Core operating income	**14,006**	**27.7**	**11,437**	**25.8**	**22**	**24**

[1] Restated to reflect new divisional segment allocation introduced during 2011. For additional information, see "Item 5. Operating and Financial Review and Prospects—Item 5.A, Operating Results—Segment Reporting".

Pharmaceuticals

Operating income grew 5% (+6% cc) to $8.5 billion. The operating income margin of 28.0% of net sales was mainly impacted by R&D impairments of $896 million, litigation charges of $181 million and restructuring expenses of $111 million, partly offset by divestment income of $425 million and the *Famvir* settlement with Teva.

Core operating income grew 10% (+10% cc) ahead of sales to $9.6 billion. The core operating income margin of 31.6% of net sales improved 0.7 percentage points. Cost of Goods Sold remained broadly stable, while total functional costs improved as a percentage of net sales due to continuing productivity initiatives. Other Income and Expense increased as a percentage of sales mainly due to higher pre-launch inventory provisions.

Alcon

Alcon has contributed $796 million to Novartis operating income since its consolidation from August 25, 2010 including CIBA Vision and ophthalmics products.

This amount includes an additional charge of $467 million relating to the estimated fair value revaluation of inventory as of the change in majority ownership date; $32 million for amortization of intangible assets; and $30 million of costs resulting from the change in majority ownership.

Excluding these items, core operating income totaled $1.3 billion.

Vaccines and Diagnostics

Operating income in the period was $612 million compared to $372 million in the year-ago period, driven substantially by increased contributions from A (H1N1) pandemic flu vaccines.

We continued to invest heavily in development of our late stage pipeline and increased marketing resources to successfully launch *Menveo* globally. 2010 operating income was additionally impacted by a $98 million impairment charge related to a financial asset, $52 million in restructuring charges related to consolidation of our manufacturing facilities and a $45 million legal settlement expense.

Despite heavy investment in R&D and marketing and sales, core operating income increased by 48% (+58% cc) to $1.1 billion, after adjusting for the impairment and restructuring charges and legal settlement above as well as the amortization of intangible assets.

Sandoz

Operating income grew 23% (+22% cc) versus 2009 to $1.3 billion. The operating income margin increased 1.1 percentage points to 15.4% of net sales, an all-time high for Sandoz. The operating income margin was negatively impacted by acquisition-related charges for the integration of EBEWE Pharma, one-time charges for

the termination of a co-development agreement, provisions for legal settlements and higher levels of restructuring charges than 2009, totaling 0.6 percentage points of net sales.

Core operating income rose 25% (+25% cc) to $1.7 billion, as the core operating income margin improved by 1.7 percentage points to 20.3% of net sales. There were lower sales to other divisions and other revenues and higher Cost of Goods Sold. These impacts were more than offset by a number of positive factors, including: Marketing & Sales costs, which were lower as a percentage of sales due to productivity improvements partly offset by investments in growth areas; R&D costs, which decreased as a percentage of sales as reduced investments in standard generics and productivity savings funded increasing investment in the development of differentiated generics; General & Administration costs, which decreased as a percentage of sales due to ongoing cost reduction measures; and Other Income and Expense, which were positive due to lower legal fees.

Consumer Health

Operating income rose 14% (+18% cc) to $778 million, with the operating income margin improving over 2009 by 1.1 percentage points, to 17.8% of net sales for 2010.

Excluding the impact of currency movements, the division showed strong operating leverage by growing operating income 18% in constant currencies, at three times the rate of sales growth.

Core operating income rose 12% (+15% cc) to $845 million, with strong operating leverage, driving the core operating income margin up 1.0 percentage points to 19.4% of net sales versus 2009. Gross margin improvements, productivity gains, and income from an OTC US non-core brand divestment have been the key growth drivers, partially offset by higher investments in Marketing & Sales to support new product launches and geographic expansion.

Corporate Income & Expense, Net

Corporate income & expense includes the costs of Group headquarters and costs for corporate research. These net expenses of $452 million are 34% less than the prior year primarily due to the impact of an exceptional pension curtailment gain of $265 million arising from changing the conditions of the Swiss pension plan offset by $99 million of stamp duty and transaction expenses related to the acquisition of the additional 52% interest in Alcon.

Other Revenues and Operating Expenses

	Year ended December 31, 2010	Year ended December 31, 2009	Change in $	Change in constant currencies
	$ m	$ m	%	%
Gross margin	**37,073**	**32,924**	**13**	**12**
Marketing & Sales	(13,316)	(12,050)	11	10
Research & Development	(9,070)	(7,469)	21	20
General & Administration	(2,481)	(2,281)	9	7
Other income	1,234	782	58	56
Other expense	(1,914)	(1,924)	(1)	(1)
Operating income	**11,526**	**9,982**	**15**	**17**

Core Revenues and Operating Expenses

	Year ended December 31, 2010	Year ended December 31, 2009	Change in $	Change in constant currencies
	$ m	$ m	%	%
Core gross profit	**38,517**	**33,783**	**14**	**14**
Marketing & Sales	(13,315)	(12,050)	10	10
Research & Development	(8,080)	(7,287)	11	9
General & Administration	(2,477)	(2,281)	9	7
Other income	485	717	(32)	(32)
Other expense	(1,124)	(1,445)	(22)	(22)
Core operating income	**14,006**	**11,437**	**22**	**24**
Core net income	**12,029**	**10,267**	**17**	**18**
Core basic earnings per share	**5.15**	**4.50**	**14**	**15**

Marketing & Sales

Marketing & Sales rose 11% (+10% cc) to $13.3 billion, improving 0.9 percentage points to 26.3% of net sales, as productivity improvements across the Group and changes in the portfolio mix (consolidation of Alcon) were offset slightly by investments in new launch products. Excluding Alcon, Marketing and Sales rose 6% to $12.7 billion. For core results, Marketing & Sales rose 10% (+10% cc) to $13.3 billion.

Research & Development

Research & Development expenses increased significantly, by 21% (+20% cc) in 2010, to $9.1 billion. This included $0.9 billion in impairments of intangible assets related to acquired in-process R&D mainly due to the discontinuation of *Mycograb*, albinterferon alfa-2b, PTZ601 and ASA404. Excluding these and certain other costs, core R&D investment increased 11% (+9% cc) to $8.1 billion and represented 16.0% of net sales in 2010 compared to 16.5% in 2009.

General & Administration

General & Administration expenses increased at a slower pace than sales, up 9% (+7% cc) to $2.5 billion in 2010 from the benefits of productivity gains and good cost management across all divisions, with core results showing the same trends.

Other Income and other Expense

Other income, which largely consists of gains from the disposal of intangible assets and property, plant & equipment, rose by $452 million to $1.2 billion in 2010. For core results, other income excludes $739 million in exceptional gains (e.g. $392 million for the divestment of *Enablex* and a Swiss pension fund curtailment gain of $265 million) and fell by 32% (−32% cc) compared to 2009 to $485 million, since the prior year only excluded $65 million of divestment gains. Other expense, which largely consists of litigation settlement costs, impairment of financial assets and pension expenses, were flat at $1.9 billion in 2010. For core results, which eliminate exceptional charges exceeding a $25 million threshold, other expense was down 22% (−22% cc) on a comparable basis to $1.1 billion in 2010.

Non-operating Income & Expense

	Year ended December 31, 2010	Year ended December 31, 2009	Change in $	Change in constant currencies
	$ m	$ m	%	%
Operating income	**11,526**	**9,982**	**15**	**17**
Income from associated companies	804	293	174	173
Interest expense	(692)	(551)	26	25
Other financial income	64	198	(68)	(68)
Income before taxes	**11,702**	**9,922**	**18**	**19**
Taxes	(1,733)	(1,468)	18	18
Group net income	**9,969**	**8,454**	**18**	**20**
Attributable to:				
Shareholders of Novartis AG	*9,794*	*8,400*	*17*	*18*
Non-controlling interests	*175*	*54*	*224*	*226*
Basic EPS ($)	4.28	3.70	16	17

Core Non-operating Income & Expense

	Year ended December 31, 2010	Year ended December 31, 2009	Change in $	Change in constant currencies
	$ m	$ m	%	%
Core operating income	**14,006**	**11,437**	**22**	**24**
Income from associated companies	1,041	1,051	(1)	(3)
Interest expense	(692)	(551)	26	25
Other financial income	64	198	(68)	(68)
Core income before taxes	**14,419**	**12,135**	**19**	**20**
Taxes	(2,390)	(1,868)	28	28
Core net income	**12,029**	**10,267**	**17**	**18**
Attributable to:				
Shareholders of Novartis AG	*11,767*	*10,213*	*15*	*16*
Non-controlling interests	*262*	*54*	*385*	*388*
Core basic EPS ($)	5.15	4.50	14	15

Income from Associated Companies

Associated companies are accounted for using the equity method when Novartis holds between 20% and 50% of the voting shares of these companies, or where Novartis has otherwise significant influence over them. Income from associated companies is mainly derived from the Group's investments in Roche Holding AG and, prior to August 25, 2010, Alcon, Inc. (Alcon).

The income from associated companies for 2010 increased from $293 million to $804 million. The increase is attributable to higher contributions from the Alcon and Roche investments due to exceptional charges incurred in the prior year period as well as the net revaluation gain of $335 million on the initial 25% Alcon interest acquired on July 7, 2008.

The following is a summary of the individual components included in the income from associated companies:

	2010	2009
	$ m	$ m
Share of estimated Roche reported net income	648	593
Catch-up for actual Roche previous year net income		(40)
Restructuring impact (2010 includes $43 million from 2009)	(132)	(97)
Amortization of intangible assets	(136)	(135)
Net income effect from Roche	**380**	**321**
Share of Alcon net income	385	493
Catch-up for actual Alcon previous year net income	2	5
Revaluation of initial 25% interest to fair value	378	
Recycling of losses accumulated in comprehensive income from July 7, 2008 to August 25, 2010	(43)	
Intangible asset impairment charge		(92)
Amortization of intangible assets	(289)	(434)
Net income effect from Alcon (in 2010 up to August 25, 2010)	**433**	**(28)**
Net income from other associated companies	**(9)**	
Income from associated companies	**804**	**293**

The Group's 33.3% interest in Roche's voting shares, which represents a 6.3% interest in Roche's total equity, generated income of $380 million in 2010, up from $321 million in 2009. The 2010 contribution reflects an estimated $648 million share of Roche's net income in 2010. This contribution, however, was reduced by $136 million for the amortization of intangible assets arising from the allocation of the purchase price paid by Novartis for this investment to Roche's intangible assets and an exceptional charge of $132 million taken in 2010 as part of Roche's restructuring charges.

Alcon accounted for as an associated company until August 25, 2010 and thereafter fully consolidated, contributed $433 million compared to a loss of $28 million in the prior year period. Included in this total is a net revaluation gain of $335 million to the fair value of the initial 25% Alcon, Inc interest acquired on July 7, 2008, required as a result of acquiring majority control on August 25, 2010. The 2010 result includes the actual net income up to August 25, 2010 of $385 million from Alcon and a positive prior-year adjustment of $2 million which were reduced by $289 million for the amortization of intangible assets and other charges.

Adjusting for the exceptional items in both years, core income from associated companies decreased 1% (−3% cc) to $1.0 billion.

A survey of analyst estimates is used to estimate the Group's share of net income in Roche. Any differences between these estimates and actual results will be adjusted in the 2011 financial statements.

Interest Expense and Other Financial Income

Interest expense increased by 26% (25% cc) to $692 million in 2010 as a result of the issuance of US dollar bonds in February 2009 and March 2010, a euro bond in June 2009 and the increase of short-term debts through the commercial paper program. Other financial income decreased by 68% (−68% cc) to $64 million in 2010. In order to accommodate the payment for the Alcon acquisition financial investments were kept short-term which resulted in lower yields.

Taxes

Tax expenses in 2010 were $1.7 billion, a 18% (+18% cc) increase from 2009. The tax rate (taxes as a percentage of pre-tax income) remained at the 2009 rate of 14.8%. The effective tax rate is different than the expected tax rate due to various adjustments made to the IFRS results to arrive at taxable income. For further information on the main elements contributing to the difference, see "—Core Results as Defined by Novartis" and "Item 18. Financial Statements—note 6".

Excluding the impact of consolidating Alcon, the Group's full year tax rate would have been 16.3%, which is higher than 2009 as it reflects the impact of sales from A (H1N1) pandemic flu vaccines and other sales being recorded in higher tax jurisdictions.

Taxes on the adjustments between IFRS and core results take into account, for each individual item included in the adjustment, the tax rate that is applicable to the item in the jurisdiction where the adjustment arises. Generally this results in amortization of intangible assets and acquisition-related restructuring and integration items having a full tax impact. Tax impacts on impairment charges can only be taken into account if the changes in value in the underlying asset are tax deductible in the respective jurisdiction where the asset is recorded. There is usually a tax impact on exceptional items although this is not the case for items arising from criminal settlements in certain jurisdictions. Adjustments related to income from associated companies are recorded net of any related tax effect. Due to these factors and the differing effective tax rates in the various jurisdictions, the tax on the total adjustments of $2.7 billion to arrive at the core results before tax, amounts to $657 million. This results in the average tax rate on the adjustments being 24.2%.

Net Income

Net income rose 18% (+18% cc) to $10.0 billion in 2010. Core net income was up 17% (+18% cc) to $12.0 billion.

Basic Earnings per Share

Basic earnings per share were $4.28, up 16% (+17% cc) from $3.70 in 2009, but less than the net income increase due to higher income attributable to non-controlling interests. Core earnings per share grew 14% (+15% cc) to $5.15 in 2010 from $4.50 in 2009.

5.B Liquidity and Capital Resources

Cash Flow

The following table sets forth certain information about the Group's cash flow and net debt/liquidity.

	2011	2010	2009
	$ m	$ m	$ m
Cash flows from operating activities	14,309	14,067	12,191
Cash flows used in investing activities	(792)	(15,756)	(14,219)
Cash flows used in/from financing activities	(15,024)	4,116	2,809
Currency translation effect on cash and cash equivalents	(103)	(2)	75
Net change in cash and cash equivalents	**(1,610)**	**2,425**	**856**
Change in marketable securities	(1,449)	(11,740)	10,476
Change in current and non-current financial debts	2,758	(8,999)	(6,624)
Change in net (debt)/liquidity	**(301)**	**(18,314)**	**4,708**
Net (debt)/liquidity at January 1	(14,853)	3,461	(1,247)
Net (debt)/liquidity at December 31	**(15,154)**	**(14,853)**	**3,461**

The analysis of our cash flow is divided as follows:

1. Cash Flows From Operating Activities
2. Cash Flows Used in Investing Activities
3. Cash Flows Used in/From Financing Activities
4. Net Debt/Liquidity
5. Free Cash Flow

1. Cash Flows From Operating Activities

Cash flow from operating activities was $14.3 billion in 2011, a 2% increase from 14.1 billion in 2010 which included $1.8 billion of cash collections for A (H1N1) pandemic flu vaccines. The additional cash flow of $0.2 billion generated by strong increase in operating income after adjustments for non-cash items was partially mitigated by working capital requirements to fund business expansion.

In 2010, cash flow from operating activities was $14.1 billion, a 15% increase from $12.2 billion in 2009. The additional cash flow of $1.9 billion generated by the strong business expansion and lower working capital requirements was partially offset by higher taxes and payments in connection with the resolution of certain legal matters

In 2009, our primary source of liquidity was cash generated from our operations. The cash flow from operating activities rose 25% to $12.2 billion and reflected $1.3 billion lower working capital requirements compared to 2008.

2. Cash Flows Used in Investing Activities

The net cash outflow used for investing activities in 2011 amounted to $0.8 billion, $15.0 billion below the prior-year amount. The cash used for investments in property, plant & equipment of $2.2 billion and for intangible and financial assets of $0.4 billion as well as for acquisitions of businesses of $0.6 billion, mainly Genoptix Inc., were partially compensated by net inflows from the sale of marketable securities of $1.6 billion and proceeds from the sales of various assets of $0.8 billion, mainly *Elidel*® marketing rights.

In 2010, the net cash outflow used for investing activities amounted to $15.8 billion, $1.5 billion above the prior-year amount. The cash used for acquisitions was $26.7 billion. This amount is comprised of $26.1 billion (net of $2.2 billion cash acquired) for the purchase of the additional 52% investment in Alcon and of $0.5 billion for the acquisition of Corthera and Oriel as well as for deferred payments related to the EBEWE acquisition. The net cash used for investments in property, plant & equipment, intangible and other assets amounted to $1.7 billion. These outflows were partially offset by the net proceeds of marketable securities of $12.6 billon.

In 2009, cash outflows from investing activities rose 37% to $14.2 billion and included $10.5 billion in marketable securities investments net financed with proceeds from bond offerings as well as $0.9 billion for the acquisition of the EBEWE Pharma generics business in Sandoz and $1.9 billion for capital expenditures.

3. Cash Flows Used in/From Financing Activities

Net cash used for financing activities was $15.0 billion in 2011 compared to a net cash inflow of $4.1 billion from financing activities in 2010. It was comprised of outflows of $5.4 billion for the dividend payment, of a net $3.5 billion for treasury share repurchases, $3.2 billion for the acquisition of the Alcon non-controlling interests and net $2.8 billion for the repayment of financial debts and $0.1 billion other financing items.

In 2010, net cash provided by financing activities increased by $1.3 billion to $4.1 billion compared to $2.8 billion in 2009. The $8.3 billion proceeds from the bonds and commercial paper programs as well as other net inflows totaling $0.3 billion were partially offset by the payment of the 2009 dividend of $4.5 billion in 2010.

In 2009, cash inflows from financing activities were a net $2.8 billion, as proceeds from bond issues totaling $7.1 billion were partially reduced by the dividend payment for 2008 of $3.9 billion and other items totaling $0.4 billion.

4. Net Debt/Liquidity

Overall liquidity at the end of 2011 amounted to $5.1 billion compared to $8.1 billion at the end of 2010 and consists of $3.7 billion cash and cash equivalents and of $1.4 billion marketable securities and derivative financial instruments. In 2010, liquidity included cash and cash equivalents of $5.3 billion and marketable securities and financial derivatives of $2.8 billion.

At December 31, 2010 overall liquidity amounted to $8.1 billion compared to $17.4 billion at the end of 2009. Taking into account additional debt raised in 2010, the Group had net debt of $14.9 billion at the end of 2010 compared to net liquidity of $3.5 billion at the end of 2009.

At December 31, 2009 overall liquidity amounted to $17.4 billion compared to $6.1 billion at the end of 2008. Taking into account additional debt raised in 2009 through bond issues, the Group had net debt of $1.2 billion at the end of 2008 compared to net liquidity of $3.5 billion at the end of 2009.

Net debt/liquidity constitutes a non-IFRS financial measure, which means that it should not be interpreted as a measure determined under International Financial Reporting Standards (IFRS). Net debt/liquidity is presented as additional information as it is a useful indicator of the Group's ability to meet financial commitments and to invest in new strategic opportunities, including strengthening its balance sheet.

We use marketable securities and derivative financial instruments to manage the volatility of our exposures to market risk in interest rates and liquid investments. Our objective is to reduce, where appropriate, fluctuations in earnings and cash flows. We manage these risks by selling existing assets or entering into transactions and future transactions (in the case of anticipatory hedges) which we expect we will have in the future, based on past experience. We therefore expect that any loss in value for those securities or derivative financial instruments generally would be offset by increases in the value of those hedged transactions.

We use the US dollar as our reporting currency and we are therefore exposed to foreign exchange movements, primarily in European, Japanese and other Asian and Latin American currencies. Consequently, we enter into various contracts which change in value as foreign exchange rates change, to preserve the value of assets, commitments and anticipated transactions. We also use forward contracts and foreign currency option contracts to hedge certain anticipated net revenues in foreign currencies, see "Item 11, Quantitative and Qualitative Disclosures About Non-Product-Related Market Risk," for additional information.

5. Free Cash Flow

Novartis defines free cash flow as cash flow from operating activities less purchase or sale of property, plant & equipment, intangible, non-current and financial assets. Cash effects realized in connection with the acquisition or divestment of subsidiaries, associated companies and non-controlling interests are excluded from free cash flow. The following is a summary of the Group's free cash flow:

	2011	2010	2009
	$ m	$ m	$ m
Cash flows from operating activities	**14,309**	**14,067**	**12,191**
Purchase of property, plant & equipment	(2,167)	(1,678)	(1,887)
Purchase of intangible assets	(220)	(554)	(846)
Purchase of financial assets	(139)	(124)	(215)
Purchase of non-current non-financial assets	(48)	(15)	(23)
Proceeds from sales of property, plant & equipment	61	36	48
Proceeds from sales of intangible assets	643	545	51
Proceeds from sales of financial assets	59	66	124
Proceeds from sales of non-current non-financial assets	5	3	3
Group free cash flow	**12,503**	**12,346**	**9,446**

Free cash flow for 2011 was $12.5 billion, which represents an increase of 1% or $0.2 billion compared to 2010. Main contributors were Pharmaceuticals with $10.8 billion followed by Alcon with $3.5 billion while other divisions contributed in total $2.1 billion. Corporate had a free cash outflow of $3.9 billion mainly on account of interest and tax payments. Free cash flow of $12.5 billion was deployed for dividend payments of $ 5.4 billion and share repurchases of $ 5.9 billion (including $ 2.4 billion repurchased indirectly via Alcon, Inc. to reduce the dilutive impact of the subsequent merger of Alcon, Inc. into Novartis AG). In total, dividends and share repurchases utilized 90% of the Group's 2011 free cash flow.

The free cash flow for 2010 was $12.3 billion, which represents an increase of 30.7% over 2009. The strong business expansion, lower working capital requirements, higher proceeds from the disposal of intangible assets as well as lower capital spending contributed to the growth of the free cash flow. Net investments in property, plant & equipment in 2010 were $1.6 billion, or 3.2% of net sales, down from 4.2% of net sales in 2009. Free cash flow in 2010 was mainly attributable to the Pharmaceuticals Division which contributed $10.7 billion to the Group total.

Our 2009 Group free cash flow from continuing operations rose 23.5% to $9.4 billion, reflecting the strong focus on business performance and control of fixed and working capital. This rise relates mainly to the solid business expansion, reduced tax payments, lower working capital requirements and a reduction of investments in property, plant & equipment. This was partially offset by increased payments for intangible assets, lower proceeds

from assets disposals and higher net financial payments. Capital expenditure for continuing operations on property, plant & equipment in 2009 were $1.9 billion, or 4.3% of net sales, down from 5.1% of net sales in 2008.

Free cash flow is presented as additional information because Novartis considers it is a useful indicator of the Group's ability to operate without relying on additional borrowing or the use of existing cash. Free cash flow is a measure of the net cash generated that is available for debt repayment and investment in strategic opportunities. The Group uses free cash flow as a performance measure when making internal comparisons of the results of divisions. Free cash flow constitutes a non-IFRS financial measure, which means that it should not be interpreted as a measure determined under IFRS. Free cash flow is not intended to be a substitute measure for cash flow from operating activities (as determined under IFRS).

Capital Resources

Funding of the Alcon transaction—2010

On August 25, 2010, Novartis completed the acquisition of a further 52% interest in Alcon, Inc. following on from the January 4, 2010 announcement that Novartis had exercised its call option to acquire Nestlé's remaining 52% Alcon interest for approximately $28.3 billion or $180 per share. This increased the interest in Alcon to a 77% controlling interest as Novartis had already acquired an initial 25% Alcon interest from Nestlé for $10.4 billion or $143 per share in July 2008.

On December 14, 2010, Novartis entered into a definitive agreement to merge Alcon into Novartis for Novartis shares and a Contingent Value Amount (CVA). Under the terms of the agreement, the merger consideration will include up to 2.8 Novartis shares and a CVA to be settled in cash that will in aggregate equal $168 per share. If the value of 2.8 Novartis shares is more than $168 the number of Novartis shares will be reduced accordingly. The total merger consideration for the non-controlling interest will be $12.9 billion, comprising of up to 215 million Novartis shares and a potential CVA to be settled in cash.

The overall purchase price of $38.7 billion includes certain adjustments for Alcon dividends and interest due. Sources of financing for the 77% ownership, including the initial 25% stake purchased in mid-2008, were $17.0 billion of available cash, and $13.5 billion from bonds raised in March 2010 as well as in 2008 and 2009. In addition, during 2010, we raised funds of $8.2 billion through our commercial paper program, which was used for general corporate purposes of the Novartis Group, as well as for intercompany financing purposes in connection with the acquisition of the 52% interest in Alcon.

Funding of the Alcon transaction—2011

During 2011, prior to the merger of Alcon, Inc. into Novartis AG on April 8, 4.8% of the non-controlling interests in Alcon, Inc. were acquired for $2.4 billion.

Completion of the acquisition of the outstanding 18.6% interest in Alcon on April 8, 2011 and subsequent merger, resulted in the issuance of Novartis shares with a fair value of $9.2 billion and a contingent value payment of $0.5 billion.

The final purchase price allocation was completed in 2011 and resulted in a fair value of net identifiable assets of $27.0 billion and goodwill of $18.0 billion. Also, the excess of the value exchanged for these 2011 transactions over the recorded value of the non-controlling interest together with merger related transaction costs resulted in a reduction in equity of $5.7 billion.

For additional information, see "Item 18, Financial Statements—note 1, 2 and 24".

Share Repurchase Programs

In 2011, Novartis has carried out the share repurchases committed to at the time of the Alcon merger announcement. These share repurchases amounted to $5.3 billion including the purchases of $2.4 billion of Alcon shares, a contingent value payment of $0.5 billion and repurchases of $2.4 billion of Novartis shares (39.4 million shares). All of these Novartis shares were repurchased on the second trading line during the first six months of 2011. In addition, in the second half of 2011, Novartis repurchased $1.1 billion (20.4 million shares) of own shares on the first trading line. These shares will be kept as treasury shares to mostly cover future employee participation programs.

No shares were cancelled in 2011 as none had been repurchased in the 12 months to December 2010.

Novartis will propose to shareholders at the Annual General Meeting in February 2012 to cancel all shares repurchased on the second trading line during 2011. If approved, a total of 39.4 million shares, which corresponds to 1.4% of the registered Novartis share capital, will be cancelled, and the share capital will be reduced accordingly.

Treasury shares

At December 31, 2011, our holding of treasury shares amounted to 338.9 million shares or 12% of the total number of issued shares. Approximately 181 million treasury shares are held in entities that limit their availability for use.

At December 31, 2010, our holding of treasury shares amounted to 348.2 million shares or 13% of the total number of issued shares. Approximately 181 million treasury shares are held in entities that limit their availability for use. At December 31, 2009, our holding of treasury shares amounted to 363.3 million shares or 14% of the total number of issued shares.

Bonds

In 2011 no bonds were issued or repaid.

On March 9, 2010, Novartis issued a three-tranche bond totaling $5.0 billion registered with the US Securities and Exchange Commission as part of a shelf registration statement filed by Novartis in 2008. A 1.9% three-year tranche totaling $2.0 billion, a 2.9% five-year tranche totaling $2.0 billion and a 4.4% 10-year tranche totaling $1.0 billion were issued by the Group's US entity, Novartis Capital Corp. All tranches are unconditionally guaranteed by Novartis AG.

On February 5, 2009, Novartis issued a two-tranche bond totaling $5.0 billion registered with the US Securities and Exchange Commission as part of a shelf registration statement filed by Novartis in 2008. A 4.125% five-year tranche totaling $2.0 billion was issued by the Group's US entity, Novartis Capital Corp., while a 5.125% 10-year tranche totaling $3.0 billion was issued by the Group's Bermuda unit, Novartis Securities Investment Ltd. Both tranches are unconditionally guaranteed by Novartis AG.

On June 2, 2009, Novartis issued a 4.25% bond, due in 2016 of EUR 1.5 billion (approximately $2.1 billion) under its EUR 15 billion Euro Medium Term Note Programme. The seven-year bond, issued by Novartis Finance S.A., Luxembourg, is guaranteed by Novartis AG.

Direct Share Purchase Plans

Novartis has been offering US investors since 2001 an ADS Direct Share Purchase Plan that provides investors an easy and inexpensive way of directly purchasing Novartis shares and of reinvesting dividends. This plan holds Novartis ADSs that are listed on the New York Stock Exchange under the trading symbol NVS. At the end of 2011, the ADS Direct Plan had 1,122 participants.

Starting in September 2004, Novartis began offering a Direct Share Purchase Program to investors residing in Switzerland, Liechtenstein, France and the United Kingdom, which was the first of its kind in Europe. This plan offers an easy and inexpensive way for investors to directly purchase Novartis registered shares and for them to be held at no cost in a deposit account with SIX SAG AG. At the end of 2011, a total of 9,403 shareholders were enrolled in this program.

Liquidity/Short-term Funding—2011 and 2010

We continuously track our liquidity position and asset/liability profile. This involves modeling cash flow maturity profiles based on both historical experiences and contractual expectations to project our liquidity requirements. We seek to preserve prudent liquidity and funding capabilities.

We are not aware of significant demands to change our level of liquidity needed to support normal business activity. We intend to use part of our free cash flow to reduce our financial debt.

We make use of various borrowing facilities provided by several financial institutions. We also successfully issued various bonds in 2010. In addition, we raised funds through our commercial paper program. We have no commitments from repurchase or securities lending transactions. The principal reason for the increase in average current financial debt in 2011 compared to 2010 is the increase in commercial paper during 2011, which was used for general corporate purposes of the Novartis Group, as well as for financing purposes in connection with the acquisition of the remaining Alcon, Inc. non-controlling interests in 2011.

An overview of the movements in our current financial debt and related interest rates is set forth below:

	December 31	Average interest rate at year end[1]	Average balance during the year	Average interest rate during the year[1]	Maximum balance during the year[2]
	$ m	%	$ m	%	$ m
2011					
Interest bearing accounts of associates	1,357	1.36	1,463	1.25	1,626
Other bank and financial debt	2,053	3.38	3,784	1.83	7,749
Commercial paper	2,156	0.55	5,597	0.21	8,673
Current portion of non-current financial debt	778	na	479	na	911
Fair value of derivative financial instruments	30	na	97	na	184
Total current financial debt	**6,374**		**11,420**		**19,143**
2010					
Interest bearing accounts of associates	1,321	1.15	1,239	1.23	1,321
Other bank and financial debt	2,195	2.37	2,297	2.26	2,692
Commercial paper	4,969	0.20	3,603	0.28	8,719
Current portion of non-current financial debt	98	na	47	na	98
Fair value of derivative financial instruments	44	na	106	na	201
Total current financial debt	**8,627**		**7,292**		**12,631**

[1] 2010 interest is calculated based on the average balances for a quarter and 2011 interest is calculated based on the average balances for a month

[2] For 2010 maximum amount at end of any quarter in each category and for 2011 maximum amount at end of any month in each category

na—not applicable or available

Interest bearing accounts of associates relate to employee deposits in CHF from the compensation of associates employed by Swiss entities (actual interest rate: 1.25%). Other bank and financial debt refer to usual lending and overdraft facilities.

5.C Research & Development, Patents and Licenses

Our R&D spending totaled $9.6 billion, $9.1 billion and $7.5 billion ($9.2 billion, $8.1 billion and $7.3 billion excluding impairments and amortization charges) for the years 2011, 2010 and 2009, respectively. Each of our divisions has its own R&D and patents policies. Our divisions have numerous products in various stages of development. For further information on these policies and these products in development, see "Item 4. Information on the Company—4.B Business Overview."

As described in the "Risk Factors" section and elsewhere in this Form 20-F, our drug development efforts are subject to the risks and uncertainties inherent in any new drug development program. Due to the risks and uncertainties involved in progressing through pre-clinical development and clinical trials, and the time and cost involved in obtaining regulatory approvals, among other factors, we cannot reasonably estimate the timing, completion dates, and costs, or range of costs, of our drug development program, or of the development of any particular development compound, see "Item 3. Key Information—3.D Risk Factors." In addition, for a description of the research and development process for the development of new drugs and our other products, and the regulatory process for their approval, see "Item 4. Information on the Company—4.B Business Overview."

5.D Trend Information

On January 13, 2012, Novartis announced a plan to restructure Novartis Pharmaceuticals (NPC) in the US. This will result in the reduction of approximately 1,960 positions and result in an exceptional charge of approximately $160 million to be recorded in the first quarter of 2012.

In addition, please see "—5.A Operating Results—Factors Affecting Results of Operations" and "Item 4, Information on the Company—4.B Business Overview" for trend information.

5.E Off-Balance Sheet Arrangements

We have no unconsolidated special purpose financing or partnership entities or other off-balance sheet arrangements that have or are reasonably likely to have a current or future effect on our financial condition, changes in financial condition, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources, that is material to investors, see also "Item 18. Financial Statements—note 28" and matters described in "Item 5.F Aggregate Contractual Obligations".

5.F Aggregate Contractual Obligations

We have long-term research agreements with various institutions which require us to fund various research projects in the future. As of December 31, 2011, the aggregate total amount of payments, including potential milestones, which may be required under these agreements, was $3.0 billion. We expect to fund these long-term research agreements with internally generated resources.

As of December 31, 2011, our total financial debt was $20.2 billion, as compared with $23.0 billion as of December 31, 2010, and $14.0 billion as of December 31, 2009. Total financial debt in 2011 decreased compared to 2010 by $2.8 billion despite the funding of acquisitions and share repurchases. The increase from 2009 to 2010 of $9.0 billion was principally due to the issuance of new bonds and commercial papers.

We have $13.5 billion of bonds and Medium Term Notes and other long-term financial loans of $1.1 billion outstanding at December 31, 2011. We had $13.5 billion and $8.6 billion of bonds and Medium Term Notes outstanding at December 31, 2010 and at December 31, 2009, respectively. We had $1.0 billion and $0.1 billion of other long-term financial loans outstanding at December 31, 2010 and at December 31, 2009, respectively. For details on the maturity profile of debt, currency and interest rate structure, see "Item 18. Financial Statements—note 19".

As of December 31, 2011, we had current debt (excluding the current portion of non-current debt) of $5.6 billion as compared with $8.5 billion as of December 31, 2010, and $5.3 billion as of December 31, 2009. This current debt consists mainly of $3.4 billion (2010: $3.5 billion; 2009: $3.3 billion) in other bank and financial debt, including interest bearing employee accounts; $2.2 billion (2010: $5.0 billion; 2009: $1.9 billion) of commercial paper, and $30 million (2010: $44 million; 2009: $ 0.1 billion) of other current debt. For further details see "Item 18. Financial Statements—note 21".

Our net debt increased to $15.2 billion at the end of 2011 from net debt of $14.9 billion at the end of 2010. This represents a net increase of $0.3 billion since December 31, 2010. The peak Novartis net debt amount of $22.7 billion was reached at the beginning of the second quarter of 2011. This has been repaid to the extent of $7.5 billion by the year end. At the end of 2009 our net liquidity amounted to $3.5 billion.

Moody's rates Novartis at December 31, 2011 as Aa2 for long-term maturities and P-1 for short-term maturities and Standard & Poor's had a rating of AA− and A−1+, for long-term and short-term maturities, respectively. Fitch has a long-term rating of AA and a short-term rating of F1+.

We are in compliance with all covenants or other requirements set forth in our financing agreements. We do not have any rating downgrade triggers that would accelerate maturity of our debt. For details of the maturity profile of debt, currency and interest rate structure, see "Item 18. Financial Statements—note 19".

The following table summarizes our contractual obligations and other commercial commitments at December 31, 2011 and the effect such obligations and commitments are expected to have on our liquidity and cash flow in future periods:

	Payments due by period				
	Total	**Less than 1 year**	**2-3 years**	**4-5 years**	**After 5 years**
	$ m	**$ m**	**$ m**	**$ m**	**$ m**
Non-current financial debt	**14,633**	778	4,818	5,056	3,981
Operating leases	**3,036**	355	445	233	2,003
Unfunded pensions and other post-retirement obligations	**1,808**	85	173	186	1,364
Research & Development					
—Unconditional commitments	**343**	105	126	81	31
—Potential milestone commitments	**2,653**	282	665	560	1,146
Purchase commitments					
—Property, plant & equipment	**583**	493	75	13	2
Total contractual cash obligations	**23,056**	**2,098**	**6,302**	**6,129**	**8,527**

We expect to fund the R&D and purchase commitments with internally generated resources.

For other contingencies, see "Item 4. Information on the Company—4.D Property, Plants and Equipment—Environmental Matters", "Item 8. Financial Information—8.A Consolidated Statements and Other Financial Information" and "Item 18. Financial Statements—note 20".

Item 6. Directors, Senior Management and Employees

Item 6.A Directors and Senior Management

Board of Directors

Daniel Vasella, M.D.

Swiss, age 58

Function at Novartis AG Daniel Vasella, M.D., is Chairman of the Board of Directors for Novartis AG. He served as Chief Executive Officer (CEO) and executive member of the Board of Directors for 14 years following the merger that created Novartis in 1996. Dr. Vasella was appointed Chairman in April 1999.

Other activities Dr. Vasella is a member of the board of directors of PepsiCo, Inc. He is also a member of the International Board of Governors of the Peres Center for Peace in Israel, the International Business Leaders Advisory Council for the Mayor of Shanghai, the Global Health Program Advisory Panel of the Bill & Melinda Gates Foundation, and is a foreign honorary member of the American Academy of Arts and Sciences. He is also a member of the Board of Trustees of the Carnegie Endowment for International Peace. In addition, Dr. Vasella serves as a member of several industry associations and educational institutions.

Professional background Before the Novartis merger, Dr. Vasella was CEO of Sandoz Pharma Ltd. and a member of the Sandoz Group Executive Committee. From 1988 to 1992, he was with Sandoz Pharmaceuticals Corporation in the United States, prior to which he held a number of medical positions in Switzerland. He graduated with an M.D. from the University of Bern in Switzerland and completed executive training at the Harvard Business School in the United States. He was also awarded an honorary doctorate by the University of Basel.

Key knowledge/experience *Leadership, Biomedical Science and Global Marketing experience*—former CEO of Novartis; advisory panel member for international health and development foundation. *Industry experience*—board member for global consumer goods company.

Ulrich Lehner, Ph.D.

German, age 65

Function at Novartis AG Ulrich Lehner, Ph.D., has been a member of the Board of Directors since 2002. He qualifies as an independent Non-Executive Director. He serves as Vice Chairman and Chairman of the Corporate Governance and Nomination Committee. He is also a member of the Audit and Compliance Committee, the Risk Committee, the Chairman's Committee, and the Compensation Committee. The Board of Directors has appointed him as Audit Committee Financial Expert.

Other activities Mr. Lehner is member of the shareholders' committee of Henkel AG & Co. KGaA, Chairman of the Supervisory Board of Deutsche Telekom AG, and serves as a member of the supervisory boards of E.ON AG, ThyssenKrupp AG, Porsche Automobil Holding SE and Henkel Management AG, all in Germany. He is also a member of the shareholders' committee of Dr. August Oetker KG and Krombacher Brauerei, both in Germany.

Professional background Mr. Lehner graduated in business administration and mechanical engineering from the Darmstadt University of Technology, Germany, in 1975. From 1975 to 1981, he was an auditor with KPMG Deutsche Treuhand-Gesellschaft AG in Duesseldorf. In 1981, he joined Henkel KGaA. After heading the Controlling Department of Fried. Krupp GmbH in Germany from 1983 to 1986, Mr. Lehner returned to Henkel as Finance Director. From 1991 to 1994, he headed Henkel Asia-Pacific Ltd. in Hong Kong, and from 1995 to 2000, he served as Executive Vice President, Finance/Logistics, of Henkel KGaA. From 2000 to 2008, Mr. Lehner served as Chairman of the Management Board of Henkel KGaA.

Key knowledge/experience *Leadership and Global experience*—chairman of supervisory board of global telecommunication company; former chairman of the management board of global consumer goods company. *Industry experience*—member of supervisory boards of global energy, automotive and manufacturing technology companies.

William Brody, M.D., Ph.D.

American, age 67

Function at Novartis AG William Brody, M.D., Ph.D., has been a member of the Board of Directors since 2009. He qualifies as an independent Non-Executive Director. He is a member of the Compensation Committee.

Other activities Dr. Brody is President of the Salk Institute for Biological Studies, La Jolla, Calif., United States. He is also a member of the boards of directors of the US-based International Business Machines Corp. and Kool Smiles Inc., and the mutual funds boards of T. Rowe Price. He is a member of numerous professional associations, and also serves on the advisory boards of various government and nonprofit organizations.

Professional background Dr. Brody earned his bachelor's and master's degrees in electrical engineering from the Massachusetts Institute of Technology before completing his M.D. and Ph.D. at Stanford University. Following training in cardiovascular surgery and radiology he held various academic positions, including Professor for Radiology and Electrical Engineering at Stanford University and Director of the Department of Radiology at The Johns Hopkins University. From 1996 to 2009, he was president of The Johns Hopkins University, and since 2009, president of the Salk Institute for Biological Studies in the United States. He is a member of the US National Academy of Engineering and the Institute of Medicine.

Key knowledge/experience *Leadership, Biomedical Science, Healthcare and Education experience*—president of leading US scientific research institution; former president of leading US university. *Global, Engineering and Technology experience*—former board member of global technology company.

Srikant Datar, Ph.D.

American, age 58

Function at Novartis AG Srikant Datar, Ph.D., has been a member of the Board of Directors since 2003. He qualifies as an independent Non-Executive Director. He is Chairman of the Audit and Compliance Committee, and a member of the Chairman's Committee, the Risk Committee and the Compensation Committee. The Board of Directors has appointed him as Audit Committee Financial Expert.

Other activities Mr. Datar is Arthur Lowes Dickinson Professor at the Graduate School of Business Administration at Harvard University. He is also a member of the board of directors of ICF International Inc. and of Stryker Corp., both in the United States, and of KPIT Cummins Infosystems Ltd., India.

Professional background Mr. Datar graduated with distinction in mathematics and economics from the University of Bombay, India, in 1973. He is a Chartered Accountant, and holds two master's degrees and a Ph.D. from Stanford University. Mr. Datar has worked as an accountant and planner in industry, and as a professor at Carnegie Mellon University, Stanford University and Harvard University all in the United States. His research interests are in the areas of cost management, measurement of productivity, new product development, time-based competition, incentives and performance evaluation. He is the author of many scientific publications, and has received several academic awards and honors. Mr. Datar has advised and worked with numerous companies in research, development and training.

Key knowledge/experience *Leadership and Education experience*—former senior associate dean and current professor of leading US university. *Global and Industry experience*—board member of global professional services firm; board member of global leading medical technology company; board member of Indian high-technology company.

Ann Fudge

American, age 60

Function at Novartis AG Ann Fudge has been a member of the Board of Directors since 2008. She qualifies as an independent Non-Executive Director. She is a member of the Corporate Governance and Nomination Committee, and the Risk Committee.

Other activities Ms. Fudge serves on the board of directors of General Electric Co., on the board of directors of Unilever, UK/Netherlands and on the board of directors of Infosys, India. She is a trustee of the New York-based Rockefeller Foundation and the Atlanta-based Morehouse College, and is chairman of the US Programs Advisory Panel of the Bill & Melinda Gates Foundation. Ms. Fudge is further a member of the Harvard University Corporation Committee on Finance. She also is on the board of the Council on Foreign Relations.

Professional background Ms. Fudge received her bachelor's degree from Simmons College and her MBA from Harvard University Graduate School of Business in the United States. She is former chairman and CEO of Young & Rubicam Brands. Before that, she served as president of the Beverages, Desserts and Post Division of Kraft Foods Inc.

Key knowledge/experience *Leadership and Marketing experience*—former chairman and CEO of global marketing communications company; former president of leading consumer products business unit. *Global and Industry experience*—board member of global technology company and global consumer goods company.

Pierre Landolt, Ph.D.

Swiss, age 64

Function at Novartis AG Pierre Landolt has been a member of the Board of Directors since 1996. He qualifies as an independent Non-Executive Director. He is a member of the Corporate Governance and Nomination Committee.

Other activities Mr. Landolt is currently chairman of the Sandoz Family Foundation and oversees the development of the foundation in several investment fields. He is a member of the board of directors of Syngenta AG. He is a partner with unlimited liabilities of the Swiss private bank Landolt & Cie. In Brazil, Mr. Landolt serves as president of the Instituto Fazenda Tamanduá, the Instituto Estrela de Fomento ao Microcrédito, AxialPar Ltda. and Moco Agropecuaria Ltda. In Switzerland, he is chairman of Emasan AG and Vaucher Manufacture Fleurier SA, vice chairman of Parmigiani Fleurier SA, and is on the board of the Syngenta Foundation for Sustainable Agriculture. He is a member of the board of EcoCarbone SA, France, and Swiss Amazentis SA. He is also vice chairman of the Montreux Jazz Festival Foundation.

Professional background Mr. Landolt graduated with a bachelor's degree in law from the University of Paris-Assas. From 1974 to 1976, he worked for Sandoz Brazil SA. In 1977, he acquired an agricultural estate in the semi-arid Northeast Region of Brazil and, over several years, converted it into a model farm in organic and biodynamic production. Since 1997, Mr. Landolt has been associate and chairman of AxialPar Ltda., Brazil, an investment company focused on sustainable development. In 2000, he co-founded EcoCarbone SA, France, a company active in the design and development of carbon-sequestration processes. In 2007, he co-founded Amazentis SA, Switzerland, a startup company active in the convergence space of medication and nutrition.

Key knowledge/experience *Banking and Industry experience; International and Emerging Market experience*—— partner of private bank; chairman and vice chairman of luxury goods companies. *Leadership and Global experience*—President of large family investment holding; board member of global agribusiness company; board member of sustainable agriculture foundation.

Enrico Vanni, Ph.D.

Swiss, age 60

Function at Novartis AG Enrico Vanni, Ph.D., has been a member of the Board of Directors since 2011. He qualifies as an independent Non-Executive Director. He is a member of the Audit and Compliance Committee, and the Compensation Committee.

Other activities Since his retirement as director of McKinsey & Company in 2007, Mr. Vanni has been an independent consultant. He is currently a member of several boards of directors in industries from healthcare to private banking, for nonlisted companies including Eclosion2, Denzler & Partners SA and Banque Privée BCP (Suisse) SA.

Professional background Mr. Vanni holds an engineering degree in chemistry from the Federal Polytechnic School of Lausanne, Switzerland, a Ph.D. in chemistry from the University of Lausanne, as well as a Master of Business Administration from INSEAD in Fontainebleau, France. He began his career as a research engineer at International Business Machines Corp. in California, and joined McKinsey & Company in Zurich, Switzerland, in 1980. He managed the Geneva office for McKinsey from 1988 to 2004, and consulted for companies in the pharmaceutical, consumer and finance sectors. He led the company's European pharmaceutical practice and served as member of the Partner review committee of the firm prior to his retirement in 2007. As an independent consultant, Mr. Vanni has continued to support leaders of pharmaceutical and biotechnology companies on core strategic challenges facing the healthcare industry.

Key knowledge/experience, *Global industry experience*—senior consultant of global pharmaceutical/biotech companies, consumer goods and financial institutions. *Science experience*—research engineer in technology company and management of projects in global pharmaceutical R&D. *Leadership experience*—office management of global consultant company and leadership of its European pharmaceutical practice.

Andreas von Planta, Ph.D.

Swiss, age 56

Function at Novartis AG Andreas von Planta, Ph.D., has been a member of the Board of Directors since 2006. He qualifies as an independent Non-Executive Director. He is Chairman of the Risk Committee, and a member of the Audit and Compliance Committee, as well as the Corporate Governance and Nomination Committee.

Other activities Mr. von Planta is chairman of the Schweizerische National-Versicherungs-Gesellschaft AG and a board member of Holcim Ltd., both in Switzerland. He is also a board member of various Swiss subsidiaries of foreign companies and other nonlisted Swiss companies. He is a member of the Board of Editors of the *Swiss Review of Business Law* and is a former chairman of the Geneva Association of Business Law. Mr. von Planta is chairman of the regulatory board of the SIX Swiss Exchange AG.

Professional background Mr. von Planta holds lic. iur. and Ph.D. degrees from the University of Basel, Switzerland, and an LL.M. from Columbia University School of Law, New York, United States. He passed his bar examinations in Basel in 1982. Since 1983 he has lived in Geneva and worked for the law firm Lenz & Staehelin, where he became a partner in 1988. His areas of specialization include corporate law, corporate governance, corporate finance, company reorganizations, and mergers and acquisitions.

Key knowledge/experience *Leadership and Global experience*—chairman of insurance company; board member of global construction materials manufacturer. *Industry experience*—partner of leading Swiss law firm.

Dr. Ing. Wendelin Wiedeking

German, age 59

Function at Novartis AG Dr. Ing. Wendelin Wiedeking has been a member of the Board of Directors since 2003. He qualifies as an independent Non-Executive Director. He is a member of the Audit and Compliance Committee, and the Risk Committee.

Other activities Mr. Wiedeking was chairman of the executive board of Porsche Automobil Holding SE and of Dr. Ing. h.c. F. Porsche AG, both in Germany, until July 2009. Since then he has been an entrepreneur.

Professional background Mr. Wiedeking graduated in mechanical engineering in 1978 and worked as a scientific assistant in the machine tool laboratory of the Rhine-Westphalian College of Advanced Technology in Germany. His professional career began in 1983 in Germany as director's assistant in the production and materials management area of Dr. Ing. h.c. F. Porsche AG in Stuttgart-Zuffenhausen. In 1988, he moved to Glyco Metall-Werke KG in Wiesbaden as Division Manager, where he advanced by 1990 to the position of Chief Executive Officer and Chairman of the Board of Management of Glyco AG. In 1991, he returned to Dr. Ing. h.c. F. Porsche AG as production director. A year later, the supervisory board appointed him spokesman of the executive board (CEO), then chairman in 1993.

Key knowledge/experience *Leadership, Global and Industry experience*—former chairman and CEO of global automotive company. *Engineering and Technology experience*—former chairman and CEO of manufacturing supply company.

Marjorie Mun Tak Yang

Chinese, age 59

Function at Novartis AG Marjorie Mun Tak Yang has been a member of the Board of Directors since 2008. She qualifies as an independent Non-Executive Director. She is Chairman of the Compensation Committee.

Other activities Ms. Yang is Chairman of the Esquel Group, Hong Kong, China. She is a member of the Executive Council of the Hong Kong Special Administrative Region. In China, she is a member of the National Committee of the Chinese People's Political Consultative Conference. She currently serves on the boards of Swire Pacific Ltd., and The Hong Kong and Shanghai Banking Corp. Ltd. in Hong Kong, and on the boards of a number of nonlisted companies. In January 2010 she was appointed as Chairman of the Council of the Hong Kong Polytechnic University. She also serves on the advisory boards of Harvard Business School, and Tsinghua School of Economics and Management. From 2001 to 2011, Ms. Yang was a member of the MIT Corp.

Professional background Ms. Yang graduated with a bachelor's degree in mathematics from Massachusetts Institute of Technology and holds a master's degree from Harvard Business School, both in the United States. From 1976 to 1978, she was an associate in Corporate Finance, Mergers and Acquisitions, with the First Boston Corporation in New York, United States. In 1979, she returned to Hong Kong and became a founding member of Esquel Group. She was appointed chairman of the Group in 1995.

Key knowledge/experience *Leadership, Global and Industry experience*—chairman of global textile manufacturing company. *Education and Science experience*—trustee of leading US research university; leadership roles at multiple universities.

Rolf M. Zinkernagel, M.D.

Swiss, age 67

Function at Novartis AG Rolf M. Zinkernagel, M.D., has been a member of the Board of Directors since 1999. He qualifies as an independent Non-Executive Director. He is a member of the Corporate Governance and Nomination Committee.

Other activities Dr. Zinkernagel was Vice President of the International Union of Immunological Societies until 2010. He is a member of the scientific advisory boards of Bio-Alliance AG, Germany; Aravis General Partner Ltd., Cayman Islands and Switzerland; Telormedix, Switzerland; X-Biotech, Canada; Novimmune, Switzerland; Cancevir, Switzerland; Nuvo Research Inc., Canada; ImVision, Germany; MannKind, United States; and Biomedical Sciences International Advisory Council, Singapore. Dr. Zinkernagel is also a science consultant to Chilka Ltd., Cayman Islands; Ganymed, Germany; and Zhen-Ao Group, China. He is a member of the scientific advisory panel of Swiss Re, Switzerland.

Professional background Dr. Zinkernagel graduated from the University of Basel, Switzerland, with an M.D. in 1970. From 1992 to 2008, he was a professor and director of the Institute of Experimental Immunology at the University of Zurich, and after retirement in 2008 continues to be active at the University of Zurich. Dr. Zinkernagel has received many awards and prizes for his work and contribution to science, notably the Nobel Prize in medicine, which he was awarded in 1996.

Key knowledge/experience *Biomedical Science and Education experience*—former professor and director at leading Swiss university. *Leadership and Global experience* member of scientific advisory boards of numerous global biotech companies; member of major international research councils.

From left to right: Juergen Brokatzky-Geiger, Naomi Kelman, Joseph Jimenez, Andrin Oswald, Mark C. Fishman, Felix R. Ehrat, George Gunn, Jonathan Symonds, Kevin Buehler, Jeff George, David Epstein.

Members of the Executive Committee

Joseph Jimenez

American, age 52

Joseph Jimenez has been Chief Executive Officer (CEO) of Novartis since 2010. Mr. Jimenez is responsible for leading the company's diversified healthcare portfolio of leading businesses in innovative pharmaceuticals, eye care, generics, vaccines and diagnostics, OTC and animal health. Previously Mr. Jimenez served as Division Head, Novartis Pharmaceuticals. He led the transformation of the pharmaceutical portfolio to balance mass market and specialty products, and significantly increased the percentage of sales from newly launched products. Mr. Jimenez also worked to realign the division's commercial approach to focus on the individual needs of customers, and incorporated more technological tools to better connect with patients and customers. Mr. Jimenez joined Novartis in April 2007 as Division Head, Novartis Consumer Health. Previously, he served as president and CEO of the North America business for the H.J. Heinz Co., and as president and CEO of Heinz in Europe from 2002 to 2006. Prior to joining Novartis, he was a nonexecutive director of AstraZeneca PLC, United Kingdom, from 2002 to 2007. He was also an advisor for the private equity organization Blackstone Group in the United States. Mr. Jimenez is a member of the board of directors of Colgate-Palmolive Co. He graduated in 1982 with a bachelor's degree from Stanford University and in 1984 with a Master of Business Administration from the University of California, Berkeley.

Juergen Brokatzky-Geiger, Ph.D.

German, age 59

Juergen Brokatzky-Geiger, Ph.D., has been Head of Human Resources of Novartis since 2003. He is a member of the Executive Committee of Novartis. Mr. Brokatzky-Geiger joined Ciba-Geigy Ltd. in 1983 as a laboratory head in the Pharmaceuticals Division in Switzerland. After a job rotation in the United States, he held positions of increasing responsibility in Research and Development (R&D), including Group Leader of Process R&D, Head of Process R&D, and Head of Process Development and Pilot Plant Operations. During the merger of Ciba-Geigy and Sandoz in 1996, Mr. Brokatzky-Geiger was appointed Integration Officer of Technical Operations. He later became the Head of Chemical and Analytical Development, and served as the Global Head of Technical R&D from 1999 to 2003. Mr. Brokatzky-Geiger is a member of the board of Bachem AG. Mr. Brokatzky-Geiger graduated with a Ph.D. in chemistry from the University of Freiburg, Germany, in 1982.

Kevin Buehler

American, age 54

Kevin Buehler has been Division Head, Alcon, since April 2011. He is a member of the Executive Committee of Novartis. Mr. Buehler was president and chief executive officer of Alcon Inc. from 2009 to 2011. He began his career with Alcon in 1984 as a regional sales manager in the Consumer Products Division, and held positions of increasing responsibility before being named director of sales and marketing. In 1996, he became director of Alcon's US Managed Care and Falcon Generic Pharmaceutical groups, and became vice president in 1998. The following year he returned to the US Consumer Products Division as vice president and general manager. Mr. Buehler moved to the International Division in 2002 as vice president and regional manager, Latin America and Caribbean. He was later named area vice president, Latin America, Canada, Australia and Far East. Mr. Buehler also served as senior vice president, global markets, and chief marketing officer. Prior to joining Alcon, he worked for The Gillette Co. and Snyder Drug Stores. Mr. Buehler holds a Bachelor of Science degree from Carroll University in Waukesha, Wis., in the United States, with concentrations in business administration and political science. He completed the Harvard Program for Management Development in 1993.

Felix R. Ehrat, Ph.D.

Swiss, age 54

Felix R. Ehrat, Ph.D., has been Group General Counsel and a permanent attendee of the Executive Committee of Novartis since October 2011. As of January 1, 2012, he is a full member of the Executive Committee. Mr. Ehrat is a leading practitioner of corporate, banking, and mergers and acquisitions law, as well as an expert in corporate governance and arbitration. He started his career as an associate with Baer & Karrer Ltd. in Zurich in 1987, became partner in 1992, and advanced to senior partner (2003 to 2011) and executive chairman of the board (2007 to 2011) of the firm. Mr. Ehrat is chairman of Globalance Bank AG in Switzerland, and a member of the board of Liechtensteinische Landesbank AG in Liechtenstein. Previously, Mr. Ehrat was chairman of Banca del Gottardo, and a board member of Julius Baer Holding AG, Austriamicrosystems AG, Charles Voegele Holding AG, and Carlo Gavazzi Holding AG. Mr. Ehrat was admitted to the Zurich bar in 1985 and received his doctorate of law from the University of Zurich in 1990. In 1986, he completed an LL.M. at McGeorge School of Law in the United States. His past memberships and positions include: the International Bar Association, where he was co-chair of the Committee on Corporate and M&A Law from 2007 to 2008; Association Internationale des Jeunes Avocats, where he was president from 1998 to 1999; and the Swiss Arbitration Association, the Zurich Bar Association, and the Swiss Bar Association.

David Epstein

American, age 50

David Epstein has been Division Head, Novartis Pharmaceuticals, since 2010. He also is responsible for Group Emerging Markets, a group of selected countries with integrated divisional businesses. He is a member of the Executive Committee of Novartis. Prior to his current appointment, Mr. Epstein served as Head of Novartis Oncology for nearly 10 years. In addition, Mr. Epstein led the Molecular Diagnostics Unit since its creation in 2008. Before joining Novartis, Mr. Epstein was an associate in the strategy practice of the consulting firm Booz Allen Hamilton Inc. in the United States. Mr. Epstein joined Sandoz, a predecessor company of Novartis, in 1989, and held various leadership positions of increasing responsibility for the company, including Chief Operating Officer of Novartis Pharmaceuticals Corporation in the United States and Head of Novartis Specialty Medicines. Mr. Epstein graduated with a bachelor's degree in pharmacy from Rutgers University College of Pharmacy in 1984, and with a Master of Business Administration in finance and marketing from New York's Columbia University Graduate School of Business in 1987.

Mark C. Fishman, M.D.

American, age 60

Mark C. Fishman, M.D., has been President of the Novartis Institutes for BioMedical Research (NIBR) since 2002. He is a member of the Executive Committee of Novartis. Before joining Novartis in 2002, Dr. Fishman was chief of cardiology and director of the Cardiovascular Research Center at Massachusetts General Hospital, and was professor of medicine at Harvard Medical School, both in the United States. Dr. Fishman completed his internal medicine residency, chief residency and cardiology training at Massachusetts General Hospital. Dr. Fishman graduated with a bachelor's degree from Yale College in 1972 and an M.D. from Harvard Medical School in 1976. He has been honored with many awards and distinguished lectureships, and is a member of the Institute of Medicine of the National Academies and a Fellow of the American Academy of Arts and Sciences, both in the United States.

Jeff George

American, age 38

Jeff George has been Division Head, Sandoz, since 2008. He is a member of the Executive Committee of Novartis. Mr. George joined the Vaccines and Diagnostics Division of Novartis in 2007 as Head of Commercial Operations for Western and Eastern Europe. He then advanced to Head of Emerging Markets for the Middle East, Africa, Southeast Asia and CIS at Novartis Pharmaceuticals. Before joining Novartis, Mr. George was a Senior Director of Strategy and Business Development at Gap Inc., San Francisco, United States. From 2001 to 2004, he was an Engagement Manager with McKinsey & Company, also in San Francisco. Mr. George received a Master of Business Administration from Harvard University in 2001. He graduated in 1999 with a master's degree from The Johns Hopkins University's School of Advanced International Studies, where he studied international

economics and emerging markets political economy. In 1996, he received his bachelor's degree in international relations from Carleton College in Northfield, Minn., in the United States.

George Gunn, MRCVS

British, age 61

George Gunn has been Division Head, Novartis Animal Health, and Head, Corporate Responsibility, since March 2011. He is a member of the Executive Committee of Novartis. Before joining Novartis, Mr. Gunn was president of Pharmacia Animal Health, based in the United States. Previously, he spent more than 15 years in positions of increasing responsibility in healthcare companies. He worked as a veterinary surgeon for nine years before joining the industry. Mr. Gunn joined Novartis in 2003 as Head of Novartis Animal Health, North America. In January 2004, he assumed his position as Head of the Animal Health Business Unit. In addition to this role, he was Division Head, Novartis Consumer Health, from 2008 to 2011. Mr. Gunn graduated with a bachelor of veterinary medicine and surgery degree from the Royal (Dick) School of Veterinary Studies in the United Kingdom in 1973. He graduated with a diploma in veterinary state medicine from the same school in 1978. In 2008, he received an honorary doctorate in veterinary medicine and surgery from the University of Edinburgh.

Naomi Kelman

American, age 52

Naomi Kelman has been Division Head, Novartis OTC and a permanent attendee of the Executive Committee of Novartis since March 2011. As of January 1, 2012, she is a full member of the Executive Committee. Before joining Novartis, Ms. Kelman was president of LifeScan North America, part of the Johnson & Johnson Diabetes Care Franchise. Ms. Kelman joined Johnson & Johnson in 2000, and held several leadership roles within the Consumer as well as the Medical Device and Diagnostic sectors. She also was president of Johnson & Johnson Vision Care for the Americas. Prior to joining Johnson & Johnson, Ms. Kelman held positions of increasing responsibility at Bristol-Myers Squibb Co. in the Clairol Division, and oversaw expansion of some of the company's biggest consumer brands into the Europe, Middle East and Africa regions. Ms. Kelman also was managing director of the Matrix Essentials business for Europe and then vice president of marketing for the worldwide Matrix Essentials business. Prior to her time at Bristol-Myers Squibb, she worked in Finance at American Express Co. Ms. Kelman received both her bachelor's and Master of Business Administration degrees from Cornell University in the United States.

Andrin Oswald, M.D.

Swiss, age 40

Andrin Oswald, M.D., has been Division Head, Novartis Vaccines and Diagnostics, since 2008. He is a member of the Executive Committee of Novartis. Previously, Dr. Oswald was Chief Executive Officer (CEO) of Speedel Holding AG and Global Head of Pharmaceutical Development Franchises in the Novartis Pharmaceuticals Division, both in Switzerland. Dr. Oswald joined Novartis in 2005 as Assistant to the Chairman and CEO. Before his appointment as Head of Development Franchises, he served as Head of the Country Pharmaceuticals Organization (CPO) and Country President for Novartis in South Korea. Dr. Oswald joined Novartis from McKinsey & Company, Switzerland, where he was an associate principal. Between 2002 and 2003, he was a delegate of the International Committee of the Red Cross (ICRC) to Nepal. He holds a doctorate in medicine from the University of Geneva.

Jonathan Symonds

British, age 52

Jonathan Symonds has been Chief Financial Officer (CFO) of Novartis since 2010. He is a member of the Executive Committee of Novartis. Before joining Novartis in 2009, Mr. Symonds was partner and managing director of Goldman Sachs Group Inc. in the United Kingdom. He also has eight years of experience as CFO of AstraZeneca PLC, and previously held positions as Group Finance Director at Zeneca and partner at KPMG. From 2004 to 2007, Mr. Symonds was a director of Diageo PLC and chairman of the audit committee. Other previous roles include director and audit committee chairman of Qinetiq PLC, chairman of the 100 Group of Finance Directors, joint chairman of the Business Tax Forum, board member of the Accounting Standards Board, and founder of the Oxford University Centre for Business Taxation Research, all in the United Kingdom. Mr. Symonds graduated with a first class degree in business finance from the University of Hertfordshire, United Kingdom, in 1980, and became a Fellow of Chartered Accountants in 1982. He is a Commander of the British Empire (CBE).

6.B Compensation

2011 COMPENSATION REPORT

We seek to constantly innovate, to discover and develop important new medicines and vaccines, and to market them successfully to our customers. We abide by regulatory and legal requirements and operate in an ethical and transparent manner. The health benefits we offer to our consumers are our primary concern, and we put their health and safety ahead of any financial considerations. These values are embedded in the way we hire, train and compensate our employees throughout Novartis. Our compensation programs reinforce employee performance that is consistent with our purpose and aspirations and discourage behavior that is inconsistent with our values and expectations.

We consider excellent performance central to the way we do business. Best-in-class innovation helps patients and creates sustainable returns and long-term value, which in turn allow us to adequately reward our employees and shareholders, and pay taxes. Our compensation system incentivizes our organization to thrive and perform in the short and long-term without taking imprudent or unreasonable risks. Yet, the business environment ahead of us will become even more challenging. The healthcare industry is currently facing a number of critical challenges, such as the uncertainties surrounding the global debt crisis, recent substantial regulatory changes and price cuts. Simultaneously, global competition in the healthcare industry and the pressure for realizing efficiencies are increasing even further.

We are convinced that the best answer to these challenges is to focus on our primary purpose and core values and to invest to continuously deliver innovative or best price solutions for patients and customers. This also requires an increasing attention to our business efficiency and cost effectiveness. A compensation system that allows Novartis to attract the best-in-class talent and motivates associates to perform to their full potential is critical for sustainable value creation, ethical business behavior and appropriate risk taking. It also aligns the interests of our employees with those of our shareholders and stakeholders.

We intend to keep our compensation system at a state-of-the-art level and to maintain a dialogue with our stakeholders. As a result, we regularly review our compensation system, taking into account the interests and feedback of our stakeholders. This entails trade-offs, as frequent changes of the compensation system create confusion internally and externally. In our experience it takes 3 to 5 years until a large organization as ours fully understands and aligns behind a new approach.

At the 2011 Annual General Meeting, Novartis shareholders were invited to express their views on our compensation system through a consultative vote (a so-called "say on pay" vote). A majority of Novartis shareholders supported our current compensation system. We also had an opportunity to collect valuable remarks and comments in relation to our compensation system. In addition, management met with our stakeholders to engage in a fruitful dialogue after the 2011 Annual General Meeting.

On the basis of the preparatory work done by the Compensation Committee and the Corporate Governance and Nomination Committee, the Board of Directors noted and thoroughly analyzed the comments made by our shareholders in relation to the 2010 Compensation Report, with a view to identifying potential enhancements to the design, operation and disclosure of our compensation system. As a result, we have decided to further promote the long-term orientation, transparency and governance of our compensation system by taking the following steps:

- We decided to further increase comparability by providing the value of the shares and other equity instruments used for compensation purposes at the undiscounted market value used in preparing the Group's consolidated financial statements, despite the fact that they are subject to multi-year vesting periods;
- For members of the Executive Committee, the Compensation Committee shifted the weighting of awards under its Equity Plan "Select" toward performance vesting through its Long-Term Performance Plan. For 2011, this shift between these two plans represented a reduction of the awards under the Equity Plan "Select" by 33% on average;
- We harmonized the vesting period for participants of the equity plan "Select" by increasing it to three years globally;
- We decided to disclose the actual duration of the CEO's notice period, which is 12 months; and
- The Compensation Committee Charter was amended to reinforce the importance of risk management in our compensation system.

The Board of Directors believes that the compensation system is appropriate for Novartis given the Company's objectives. Moreover, the Compensation Committee confirms that Novartis compensation plans for all associates (including for the Chief Executive Officer and Executive Committee members) are aligned with the healthcare industry practice.

The Members of the Compensation Committee

Marjorie M.T. Yang (chair)
William Brody
Srikant Datar
Ulrich Lehner
Enrico Vanni

For further information on the Compensation Committee organization and responsibilities, see Corporate Governance Report—Our Board of Directors—Role of the Board of Directors and the Board Committees—The Compensation Committee.

COMPENSATION OF THE BOARD OF DIRECTORS

Philosophy for the Board of Directors compensation

Today, the members of boards of directors of global companies face increasing responsibilities and have to deal with issues that require ever higher levels of expertise and engagement. As a global healthcare company, Novartis has appointed members of the Board of Directors who bring these required skills. Novartis has set the compensation for the members of the Board of Directors at a level that allows for the attraction and retention of high-caliber members. The members of its Board of Directors do not receive variable compensation, underscoring their focus on long-term corporate strategy, supervision and governance.

Compensation Structure	Board compensation
Fixed compensation	Yes
Variable compensation	No

Compensation of the Members of the Board of Directors

The Board of Directors determines the compensation of its members each year, based on a proposal by the Compensation Committee.

The compensation of the Chairman is based on a contract, which provides for Dr. Daniel Vasella a fixed remuneration of CHF 12.2 million, indexed to the average compensation increase for associates based in Switzerland. One third of his total compensation is paid out in monthly cash installments; the remaining two-thirds are in the form of unrestricted Novartis shares that are granted to him each year at the closing market price of the underlying share at the end of the day at grant date, in 2011 on January 19, 2011. Following his term as Chairman, Dr. Vasella agreed to continue to make available his know-how to Novartis and to refrain from activities that compete with any business of Novartis for a multi-year period. Dr. Vasella will receive fair market compensation in return for his services and for complying with the restriction not to compete. Dr. Vasella carries forward tradable options, shares and benefits (including pension) as a result of his 14-year tenure as CEO of Novartis. In his current capacity he receives no variable compensation, tradable options or equity other than the shares that are part of his retainer as Chairman.

The other members of the Board of Directors receive an annual fixed Board membership fee and additional fees for committee chairmanships, committee memberships, and other functions to compensate for their increased responsibilities and engagements. They do not receive additional fees for attending meetings. With the exception of the Chairman, the members of the Board of Directors can choose to receive their fees in cash, shares, or a combination of both and they receive neither share options nor pension benefits.

The fee rates for Board membership and functional roles of other members of the Board of Directors are as follows:

Board Member Annual Fee Rates (Excl. Chairman)

	Annual fee (CHF)
Board membership	350,000
Vice Chairman	350,000
Board Committee chairmanship	10,000
Chairman's Committee membership	150,000
Audit and Compliance Committee membership	100,000
Risk Committee membership	50,000
Compensation Committee membership	50,000
Corporate Governance and Nomination Committee membership	50,000
Delegated board membership[1]	125,000

(1) The Board of Directors has delegated Rolf M. Zinkernagel to the Scientific Advisory Board of the Novartis Institute for Tropical Diseases (NITD). The Board of Directors has delegated both Rolf M. Zinkernagel and William Brody to the Board of Directors of the Genomics Institute of the Novartis Research Foundation (GNF).

Benchmark

The level of pay for the members of the Board of Directors is set based on benchmarks that include the remuneration of members of board of directors of comparable healthcare companies (see also "—Compensation of Executives and Other Associates—Competitive Positioning," below) and selected leading Swiss companies (i.e. UBS, Nestlé and Credit Suisse).

Board Member Compensation in 2011[1]

	Board membership	Vice Chairman	Chairman's Committee	Audit and Compliance Committee	Risk Committee	Compensation Committee	Corporate Governance and Nomination Committee	Delegated board membership	Annual cash compensation (CHF) (A)	Shares (Market value) (CHF)[2] (B)	Shares (Number)	Shares (Tax value)[3]	Other (CHF) (C)	Total (CHF) (A)+(B)+(C)
Daniel Vasella	Chair		Chair	●[4]	●[4]	●[4]	●[4]		4,060,004	8,786,735[5]	160,635[5]	4,906,425[5]	654,207[6]	13,500,946[8]
Ulrich Lehner	●	●	●	●	●	●	Chair		1,110,000	—	—	—	62,650[7]	1,172,650
William Brody[9]	●					●		●	229,688	295,325	5,399	295,325	—	525,013
Srikant Datar	●		●	Chair	●	●			550,250	159,779	2,921	159,779	—	710,029
Ann Fudge	●				●		●		450,000	—	—	—	—	450,000
Pierre Landolt[10]	●						●		106,000	294,013	5,375	294,013	24,177[7]	424,190
Enrico Vanni	●			●		●			425,000	75,048	1,372	75,048	29,404[7]	529,452[8]
Andreas von Planta	●			●	Chair		●		448,000	112,026	2,048	83,712	32,685[7]	592,711
Wendelin Wiedeking	●			●	●				132,500	367,529	6,719	367,529	30,965[7]	530,994
Marjorie M.T. Yang	●					Chair			410,000	—	—	—	24,719[7]	434,719
Rolf M. Zinkernagel[11]	●						●	●	—	650,000	11,883	650,000	34,381[7]	684,381
Total[12]									**7,921,442**	**10,740,454**	**196,352**	**6,831,831**	**893,188**	**19,555,084**

(1) Does not include reimbursement for travel and other necessary business expenses incurred in the performance of their services as these are not compensation.

(2) The value of the shares reflected in this column has been calculated based on market value of the shares at grant date. All shares were granted as per January 19, 2011 against the prevailing share price of CHF 54.70.

(3) A Board member who is tax resident in Switzerland can voluntarily choose to block the shares. In 2011 Daniel Vasella blocked his shares for ten years and Andreas von Planta for five years. The value of the shares reflected in this column has been calculated using the tax value methodology described under—2011 Compensation of the Executive Committee Members—Compensation in 2011—Valuation Principles.

(4) Daniel Vasella attended the meetings of these Committees as a guest without voting rights.

(5) Includes 12,188 shares paid in 2011 related to the grant of 2010.

(6) Includes social security costs due by the individual and paid by the company, pension and life insurance.

(7) Includes social security costs due by the individual and paid by the company.

(8) Does not include Board member compensation granted by Alcon, Inc. until April 8, 2011.

(9) The Board of Directors has delegated William Brody to the Board of Directors of the Genomics Institute of the Novartis Research Foundation (GNF).

(10) According to Pierre Landolt, the Sandoz Family Foundation is the economic beneficiary of the compensation.

(11) The Board of Directors has delegated Rolf M. Zinkernagel to the Scientific Advisory Board of the Novartis Institute for Tropical Diseases (NITD) and to the Board of Directors of the Genomics Institute of the Novartis Research Foundation (GNF).

(12) Alexandre F. Jetzer-Chung and Hans-Jörg Rudloff were members of the Board of Directors until February 22, 2011. Their compensation was reported in the 2010 Annual Report.

Shares and share Options owned by members of the board of directors

Shareholders want Board members to align their interests with the rest of the shareholders. Among other requirements, the members of the Board of Directors are thus required to own at least 5000 Novartis shares within three years after joining the Board of Directors. As of December 31, 2011, all members of the Board of Directors who have served at least three years on the Board of Directors have complied with the share ownership guidelines.

The last year in which Novartis granted share options to non-executive members of the Board of Directors was 2002. The total number of vested and unvested Novartis shares and share options owned by members of the Board of Directors and "persons closely linked"[1] to them as of January 19, 2012, is shown in the following tables.

As of January 19, 2012, none of the members of the Board of Directors together with "persons closely linked"* to them owned 1% or more of the outstanding shares of Novartis, either directly or through share options.

* "Persons closely linked" are (i) their spouse, (ii) their children below age 18, (iii) any legal entities that they own or otherwise control, and (iv) any legal or natural person who is acting as their fiduciary.

Shares Owned by Board Members

	Number of shares[1, 2]
Daniel Vasella	3,306,730
Ulrich Lehner	22,193
William Brody	10,532
Srikant Datar	20,263
Ann Fudge	7,008
Pierre Landolt[3]	40,442
Enrico Vanni	4,839
Andreas von Planta	111,628
Wendelin Wiedeking	40,901
Marjorie M.T. Yang	18,000
Rolf M. Zinkernagel	34,683
Total[4]	**3,617,219**

(1) Includes holdings of "persons closely linked" to Board members (see definition under—Share and Share Options by Members of the Board of Directors).

(2) Each share provides entitlement to one vote.

(3) According to Pierre Landolt, the Sandoz Family Foundation is the economic beneficiary of all shares.

(4) Alexandre F. Jetzer-Chung and Hans-Jörg Rudloff were members of the Board of Directors until February 22, 2011. Their holdings were reported in the 2010 Annual Report.

Share Options Owned by Board Members

	Number of share options[1]
Daniel Vasella	2,433,290[2]
Ulrich Lehner	
William Brody	
Srikant Datar	
Ann Fudge	
Pierre Landolt	
Enrico Vanni	
Andreas von Planta	
Wendelin Wiedeking	
Marjorie M.T. Yang	
Rolf M. Zinkernagel	
Total[3]	**2,433,290**

(1) Includes holdings of "persons closely linked" to Board members (see definition under—Share Ownership—Ownership Guidelines). The last year in which Novartis granted share options to non-executive Board members was in 2002. All these options have expired in 2011.

(2) Includes options awarded during Daniel Vasella's tenure as Chairman and CEO.

(3) Alexandre F. Jetzer-Chung and Hans-Jörg Rudloff were members of the Board of Directors until February 22, 2011. Their holdings were reported in the 2010 Annual Report.

Loans and other payments to members of the Board of Directors

Loans to members of the Board of Directors

No loans were granted to current or former members of the Board of Directors during 2011. No such loans were outstanding as of December 31, 2011.

Other payments to members of the Board of Directors

During 2011, no payments (or waivers of claims) other than those set out in the Board Member Compensation table (see "—Compensation of the Board of Directors—Board Member Compensation in 2011," above) were made to current members of the Board of Directors or to "persons closely linked" to them (see definition under "—Compensation of the Board of Directors—Shares and Share Options Owned by Members of the Board of Directors," above).

Payments to former members of the Board of Directors

During 2011, no payments (or waivers of claims) were made to former Board members or to "persons closely linked" to them (see definition under "Compensation of the Board of Directors—Shares and Share Options Owned by Members of the Board of Directors"), except for an amount of CHF 62,346 that was paid to the Honorary Chairman and for social security arrears of CHF 1,129 that were paid in favor of a former member of the Board of Directors.

COMPENSATION OF EXECUTIVES AND OTHER ASSOCIATES

Philosophy, goals and compensation principles

Philosophy and Goals

Since Novartis was created, management has forged a distinctive culture and inspired all associates with the shared aspiration of being one of the world's most respected healthcare companies. In order to realize this vision, Novartis must attract and retain the best-in-class talents worldwide and reward associates according to their performance.

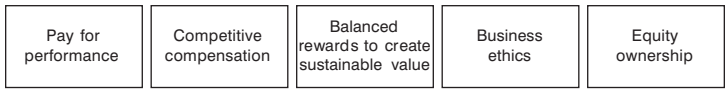
Our compensation system aims to foster personal accountability based on clear individual and organizational objectives, and also underlines the importance of competence and integrity as drivers of sustainable business success. Consequently, compensation includes, in addition to a fixed base compensation and benefits, a significant

variable compensation element. The size of the variable compensation element is based on Group or divisional results and on individual performance against a written set of objectives. Moreover, to further align our compensation programs with the interests of shareholders, a large proportion of variable compensation for executives is paid in the form of equity—Novartis shares (or similar equity instruments) or share options with a three-year vesting period.

The core principles of our compensation policy and people development have resulted in both sustained performance and superior leadership. Novartis has reported record net sales and net income—and raised the annual dividend payout to shareholders—for 15 consecutive years.

Compensation principles

The compensation system for Novartis associates is based on the following five principles:



Principle I: Pay for Performance

Compensation of executives and associates is strongly linked to achievements of business and individual performance objectives. The objectives are set at ambitious levels each year to motivate a high degree of business performance with emphasis on short- and long-term quantifiable objectives. Appropriate objective setting, combined with proper incentive plan design and a balance between annual and long-term variable compensation, allows our leaders and associates to focus on shaping the future, rather than simply maximizing short-term profits.

Principle II: Competitive Compensation

Compensation opportunities at competitive levels are essential to attract and retain talented and diverse associates. Our target compensation levels reflect total compensation for comparable positions at relevant benchmark companies.

Principle III: Balanced Rewards to Create Sustainable Value

Shareholders expect their investment to deliver sustainable returns while ensuring that risks are appropriately managed. Novartis incentives underpin the long-term strategic planning that is essential to address the challenges of innovation and the long development and commercialization cycles that characterize our industry. We believe that the way in which we motivate and reward our associates encourages performance, loyalty and entrepreneurship, and creates sustainable value which is in the long-term interest of our shareholders, employees and communities.

Principle IV: Business Ethics

At Novartis, all associates are expected to achieve their business results through ethical practices, reflected also in our Code of Conduct. To ensure that these requirements are complied with, Novartis has implemented a number of safeguards, such as a stringent risk management policy and clawback provisions, for most compensation plans and for the majority of associates.

Principle V: Equity Ownership

Investors expect the leaders of the companies they invest in to act like owners. In the Board of Directors' view, that alignment works best when key executives have meaningful multiples of their base compensation invested in the equity of their company. Novartis grants equity compensation, which for the most senior executives represents a substantial portion of total compensation. Under this principle, Novartis sets share ownership guidelines for a number of key executives of the Group.

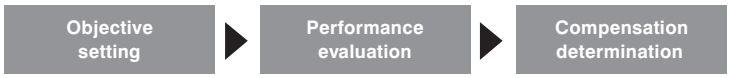
Performance Evaluation system

To foster a high performance culture, Novartis applies a uniform People Performance Management process worldwide, based on quantitative and qualitative criteria, including Novartis Values and Behaviors. Novartis associates, including the CEO and Executive Committee members, are subject to a three-tier formal process:

– Objective setting;

– Performance evaluation; and

– Compensation determination.



Objective Setting

Objective setting for the CEO

At the beginning of a business year, the Chairman meets with the CEO to discuss his objectives for the coming year following a balanced scorecard approach. The Board of Directors reviews and approves these objectives and ensures that they are in line with the Group's goals of fostering sustainable performance, balancing short- and long-term goals, and not rewarding inappropriate or excessive risk taking at the expense of the Group's health.

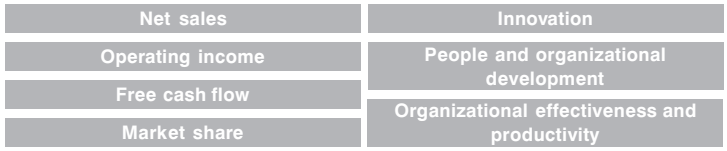
The financial criteria for short-term performance appraisal of the CEO typically include growth objectives for net sales, operating income, net income, free cash-flow and earnings per share. For long-term performance appraisal, the financial criterion is the Novartis Economic Value Added (NVA). The NVA measures group profits taking into account the cost of capital or, more simply, the value created in excess of the required return of the company's investors (i.e. the shareholders and debt holders) (see also Note 26 to the Group's audited consolidated financial statements for information regarding the NVA).

Objective setting for members of the Executive Committee and associates

At the beginning of each performance year, the CEO and each of the executives directly reporting to him determine together the business objectives and respective metrics applicable to each of the divisional and global functional leaders. In the same manner, each line manager and each associate directly reporting to her or him set the objective and metrics applicable to the next-level associate. As a principle, all written objectives are reviewed by two hierarchical levels, including the direct and the indirect supervisors.

The business objectives are measured against key performance metrics, while the individual performance is derived from the business objectives established at the Group, division, function, country or business area levels.

BUSINESS PERFORMANCE METRICS



These financial and operational metrics have been selected because they define in a balanced way how successful we are in meeting our strategic objectives and creating sustainable value to our shareholders.

Depending on functional responsibility, non-financial objectives typically include research and development performance; product launches; successful implementation of growth and productivity initiatives; process improvements; leadership and people management and successful acquisitions, disposals and licensing transactions.

Objectives are set each year at ambitious levels to motivate a high degree of business performance appropriately balancing the short- and long-term objectives.

Decisions and actions leading to results must be consistent with Novartis Values and Behaviors, which describe the desired conduct of associates and set boundaries and guidelines as an important building block for the culture of our Group. The Novartis Values and Behaviors provide a focus on quality, commitment, candor, compassion, loyalty and integrity.

Novartis does not disclose specific business objectives for the upcoming year because they often constitute business secrets, the disclosure of which would signal areas of strategic focus and impair the Group's ability to leverage these areas for competitive advantage. For example, disclosure of our cash-flow objectives would provide insight into timing of large capital investments or acquisitions. In addition, knowledge of the objectives could be used by competitors to recruit key executives from Novartis. Disclosing specific objectives and metrics would also

give our competitors insight into key market dynamics and areas that could be used against Novartis competitively by industry consultants or competitors targeting existing customers.

Performance Evaluation

Our performance management system and "pay for performance" principle have spurred a culture of meritocracy at Novartis. We believe that pay for performance is only sustainable when fair performance evaluation procedures ensuring integrity and fairness are in place. Performance evaluation is conducted at all levels of the organization.

The people performance management evaluation process consists of two reviews per year—a mid-year and a year-end review. During such formal meetings, associates and managers evaluate performance against the objectives set at the beginning of the year. In assessing performance, managers focus on results-oriented measures, as well as on how results were achieved. The "four eyes" rule ensures that associates' annual objectives and performance evaluations are reviewed separately by two levels of supervisors.

Process for performance evaluation of the CEO

At the end of a business year, the CEO prepares and presents to the Chairman and the Board of Directors a self-appraisal assessing actual results against the previously agreed-upon objectives, taking into account the audited financial results as well as Novartis Values and Behaviors. Subsequently, the Board of Directors discusses the self-appraisal without the CEO being present. It evaluates the extent to which targeted objectives have been achieved and, to the extent possible, compares these results with peer industry companies, taking into account general economic and financial criteria and industry developments. The Board of Directors later shares its appraisal with the CEO.

Process for performance evaluation of members of the Executive Committee

In January, the Board of Directors meets with the CEO to review and discuss the performance and objectives of the Executive Committee members for the previous year, taking into account the financial results, the level of achievement of financial and non-financial objectives, as well as Novartis Values and Behaviors and the general economic and business environment. In addition to the year-end review, the mid-year performance of the CEO is reviewed by the Chairman while the results of the other Executive Committee members are evaluated by the CEO and then discussed with the Chairman.

Talent Review

Our People Performance Management evaluation process is complemented with an annual Organization and Talent Review in which organizational needs and career aspirations of associates are discussed. The review includes the assessment of strengths, weaknesses and potential for growth. The Organization and Talent Review has become an integral tool for top management in succession planning, and the scope of the program has steadily expanded from a few dozen executives a decade ago to almost 25,000 prospective leaders today.

Because performance appraisals impact significant elements of reward, we ensure each year that there is consistency of performance ratings across the entire Group.

Compensation Determination

Compensation determination for the CEO

Based on the performance evaluation appraisal made by the Board of Directors, the Compensation Committee decides at its January meeting on the CEO's total compensation and the target compensation for the coming year without the presence of the CEO. In reaching its decision, the Compensation Committee takes into account other relevant factors, including available benchmark information and the advice of the Compensation Committee advisor.

Compensation determination for the Executive Committee members

In the presence of the CEO and based on his recommendations, the Compensation Committee decides on the variable compensation for the other Executive Committee members and other selected key executives for the previous year. At the same meeting, the Compensation Committee decides on the target compensation for these executives for the coming year.

Compensation determination for other associates

Based on the year-end performance rating, line managers and next-level line managers determine the incentive awards for each associate under review, as well as the target compensation for the coming year. The Compensation Committee determines the grants for all equity compensation plans in aggregate.

Elements of our Compensation Programs

The primary elements of our compensation system are:

– Annual base compensation—A fixed annual salary

– Variable compensation—Rewards for individual and business performance

– Benefits—Including pension and healthcare benefits

COMPENSATION ELEMENTS

Annual Base Compensation (Salary)

The level of base compensation reflects each associate's key areas of responsibilities, job characteristics, seniority, experience and skill sets. It is paid in cash, typically monthly, and is set according to local practice, designed to provide our associates with fixed compensation to ensure a reasonable standard of living relative to that offered by our peer companies.

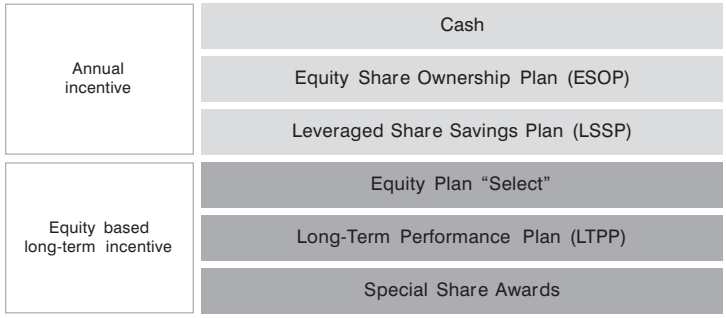
In general, base compensation is reviewed annually to ensure that competitive pay is maintained.

Variable Compensation

The goal of variable compensation is to reward Novartis associates according to their performance and in a manner consistent with the "pay for performance" principle.

At lower levels, variable compensation is paid in cash, while at managerial levels, variable compensation is generally composed of annual cash incentive and an equity based long-term incentive. Novartis believes that variable compensation should specifically emphasize long-term incentives to align the interests of our associates with those of long-term shareholders. This also reflects the crucial importance of innovation and the long product development and commercialization cycles that characterize our industry. The amount of variable compensation is based on results and calculated as a percentage (0-200%) of target variable compensation.

VARIABLE COMPENSATION



Annual Incentive

The annual incentive ensures that the associates focus on individual objectives and objectives defined by the business over a single financial year. These objectives include objectives as market share, innovation, and people management, which also positively influence the long-term performance. It rewards performance in the last 12 months in relation to these objectives and reinforces the "pay for performance" principle.

In principle, the annual incentive is paid in cash and is capped at 200% of target. However, a number of associates in certain countries and certain key executives worldwide are encouraged to invest their annual

incentive in a share savings plan. Under the share savings plan, they will receive their annual incentive awards fully or partially in Novartis shares in lieu of cash. As a reward for their participation in the share savings plan, Novartis matches their investments in shares after a holding period of three or five years. As a rule, no shares are matched under these plans if an associate leaves Novartis prior to the expiration of the holding period for reasons other than retirement, disability or death. Thus, through the participation in the share savings plan our associates are incentivized to remain with Novartis in the long-term, while sharing in the future financial success of Novartis and further aligning with the long-term interests of our shareholders.

Novartis currently has three share savings plans:

Employee Share Ownership Plan (ESOP): In Switzerland, the ESOP is available to about 12,688 associates. Participants within this plan may choose to receive the incentive (i) 100% in shares, (ii) 50% in shares and 50% in cash or (iii) 100% in cash. After expiration of a three-year holding period of Novartis shares invested under the ESOP, each participant will receive one free matching share for every two Novartis shares invested. A total of 5,050 associates chose to receive shares under the ESOP for their performance in 2011.

United Kingdom Plan: In the United Kingdom, 2,790 associates can invest up to 5% of their monthly salary in shares (up to a maximum of GBP 125) and also may be invited to invest all or part of their net annual incentive in shares. Two invested shares are matched with one share with a holding period of three years. During 2011, about 1,870 associates elected to participate in this plan.

Leveraged Share Savings Plan (LSSP): Worldwide 30 key executives were invited to participate in a leveraged share savings plan based on their performance in 2011. Instead of cash, their annual incentive was awarded in shares and subject to a holding period of five years. At the end of the holding period, Novartis will match the invested shares at a ratio of 1-to-1 (i.e. one share awarded for each invested share).

Associates may only participate in only one of these plans in any given year.

Equity based incentives

The long-term incentive is designed to focus on our objective of long-term sustainable shareholder value creation and to support our "pay for performance" principle by using equity based compensation with a three year vesting period.

These long-term incentives awarded by Novartis aim at retaining our key talents, encouraging the realization of multi-year business objectives and aligning our associates with our shareholders' interests by tying the value realized to the change in the share price at vesting.

The equity based long-term incentive is subject to the achievement of predetermined performance objectives either at grant or at vesting.

Novartis offers two long-term incentive plans, the Equity Plan "Select" based on yearly results with a vesting period of three years and the Long-Term Performance Plan based on the average results of a three-year period.

In exceptional cases, Novartis may also grant special share awards.

Equity Plan "Select"

The Equity Plan "Select" is a global equity incentive plan under which all associates, including Executive Committee members, may annually be eligible for a grant, which is capped at 200% of target. The Equity Plan "Select" allows its participants to choose the form of their equity compensation in restricted shares (or, in some jurisdictions, RSUs[(1)]), tradable share options, or a combination of both, with a vesting period of three years.

Tradable share options expire on their 10th anniversary from grant date. Each tradable share option granted to associates entitles the holder to purchase after vesting (and before the 10th anniversary from grant date) one Novartis share at a stated exercise price that equals the closing market price of the underlying share at the grant date January 19, 2012.

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(1) In some jurisdictions, RSUs are granted rather than shares. Each RSU is equivalent in value to one Novartis share and is converted into one share at the vesting date. RSUs do not carry any dividend or voting rights, except for USA where employees receive a dividend equivalent during the vesting period for 2009 and 2010 grants. Each restricted share is entitled to voting rights and payment of dividends during the vesting period.

The terms of the tradable share options granted since 2008 are shown in the table below.

Terms of Share Options

Grant year	Exercise price (CHF/USD)	Vesting (years) (CH/other countries)	Term (years)
2012	54.20/58.33	3/3	10
2011	54.70/57.07	2/3	10
2010	55.85/53.70	2/3	10
2009	53.65/46.42	2/3	10
2008	64.05/57.96	2/3	10

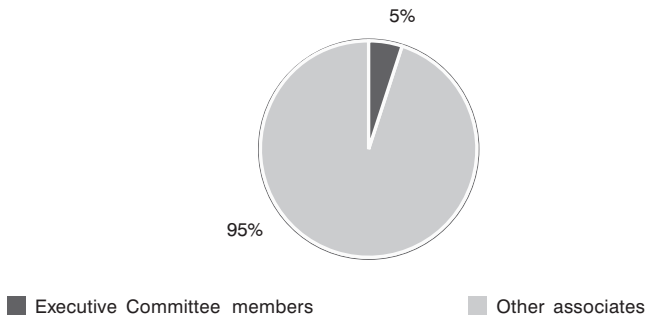
If a participant leaves Novartis for reasons other than retirement, disability or death, unvested shares, RSUs and share options are forfeited, unless determined otherwise by the Compensation Committee (for example, in connection with a reorganization or divestment). In Switzerland, the participants in this plan can choose between restricted shares or RSUs and tradable share options, or a combination of both.

A total of 12,768 participants received 1.0 million restricted shares, 6.5 million RSUs and 23.9 million tradable share options under the Novartis Equity Plan "Select" for their performance in 2011, representing a participation rate of about 10% of all full-time-equivalent associates worldwide.

As of December 31, 2011, 94 million tradable share options granted to associates were outstanding, covered by an equal number of shares and corresponding to 3.9% of the total number of outstanding Novartis shares.

Approximately 5% of the total equity value awarded under the Equity Plan "Select" was granted to the members of the Executive Committee.

2011 EQUITY VALUE AWARDED UNDER THE EQUITY PLAN "SELECT"



Long-Term Performance Plan

The Long-Term Performance Plan (LTPP) is an equity plan for key executives designed to foster long-term commitment by aligning the incentives of key executives to the performance of Novartis. The LTPP is offered to selected executives, who are in key positions and have a significant impact on the long-term success of Novartis. It is capped at 200% of target. For members of the Executive Committee, LTPP represents between 20% and 45% of their total variable compensation at target. The rewards are based on pre-determined rolling three year global performance objectives focused on the Novartis Economic Value Added (NVA) measured annually. The NVA is calculated based on Group operating income adjusted for interest, taxes and cost of capital charge. The performance realization of a plan cycle is obtained right after the end of the third plan year by adding together the annual NVA realizations of all plan years of the plan cycle. The performance ratio for a plan cycle is obtained by dividing the performance realization for the plan cycle with the performance target for the plan cycle, expressing the result as a percentage. The LTPP only allows a payout if the actual NVA exceeds predetermined target thresholds.

To support the alignment of our Executive Committee members' interests with those of the Group and our shareholders, the Long-Term Performance Plan represents a substantial and increasing fraction of Executive

Committee members' variable compensation targets relative to incentives based on performance during a single year.

On January 19, 2012, 138 key executives were awarded 464,230 shares under the Long-Term Performance Plan, based on NVA achievement that exceeded our target performance for the performance period 2009 to 2011.

Long-Term Performance Plan Participants History

Grant year = Target setting	Performance period	Award year = Payout in shares	Plan participants (number of key executives)
2012	2012-2014	2015	139
2011	2011-2013	2014	139
2010	2010-2012	2013	142
2009	**2009-2011**	**2012**	**138**
2008	2008-2010	2011	117

Variable Compensation Target and Award Calculation Formula

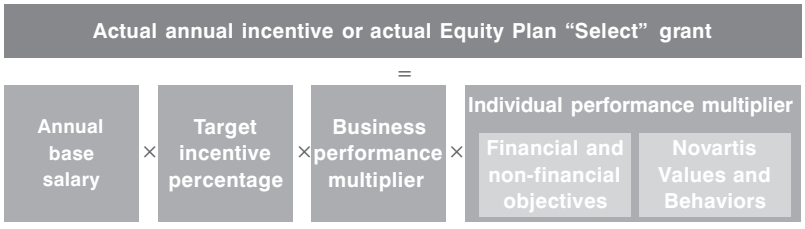
Annual incentive and Equity Plan "Select"

Under these plans, Novartis defines a target incentive as a percent of base compensation for each participating associate at the beginning of each performance period—traditionally the start of a calendar year. Depending on the role and the level of responsibility of the associates, target incentive percentages may reach up to 60% of base compensation for the annual incentive and 200% for the Equity Plan "Select".

The amount of the incentive under both the annual incentive and the Equity Plan "Select" is determined on the basis of business and individual performance. No awards are granted for performance ratings below a certain threshold.

The Award Calculation Formula under both the annual incentive and the Equity Plan "Select" is the following:

ANNUAL INCENTIVE AND EQUITY PLAN "SELECT" CALCULATION FORMULA



The business and the individual performance multipliers have thus an equivalent weighting in the formula. The business performance multiplier is based on the performance of the Group or business area and may range from zero to 1.5.

The individual performance multiplier is based on achievement of individually set financial and non-financial objectives as well as meeting key behavioral standards, the Novartis Values and Behaviors. It may range from zero to 1.5. For the purpose of calculating the individual performance multiplier, the individually set financial and non-financial objectives and the Novartis Values and Behaviors have an equivalent weighting.

The business performance multiplier, combined with the individual performance multiplier, is subject to a cap at 200% of the target incentive.

This broad range of incentive percentages and multipliers allows for meaningful differentiation on a "pay for performance" basis.

For those who have chosen to receive their annual incentive under the ESOPs or LSSP plans, as well as for those receiving awards under the Equity Plan "Select" the number of shares awarded is determined by dividing the actual incentive amount by the closing price of the shares on the grant date. In North America, if associates

choose to receive part or all of their grant under the Equity Plan "Select" in tradable share options on American Depositary Shares (ADSs), the resulting number of tradable share options is determined by dividing the respective incentive amount by a value that equals 95% of the value of the options on ADSs as determined in accordance with International Financial Reporting Standards (IFRS). For associates in other countries, the divisor equals 90% of the IFRS value of options on shares.

Typically, the annual incentive is paid out in February following the realization of the yearly objectives.

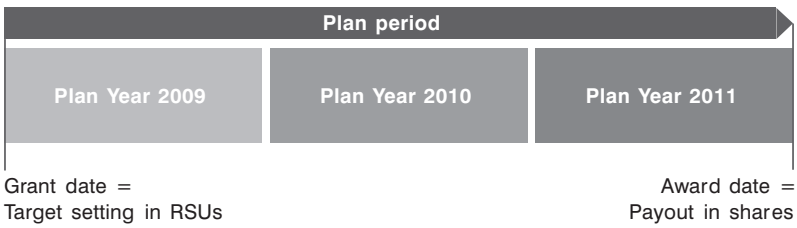
The three-year vesting of the Equity Plan "Select" is contingent on continued employment with Novartis.

Long-Term Performance Plan

In the case of the LTPP, the performance objective (NVA) is determined over a three-year period commencing on January 1 of each grant year.

At the beginning of the performance period, plan participants are allocated RSUs, which will be converted into Novartis shares after the performance period.

LONG-TERM PERFORMANCE PLAN PERIOD



At the end of the three-year performance period, the Compensation Committee adjusts the number of RSUs earned based on actual performance. RSUs are converted into unrestricted Novartis shares without an additional vesting period. In the United States, awards may also be delivered in cash under the US deferred compensation plan.

LONG-TERM PERFORMANCE PLAN LAYOUT

Depending on the role and the level of responsibility of the associates, the target incentive percentages may reach up to 175% of base compensation for LTPP. For outstanding NVA performance, the adjustment can go up to a maximum of 200% of the target incentive. No incentive is awarded if actual NVA performance fails to meet a predetermined threshold (or if the participant leaves Novartis during the performance period for reasons other than retirement, disability or death).

Special Share Awards

Selected associates may exceptionally receive special awards of restricted shares or RSUs. These Special Share Awards provide an opportunity to reward outstanding achievements or exceptional performance and aim at retaining key contributors. They are based on a formal internal selection process, in which the individual performance of each candidate is thoroughly assessed at several management levels. In addition, Special Share Awards may also be granted to attract special expertise and new talents into the organization. These grants are consistent with the Novartis philosophy to attract, retain and motivate best-in-class talents around the world.

Restricted special awards generally have a five-year vesting period. If an associate leaves Novartis for reasons other than retirement, disability or death, unvested shares or RSUs are generally forfeited. Worldwide 597 associates at different levels in the organization were awarded a total of 1.5 million shares or RSUs in 2011.

Source of Awarded Shares

Novartis uses shares repurchased in the market to fulfill obligations to deliver shares as required by the variable compensation plans and special share awards, thus avoiding any dilution of shareholders.

Novartis does not have any approved conditional capital to obtain shares for delivery of our share awards.

Benefits

The primary purpose of pension and healthcare plans is to establish a level of security for associates and their dependents with respect to age, health, disability and death. The level of pension and healthcare benefits provided to associates is country-specific and influenced by local market practice and regulations, and is reviewed regularly.

The Group has a policy to change from defined-benefit pension plans (DB) to defined contribution-pension plans (DC). All the major plans have now been aligned with our benefits strategy with the exception of the Alcon DBs, for which Novartis has established a global timeline for their conversion into DCs.

Novartis may provide other benefits in a specific country according to local market practice and regulations, including length-of service awards and perquisites. Associates who have been transferred on an international assignment can also receive benefits in line with Novartis policies.

Executive Compensation Summary

Compensation element	Compensation plan	Performance period	Method of payment	Main drivers	Performance metrics		Number of participants
					At award	At vesting	
Base compensation	Base salary	—	Cash	Position, experience, sustained performance	—	—	All associates
Variable compensation							
Annual incentive	Cash or shares (ESOP, ESOP UK, LSSP)[1]	12 months[1]	Cash and/or shares	Financial measures such as net sales, operating income, free cash flow, market share, innovation and ongoing efforts to optimize organizational effectiveness and productivity	Achievement of individual, business and financial annual objectives or achievement of milestones in individual objectives or long-term strategic plans, Novartis Values and Behaviors	—	15,508
Long-term incentive	Equity Plan "Select"	from 3 to 10 years[2]	Restricted shares or RSUs	Financial measures such as net sales, operating income, free cash flow, market share, innovation and ongoing efforts to optimize organizational effectiveness and productivity	Achievement of individual, business and financial annual objectives or achievement of milestones in individual objectives or long-term strategic plans, Novartis Values and Behaviors	Share price	12,768
	Long-Term Performance Plan	3 years	Shares	Achievement of long-term profit, measured through Novartis Economic Value Added (NVA) targets at Group level	—	Novartis Value Added	138
	Special Share Awards	5 years	Restricted shares or RSUs	Rewarding particular achievements or exceptional performance	Selective assessment	Share price	597
Benefits				Position, experience, age, sustained performance	—	—	

[1] If the associate invests the annual incentive into a shares savings plan, the vesting/holding period will be three years (ESOP) or five years (LSSP).

[2] Three years for restricted share and/or RSUs. Ten years for tradable options.

Competitive Positioning

It is critical for Novartis to have competitive compensation plans at a global level. According to Novartis compensation philosophy, an associate who achieves his or her performance objectives is thus generally awarded compensation comparable to the median level of compensation provided by relevant benchmark companies. In case of over- or under-performance, the actual total compensation delivered is adjusted accordingly and may significantly differ from the benchmark median. To encourage and reward sustained superior performance, total compensation may, in case of exceptional performance, reach levels comparable to top-quartile levels of compensation offered by the relevant benchmark companies.

Novartis participates in several compensation benchmarking surveys that provide details on levels of salary, target and actual annual incentives and long-term incentives, the relative mix of short- and long-term incentives, and the mix of cash- and share-based compensation. For Executive Committee positions and for specific

pharmaceutical positions, the benchmark group of industry competitors for our 2011 benchmark survey consisted of the following companies, which are all operating on a global level within the healthcare industry and having relevant business models, similar size, international needs, or similar talent skill sets:

BENCHMARK GROUP COMPANIES

Abbott Laboratories	Eli Lilly and Company	Pfizer
Amgen	GlaxoSmithKline	Roche
AstraZeneca	Johnson & Johnson	Sanofi
Bristol-Myers Squibb	Merck & Co.	

Benchmark criteria	Novartis	Healthcare Peers Median
Revenue[1]	50,624	40,249
Market Cap[1]	133,731	74,145
Net income[1]	9,969	5,070
Profit Margin	19.7%	12.6%
Employees	119,418	90,000

(1) In USD million

Source: Equilar

For benchmarking other positions we include companies outside our industry, with stature, size, scope and complexity that approximate our own to recognize the fact that competition for senior executive talent is not limited to the healthcare industry.

The geographic scope of the benchmark companies depends on the nature of the positions. As a principle, global benchmarks are considered for the most senior executive positions, while regional and/or local benchmarks are applied in other situations. The compensation benchmarking surveys, which analyze factors such as recent market trends and best practices, are conducted by well-established global compensation consultancy firms. These surveys are checked and supplemented by input from the Compensation Committee's independent advisor. According to such surveys, projected 2012 merit salary increases for executives will be relatively modest, but will mainly depend on the demand for talents. Although target annual incentives and long-term incentives as a percentage of salary are expected to be relatively flat versus the previous year, the actual incentive or grants will be based on the achieved performance.

Safeguards

We believe that incentivizing our associates encourages performance, loyalty and entrepreneurship, and creates sustainable value that is in the interest of Novartis and our shareholders. However, shareholders also expect that risks are appropriately managed. At Novartis, appropriate objective setting combined with proper incentive-plan design and rigorous safeguard measures allow our leaders and associates to focus on long-term value creation.

Risk Management

The goal of our compensation system is to encourage high performance and entrepreneurship, but not to reward inappropriate or excessive risk taking or short-term profit maximization at the expense of the long-term health of Novartis. The following characteristics of our compensation system foster a culture of entrepreneurial risk management:

- Novartis Values and Behaviors: Compliance and ethical conduct are integral factors considered in all regular performance reviews, setting clear behavioral boundaries.
- People Performance Management Process: A rigorous People Performance Management process is in place based on agreed-upon objectives, values and behaviors reflecting compliance and meritocracy.

– Balanced Scorecard Approach to Performance-based Incentives: The annual and long-term incentive compensation plans are not overly focused on any single measure of performance. Instead, financial objectives include net sales, operating income, free cash flow as a percentage of sales, and Novartis Economic Value Added (NVA). Non-financial objectives emphasize the achievement of strategic and leadership objectives, and managing people, but also innovation as well as process and productivity improvement. Under the incentive plans, performance multipliers may not exceed 200%.

– Balanced Mix of Compensation Elements: The target compensation mix is not overly weighted toward annual incentive awards but represents a combination of cash and long-term share-based compensation vesting over three years.

– Performance Period and Vesting Schedules: For long-term incentives, performance period and vesting schedules overlap, reducing the motivation to maximize performance in any one period. The equity awarded under the Equity Plan "Select" vests after a period of three years. The Long-Term Performance Plan is an equity plan based on a three-year performance period.

– Clawback: We implemented "clawback" provisions in individual employment contracts of all Executive Committee members as well as in most incentive plans, and award letters to associates (see—Compensation of Executives and Other Associates—Safeguards—Clawback," below).

– No Severance Payments or Change-of-Control Arrangements: No employment contracts with Executive Committee members contain unusually long notice periods, change-of-control clauses or severance payments. The CEO employment agreement can be terminated upon a 12-month notice period.

– Share Ownership requirements: Members of the Executive Committee, as well as selected key executives are required to own a certain multiple of their annual base salary in Novartis shares or share options (see—Compensation of Executives and Other Associates—Safeguards—Share Ownership Requirements," below).

Compensation governance

Legal Framework

The Swiss Code of Obligations as well as the Corporate Governance Guidelines of the SIX Swiss Exchange require listed companies to disclose certain information about the compensation of members of the Board of Directors and Executive Committee members, their equity participation in the Group as well as loans made to them. This Annual Report fulfills that requirement. In addition, our Annual Report is in line with the principles of the Swiss Code of Best Practice for Corporate Governance of the Swiss Business Federation (economiesuisse).

Decision-making authorities

Authority for decisions related to compensation are governed by the Articles of Incorporation, the Board Regulations and the Compensation Committee Charter, which are published on the Novartis website: www.novartis.com/corporate-governance. The main responsibilities of the Compensation Committee are shown under "Corporate Governance Report—Our Board of Directors—Role of the Board of Directors and the Board Committees".

The Compensation Committee serves as the supervisory and governing body for compensation policies and plans within Novartis and has overall responsibility for determining, reviewing and proposing compensation policies and plans for approval by the Board of Directors in line with the Compensation Committee Charter. The main discussion points and conclusions of each meeting of the Compensation Committee are summarized in a brief report to the next meeting of the full Board.

The Compensation Committee carefully analyzes and discusses on an ongoing basis (but at least annually) the trends and developments in the field of compensation and corporate governance as well as all compensation plans and levels with guidance from outside experts and consultants. The goal is to strengthen the interrelation between the compensation plans and the Group's performance. It also reviews the compensation system to ensure that it does not encourage inappropriate or excessive risk taking and instead encourages behaviors that support sustainable value creation.

The Compensation Committee is composed exclusively of members of the Board of Directors who meet the independence criteria set forth in our Board Regulations. Currently, the Compensation Committee has the following five members: Marjorie M.T. Yang (chair), William Brody, Srikant Datar, Ulrich Lehner and Enrico Vanni.

In 2011, the Compensation Committee held five meetings.

Compensation Authorization Levels

Decision on	Recommendation	Authority
Compensation of Board members	Compensation Committee	Board of Directors
Compensation of the Chief Executive Officer	Chairman of the Board	Compensation Committee
Compensation of the other Executive Committee members and other selected key executives	Chief Executive Officer	Compensation Committee
Special Share Awards	Chairman of the Board or Chief Executive Officer	Compensation Committee

The General Meeting holds a consultative vote on the Compensation System of Novartis. This vote takes place before every significant change to the Compensation System, but at least every third Annual General Meeting.

Role of the compensation committee Independent advisors

The advisor to the Compensation Committee is independent of management and does not perform any other consulting work for Novartis. The key task of the advisor is to assist the Compensation Committee in ensuring that the Novartis compensation policies and plans are competitive, correspond to market practice, and are in line with our compensation principles.

The Compensation Committee enters into a consulting agreement with its independent advisor on an annual basis. In determining whether or not to renew the engagement with the advisor, the Compensation Committee evaluates the quality of the consulting service and the benefits of rotating advisors. In addition, the Compensation Committee assesses on an annual basis the projected scope of work for the coming year. The Compensation Committee used Pearl Meyer & Partners LLC as its independent external compensation advisor and decided that after several years of service a new advisor should be hired. The Compensation Committee designated a new advisor, Frederic W. Cook & Co, Inc., in October 2011.

The Compensation Committee determined that the advisor is free of any relationship that would impair professional judgment and advice to the Compensation Committee, and has never been hired for work by the management of Novartis.

Clawback

Any incentive compensation paid to certain key executives, including Executive Committee members, is subject to "clawback". This means that Novartis may choose not to pay future incentive compensation or seek to recover incentive compensation where the payout has been proven to conflict with internal management standards (including company policies and Novartis Values and Behaviors), accounting procedures or a violation of law.

Share ownership requirements

In line with our share ownership principle, key executives are required to own at least a certain multiple of their annual base salary in Novartis shares or share options. The CEO is required to own Novartis equity worth 5 times, the other Executive Committee members 3 times, and other key executives, 1 to 2 times (position-specific) their respective base compensation within three years of hire or promotion. In the event of a substantial drop in the share price, the Board of Directors may, at its discretion, extend that time period.

CEO	5 × base salary
Executive Committee members	3 × base salary
Selected key executives	1 × or 2 × base salary

In determining equity amounts against the share ownership requirement includes vested and unvested shares or ADSs acquired under the Novartis compensation plans, as well as RSUs thereof, with the exception of unvested matching RSUs from leveraged share savings plans and unvested RSUs from the Long-Term Performance Plan. In addition, it includes other shares as well as vested options on Novartis shares or ADSs that are owned directly or indirectly by "persons closely linked"[1].

The Compensation Committee reviews compliance with the share ownership guideline on an annual basis.

2011 COMPENSATION OF THE MEMBERS OF THE EXECUTIVE COMMITTEE

Performance in 2011

At its meeting on January 19, 2012, the Compensation Committee decided on the amounts of variable compensation for 2011 for the CEO and Executive Committee members by applying the principles described previously in this Compensation Report. The specific compensation decisions made for the CEO and Executive Committee members reflect their achievements against the financial and non-financial performance objectives established for them at the beginning of the year. The achievements were assessed from both a quantitative and a qualitative perspective, with the Compensation Committee using its judgment, where appropriate, in concert with a review of metrics. In line with our compensation philosophy and performance principles, the actual payout of the variable compensation reflects the key individual achievements and the actual business performance of the organization taking into account the various following accomplishments and events, which occurred in 2011:

- Novartis management delivered against the critical goals of the organization, including financial and non-financial targets, to support the long term health of Novartis. These targets were established at the beginning of the year and were categorized under four categories: Financial targets, Innovation and Growth, Organizational Health, and Customer Satisfaction.
- The financial targets of net sales, free cash flow, and the long-term, 3-year rolling NVA were met or exceeded. However, the target of operating income was not achieved as a result of the exceptional provisions made in the fourth quarter of 2011.
- In the area of Innovation and Growth, each division was given specific targets to enhance their respective pipelines with new products. These were measured by the number of new compounds moving from research through proof of concept, submissions to regulatory agencies for marketing authorization, and approvals. These targets were met or exceeded in 2011, and included among others, the marketing authorization of *Gilenya* the first oral treatment for multiple sclerosis in the EU and *Arcapta* for chronic obstructive lung disease in the US. As expected not all trials and submissions were successful. The regulatory approvals of *Ilaris* for the treatment of gouty arthritis and SOM230 for the treatment of Cushing Syndrome were delayed while the regulatory submissions INC424, NVA237, ACZ885 for various indications occurred on time. The results of a long-term *Tekturna*/*Rasilez* study in hypertensive patients with concomitant renal and cardiovascular disease showed negative results, which led to the early termination of the study. Overall, the Pharmaceuticals Division gained market share.
- Importantly, the Alcon integration was planned and executed according to plan, without disruption to the business. The ambitious synergy and growth targets were exceeded. It should also be mentioned that Sandoz performed at a very high level, exceeding expectations significantly and the Vaccines and Diagnostics Division not only achieved the fastest growth among its competitors, but also gained a respectable market share with *Menveo,* a vaccine to protect against certain types of bacterial meningitis. The performance of OTC and Animal Health were on track. Finally, growth was accelerated in key emerging markets, particularly in China.
- In the area of Organizational Health, specific objectives were set in the area of productivity within manufacturing, procurement, IT and the finance function. These productivity targets were met or exceeded. Additionally, objectives to strengthen Quality Assurance were established. Capital investment and operating plans were developed and executed in key Novartis facilities to strengthen QA. However, the warning letter from the FDA covering three Sandoz facilities in the U.S. and Canada indicates that additional work will be required in this area. Additionally, compliance with quality standards has to be upgraded in the Nebraska OTC plant. In the area of associates' behavior, the Compliance group was significantly strengthened to manage adherence to the Novartis Code of Conduct, including ethical business practices. Customer satisfaction was measured by market share gains around the world. Nearly all market share targets which were established at the beginning of the year, were met or exceeded.

[1] "Persons closely linked" are (i) their spouse, (ii) their children below age 18, (iii) any legal entities that they own or otherwise control, and (iv) any legal or natural person who is acting as their fiduciary.

Management also successfully implemented the Corporate Citizenship strategy and delivered among other programs over 100 million treatments of *Coartem* against malaria to developing countries. An estimated one million lives, mostly children, were saved since the launch of this product. Novartis also continued successfully its Leprosy eradication program with WHO by donating all necessary medications for free.

– The Board of Directors took note of the high retention rates of key performers, the high quality continuous education programs and the strength and good collaboration of the leadership team.

– Finally, Novartis was named the number one pharmaceutical company in *Fortune*'s "Worlds most admired companies", and strong rankings in the Dow Jones Sustainability World Index reflecting the overall good reputation of the company.

Compensation in 2011

The compensation table on the following page discloses the compensation earned by the CEO and Executive Committee members for performance in 2011. The following paragraphs describe the principles underlying the data in the table.

Alignment of Reporting and Performance

The compensation table synchronizes the reporting of annual compensation with the performance in the given year, i.e., all amounts awarded for performance in 2011, including the future ESOP/LSSP match, are disclosed in full.

Disclosure Structure

The compensation table shows the compensation granted to the CEO and each Executive Committee member for performance in 2011 for all compensation elements—base compensation, variable compensation and benefits—as previously described.

The column "Future ESOP/LSSP match" reflects shares to be awarded in the future if the Executive Committee member remains with Novartis for at least three or five years, respectively.

Valuation Principles

In order to allow a comparison with other companies, the Compensation Committee decided to disclose shares, restricted shares, RSUs and ADS at their market value on the date of grant. Market value is the current quoted share price at which a director or an associate is granted a share, a restricted share or a restricted stock unit at grant date. The market value of share options is calculated by using an option pricing valuation model as per grant date.

As shares, RSUs and share options under the variable compensation plans are generally granted with a vesting[(1)] period, and associates in Switzerland (including Executive Committee members) may block[(2)] shares received under any variable compensation plan for up to 10 years, equity based compensation is also provided at tax value in accordance with Novartis past disclosure practice. According to the Swiss Federal Tax Administration and as the Compensation Committee also firmly believes, such restrictions affect the value of shares, RSUs and share options negatively. In its "Kreisschreiben Nr. 5", the Swiss Tax Administration provides for a methodology pursuant to which unvested or blocked shares or share options shall be valued with a discount for each year they are unvested or blocked. In addition, for the valuation of share options, the Swiss Tax Authorities apply—in a standing practice for Novartis (since 1997)—an option valuation model based on Black-Scholes.

See also Note 27 to the Group's consolidated financial statements for information on executive officer and non-executive director compensation in accordance with IFRS.

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(1) Vesting refers to the waiting period under a share-based incentive plan that must expire before the associate becomes irrevocably entitled to the shares, RSUs or share options involved. The associate cannot sell or exercise unvested share, RSUs or share options. If an associate leaves Novartis prior to the expiration of the vesting period for reasons other than retirement, disability or death, the associate will generally forfeit rights to such shares, RSUs or share options.

(2) Blocking refers to the ability of associates in Switzerland to opt for an extended trading restriction period of up to 10 years from the award date (including vesting). Novartis encourages associates to block their shares because doing so aligns the associates' interests with those of shareholders.

Executive Committee Member Compensation for Performance Year 2011 (Market value)[1]

		Base compensation	Variable compensation						Benefits		Total		Total compensation
			Short-term incentive plans		Long-term incentive plans								
					Equity Plan "Select"		Long-Term Performance Plan	Special share awards	Pension benefits	Other benefits		Future ESOP/ LSSP match[10]	Including future ESOP/ LSSP match[11],[12]
	Currency	Cash (Amount)	Cash (Amount)	Shares (Market value)[2]	Shares (Market value)[3]	Options (Market value)[4]	Shares (Market value)[5]	Shares (Market value)[6]	(Amount)[7]	(Amount)[8]	(Amount)[9]	Shares (Market value)	(Amount)
Joseph Jimenez (Chief Executive Officer)	CHF	1,916,667	704,000	1,056,033	6,160,047	—	4,550,524	—	172,193	106,889	14,666,353	1,056,033	15,722,386
Juergen Brokatzky-Geiger	CHF	696,670	—	616,037	1,232,020	—	582,379	—	150,268	26,117	3,303,491	616,037	3,919,528
Kevin Buehler (since April 8, 2011)[13]	USD	803,611	618,799	1,078,872	2,716,195	—	1,312,775	—	229,624	45,974	6,805,850	1,078,872	7,884,722
David Epstein	USD	933,333	402,630	583,475	2,794,007	—	1,293,468	—	279,409	115,086	6,401,408	583,475	6,984,883
Mark C. Fishman	USD	986,333	13,997	951,304	3,861,038	—	1,347,831	—	252,712	122,315	7,535,530	951,304	8,486,834
Jeff George	CHF	733,334	365,650	365,687	1,462,533	—	443,410	940,000	105,934	48,053	4,464,601	182,871	4,647,472
George Gunn	CHF	845,836	663,000	—	1,105,030	—	930,397	—	98,584	9,992	3,652,839	—	3,652,839
Andrin Oswald	CHF	733,334	682,500	—	1,365,027	—	443,410	940,000	118,403	57,507	4,340,181	—	4,340,181
Jonathan Symonds	CHF	890,000	—	792,025	1,980,034	—	766,171	—	196,350	—	4,624,580	792,025	5,416,605
Thomas Werlen (until September 30, 2011)[14]	CHF	560,001	—	412,516	—	—	—	—	99,836	1,598,454	2,670,807	—	2,670,807
Naomi Kelman (as from March 2, 2011)[15]	USD	497,826	262,500	—	525,028	—	81,720	4,773,120	18,466	638,443	6,797,103	—	6,797,103
Felix R. Ehrat (as from October 1, 2011)[16]	CHF	175,000	—	130,405	260,810	—	76,639	—	36,296	4,352	683,502	130,405	813,907
Total[17]	**CHF**	**9,401,376**	**3,563,757**	**5,685,668**	**22,323,260**	**—**	**11,364,429**	**6,104,000**	**1,668,316**	**2,667,132**	**62,777,939**	**5,090,336**	**67,868,275**

(1) Does not include reimbursement for travel and other necessary business expenses incurred in the performance of their services as these are not considered compensation.

(2) Participants elected to invest some or all of the value of their annual incentive in the five-year Leveraged Share Savings Plan (LSSP) or the three-year Swiss Employee Share Ownership Plan (ESOP) rather than to receive cash.

(3) Novartis shares granted under the Novartis Equity Plan "Select" have a three-year vesting period.

(4) Novartis share options granted under the Novartis Equity Plan "Select" are tradable. Share options granted outside North America will expire on January 19, 2022, have a three-year vesting period and have an exercise price of CHF 54.20 per share (the closing price of Novartis shares on the grant date of January 19, 2012). Based on the option pricing valuation model as per grant date, the value of the share options granted outside North America used in this table was CHF 4.30. Share options on ADSs granted to participants in North America will expire on January 19, 2022, have a three-year vesting period and an exercise price of $58.33 per ADS (the closing price of Novartis ADSs on the grant date of January 19, 2012). Based on the option pricing valuation model as per grant date, the value of the share options on ADSs granted to participants in North America used in this table was $4.14.

(5) Awarded based on the achievement of Novartis Economic Value Added (NVA) objectives over the performance period ended December 31, 2011.

(6) The special share awards consist of RSUs to Jeff George and to Andrin Oswald awarded on September 1, 2011, against the closing share price of that day (CHF 47.00). These RSUs have a five year vesting period. The special share awards also consist of a special award of 88 000 shares granted to Naomi Kelman to compensate her loss of equity from her former employer. This grant was awarded on April 1, 2011 at the price of $54.24 with staggered vesting over seven years.

(7) Service costs of pension and post-retirement healthcare benefits accumulated in 2011.

(8) Includes perquisites and other compensation paid during 2011. Does not include cost allowances and tax-equalization payments regarding the international assignment of David Epstein, Jeff George and Andrin Oswald. Does not include an annual pension in payment for Kevin Buehler as a result of a change of control clause ($346 362 being the time pro-rated amount for the period from April 8, 2011 to December 31, 2011).

(9) The value of all equity grants included in this table has been calculated based on market value.

(10) Reflects shares to be awarded in the future under the share saving plans, either the three-year Swiss Employee Share Ownership Plan (ESOP) or the five-year Leveraged Share Savings Plan (LSSP). Participants will receive additional shares ("matching shares") after the expiration of either the three- or five-year vesting period.

(11) The values of the shares, RSUs and share options reflected in this table have been calculated based on market value. The closing share price on the grant date January 19, 2012 was CHF 54.20 per Novartis share and $58.33 per ADS.

(12) All amounts are gross amounts (i.e., before deduction of social security and income tax due by the executives). The employer social security contribution is not included.

(13) Excludes the annual incentive and an equity grant that were awarded to K. Buehler prior to April 8, 2011 and which relate to past performance.

(14) Thomas Werlen stepped down from the Executive Committee as per September 30, 2011 and decided to leave Novartis on January 31, 2012. The base compensation and benefits information in the table reflects his pro rata compensation over the period from January 1, 2011 to September 30, 2011 (i.e. the period during which he was member of the Executive Committee). The other compensation ("Other benefits") includes the contractual salary payments from October 1, 2011 to January 31, 2012 and the pension benefits costs over this period. The other compensation ("Other benefits") does not include, however, the fair market compensation for refraining to compete with any business of Novartis over an agreed period after leaving the Company. Mr. Werlen will receive fair market compensation in return for complying with the restriction not to compete.

(15) The table reflects the compensation as Permanent Attendee to the Executive Committee from date of hiring (March 2, 2011) until December 31, 2011.

(16) The table reflects the compensation as Permanent Attendee to the Executive Committee from hire date (October 1, 2011) until December 31, 2011.

(17) Amounts in USD for Kevin Buehler, David Epstein, Mark C. Fishman and Naomi Kelman were converted at a rate of CHF 1.00 = $1.130, which is the same average exchange rate used in the Group's consolidated financial statements.

Executive Committee Member—Equity Awards for Performance Year 2011 (number of equity instruments and tax value)

		Variable compensation											
		Short-term incentive plans		Long-term incentive plans								Future ESOP/LSSP match	
				Equity Plan "Select"				Long-Term Performance Plan		Special share awards			
	Currency	Shares (Number)	Shares (Tax value)[2][3]	Shares (Number)	Shares (Tax value)[2][4]	Options (Number)	Options (Tax value)[2]	Shares (Number)	Shares (Tax value)[2][5]	Shares (Number)	Shares (Tax value)[2][6]	Shares (Number)	Shares (Tax value)[2][7]
Joseph Jimenez (Chief Executive Officer)	CHF	19,484	789,131	113,654	5,172,099	—	—	83,958	4,550,524	—	—	19,484	789,131
Juergen Brokatzky-Geiger	CHF	11,366	460,340	22,731	1,034,429	—	—	10,745	582,379	—	—	11,366	460,340
Kevin Buehler (since April 8, 2011)	USD	18,496	806,207	46,566	2,280,588	—	—	22,506	1,312,788	—	—	18,496	806,207
David Epstein	USD	10,003	436,008	47,900	2,345,904	—	—	22,175	1,293,468	—	—	10,003	436,008
Mark C. Fishman	USD	16,309	710,871	66,193	3,241,804	—	—	23,107	1,347,831	—	—	16,309	710,871
Jeff George	CHF	6,747	307,038	26,984	1,227,972	—	—	8,181	443,410	20,000	702,424	3,374	153,542
George Gunn	CHF	—	—	20,388	927,805	—	—	17,166	930,397	—	—	—	—
Andrin Oswald	CHF	—	—	25,185	639,979	—	—	8,181	443,410	20,000	702,424	—	—
Jonathan Symonds	CHF	14,613	591,848	36,532	1,662,477	—	—	14,136	572,529	—	—	14,613	496,924
Thomas Werlen (until September 30, 2011)	CHF	7,611	346,357	—	—	—	—	—	—	—	—	—	—
Naomi Kelman (as from March 2, 2011)[1]	USD	—	—	9,001	440,824	—	—	1,401	81,720	88,000	4,004,689	—	—
Felix R. Ehrat (as from October 1, 2011)[1]	CHF	2,406	97,447	4,812	218,982	—	—	1,414	57,269	—	—	2,406	81,818
Total[8]	**CHF**	**107,035**	**4,320,556**	**419,946**	**18,236,947**	**—**	**—**	**212,970**	**11,151,429**	**128,000**	**4,948,821**	**96,051**	**3,710,150**

(1) The table reflects the compensation as Permanent Attendee to the Executive Committee from date of hiring until December 31, 2011.

(2) Values of shares and RSUs granted are discounted by 6% per year depending on the length of the combined vesting and blocking period. For example, the value of a share award subject to a three-year vesting/blocking period calculated in accordance with the methodology described in the Kreisschreiben Nr. 5 equals 83.962% of its market value at the grant date. The value of a share award with a combined vesting/blocking period of ten years equals 55.839% of its market value at the grant date. The closing share price on the grant date (January 19, 2012) was CHF 54.20 per Novartis share and $58.33 per ADS. The values of share options granted are reported based on the valuation principles contained in a tax ruling from the Swiss tax authorities, reflecting the principles as disclosed in the aforementioned Kreisschreiben Nr. 5. According to this methodology, tradable share options under the Equity Plan "Select" with a vesting period of three years have a value of CHF 0.40 per option at grant.

(3) These shares have a five-year vesting period under LSSP and a three-year vesting period under ESOP.

(4) Andrin Oswald has voluntarily blocked these RSUs for ten years in addition to the three-year vesting period.

(5) Jonathan Symonds and Felix R. Ehrat have voluntarily blocked these shares for five years.

(6) The special RSU awards granted to Jeff George and Andrin Oswald have a five-year vesting period. The special share award granted to Naomi Kelman has a staggered vesting of up to seven years.

(7) Jonathan Symonds and Felix R. Ehrat have voluntarily blocked these LSSP matching share units for eight years including the five-year vesting period.

(8) Amounts in USD for Kevin Buehler, David Epstein, Mark C. Fishman and Naomi Kelman were converted at a rate of CHF 1.00 = $1.130, which is the same average exchange rate used in the Group's consolidated financial statements.

As the table below shows, most executive compensation is variable and awarded in the form of restricted equity. This ensures alignment with the interests of Novartis and its shareholders.

Executive Committee Member Actual Compensation Mix in 2011—Base and Variable Compensation[1]

		Variable	
	Base salary	**Annual Incentive[2]**	**Long Term Incentive[3]**
Joseph Jimenez	13.3%	12.2%	74.4%
Juergen Brokatzky-Geiger	22.3%	19.7%	58.0%
Kevin Buehler	12.3%	26.0%	61.7%
David Epstein	15.5%	16.4%	68.0%
Mark C. Fishman	13.8%	13.5%	72.7%
Jeff George	17.0%	17.0%	66.0%
George Gunn	23.9%	18.7%	57.4%
Andrin Oswald	17.6%	16.4%	66.0%
Jonathan Symonds	20.1%	17.9%	62.0%
Naomi Kelman (as from March 2, 2011)[4]	8.1%	4.3%	87.6%[5]
Felix R. Ehrat (as from October 1, 2011)[4]	27.2%	20.3%	52.5%
Total[6]	**15.4%**	**15.4%**	**69.2%**

(1) Excludes pension, other benefits and future ESOP/LSSP match.

(2) Excludes future ESOP/LSSP match.

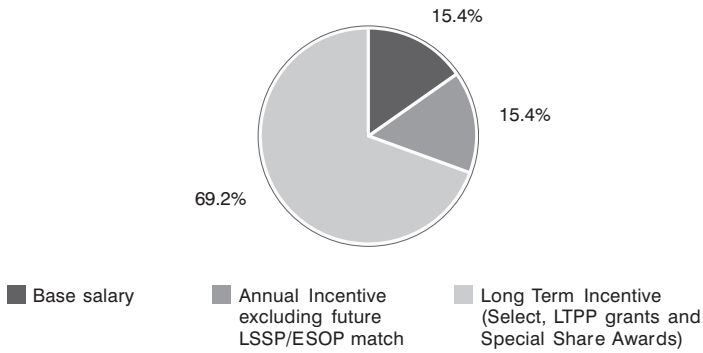
(3) Long Term Incentive includes Select, LTPP grants and Special Share Awards.

(4) Permanent Attendee to the Executive Committee.

(5) Includes the special award of 88 000 shares granted to Naomi Kelman to compensate her loss of equity from her former employer.

(6) Excludes Thomas Werlen who stepped down from the Executive Committee as per September 30, 2011.

EXECUTIVE COMMITTEE ACTUAL COMPENSATION MIX IN 2011— BASE AND VARIABLE COMPENSATION



Shares and Share Options Owned by members of the Executive Committee

The following tables show the total number of vested and unvested Novartis shares (including share units but excluding unvested matching share units from leveraged share savings plans and unvested target units from the Long-Term Performance Plan) and the total number of share options owned by Executive Committee members as of January 19, 2012.

As of January 19, 2012, none of the Executive Committee members together with "persons closely linked" to them (see definition under "Share Ownership—Ownership Guidelines") owned 1% or more of the outstanding shares of Novartis, either directly or through share options.

As of December 31, 2011, all Executive Committee members who have served at least three years on the Executive Committee have met or exceeded their personal Novartis ownership requirements.

Shares Owned by Executive Committee Members

	Number of shares[1]
Joseph Jimenez	461,487
Juergen Brokatzky-Geiger	232,858
Kevin Buehler (as from April 8, 2011)	445,287[2]
David Epstein	279,395
Mark C. Fishman	435,071
Jeff George	109,525
George Gunn	251,459
Andrin Oswald	135,713
Jonathan Symonds	144,829
Naomi Kelman (as from March 2, 2011)[3]	97,906
Felix R. Ehrat (as from October 1, 2011)[3]	9,132
Total[4]	**2,602,662**

(1) Includes holdings of "persons closely linked" to members of the Executive Committee (see definition under—Share and Share Options by Members of the Board of Directors).

(2) Excludes performance share units from former Alcon equity plans to vest after January 19, 2012.

(3) Permanent attendee to the Executive Committee.

(4) Excludes Thomas Werlen who stepped down from the Executive Committee as per September 30, 2011.

Share Options Owned by Executive Committee Members

	Number of share options[1]						
	2012	**2011**	**2010**	**2009**	**2008**	**Other**	**Total**
Joseph Jimenez				552,076	157,266		709,342
Juergen Brokatzky-Geiger				75,705	109,016	146,436	331,157
Kevin Buehler (as from April 8, 2011)						782,485[2]	782,485
David Epstein						267,777	267,777
Mark C. Fishman					184,870	587,149	772,019
Jeff George		141,396				114,979	256,375
George Gunn						94,371	94,371
Andrin Oswald						5,633	5,633
Jonathan Symonds						54,348	54,348
Naomi Kelman (as from March 2, 2011)[3]							
Felix R. Ehrat (as from October 1, 2011)[3]							
Total[4]	**—**	**141,396**	**—**	**627,781**	**451,152**	**2,053,178**	**3,273,507**

(1) Share options disclosed for a specific year were granted in that year under the Novartis Equity Plan "Select." The column "Other" refers to share options granted in 2007 or earlier, to share options granted to these executives while they were not Executive Committee members, and to share options bought on the market by the Executive Committee members or "persons closely linked" to them (see definition under—Share and Share Options Owned by Members of the Board of Directors).

(2) Consists of non tradable options and share settled appreciation rights resulting from conversion of Alcon equity into Novartis equity.

(3) Permanent Attendee to the Executive Committee.

(4) Excludes Thomas Werlen who stepped down from the Executive Committee as per September 30, 2011.

Loans and other payments

Loans to Executive Committee members

No loans were granted to current or former Executive Committee members during 2011. No such loans were outstanding as of December 31, 2011.

Other payments to Executive Committee members

During 2011, no payments (or waivers of claims) other than those set out in the Executive Committee Member Compensation table were made to current Executive Committee members or to "persons closely linked" to them (see definition under "Compensation of the Board of Directors—Shares and Share Options Owned by Members of the Board of Directors").

Payments to former Executive Committee members

During 2011, no payments (or waivers of claims) were made to former Executive Committee members or to "persons closely linked" to them (see definition under "Compensation of the Board of Directors—Shares and Share Options Owned by Members of the Board of Directors"), except for an amount of CHF 25,596, which was paid to a former member of the Executive Committee as deferred compensation.

6.C Board Practices

Novartis strives to create sustainable value. Our corporate governance framework is designed to support this. While it complies with all applicable laws and implements best corporate governance standards, it is tailor-made for Novartis.

Introduction

The corporate governance framework of Novartis reflects a system of checks and balances between the powers of the shareholders, the Board of Directors and the management with the goal to safeguard the interests of Novartis and its shareholders while creating sustainable value.

Since the creation of Novartis in 1996, the Board of Directors has continuously improved the corporate governance framework of Novartis by proactively implementing emerging best corporate governance standards long before these were embedded in the Swiss Code of Best Practice for Corporate Governance ("the Swiss Code") or in the law.

In 1999, Novartis established the new position of Lead Director as a check and balance following the election of Chief Executive Officer Daniel Vasella, M.D., to the additional post of Chairman. Moreover, three new Board committees—the Compensation Committee, the Audit and Compliance Committee and the Corporate Governance and Nomination Committee—were created, composed exclusively of independent Board members.

In 2002, five years before legislation came into force in 2007, requiring companies to disclose the total compensation of their executive management group as well as the highest compensation attributed to a member of the executive management, Novartis had already implemented even more rigorous disclosure standards by reporting the individual annual compensation of all members of the Executive Committee.

In 2004, two years earlier than required for non-US corporations, Novartis complied with the challenging certification requirements under the US Sarbanes-Oxley Act, in particular Section 404 of this Act.

In 2009, the Board of Directors established a new Risk Committee that oversees the Group's enterprise risk management, strengthening the Board of Directors' supervisory function over management in this critical area. While fostering a culture of risk-adjusted decision making, the Risk Committee ensures that reasonable risk-taking and innovation are not constrained.

In 2010, the Chairman and CEO functions were separated. In addition several emerging best corporate governance standards were proactively implemented, including the introduction of a "say-on-pay" shareholder vote, making changes to our executive compensation system to further strengthen the alignment of incentives with the long-term success of Novartis and a number of new disclosures, including on qualifications of Board members.

In 2011, the first "say-on-pay" vote was held, where the shareholders endorsed the compensation system of Novartis.

Novartis evaluates emerging best governance standards and adopts those that are found to be appropriate for Novartis. These standards are then tailored to Novartis, its business, management, stakeholders and

shareholders with a view to create a corporate governance regime that supports the creation of sustainable value. This cannot be achieved by implementing corporate governance standards "as is" ("one size fits all approach") and becomes impossible if corporate governance standards (embedded in corporate governance codes) are converted into binding, "one size fits all" rules as is currently contemplated in Switzerland.

In Switzerland, Parliament considers introducing binding, "one size fits all" rules such as a binding shareholder vote on executive compensation and a ban on sign-on bonuses. Such rules would eliminate the flexibility of issuers to adapt corporate governance recommendations to the specific circumstances and needs of each individual company. Moreover, if such rules were introduced, Switzerland would get a corporate governance regime that would be substantially more restrictive than that of other countries. Such binding corporate governance rules are not needed. The "market" (corporate governance rating agencies, proxy voting agencies, institutional investors, Stock Exchanges) already plays a very effective role in deciding whether a given explanation is sufficient and plausible or not.

We note however an encouraging development in that regulators start to acknowledge and seem to become willing to regulate many corporate governance issues that have been highlighted by issuers for a long time but did not make it "on the corporate governance agenda" yet: In 2010, the US Securities Exchange Commission in its "Concept Release on the U.S. Proxy System" and, in 2011, the European Commission in its green paper entitled "The EU Corporate Governance Framework" have noted a number of such issues, including deficiencies in the proxy system, potential conflicts of interest and a lack of accuracy and transparency of proxy advisory firms, and what the European Commission called "inappropriate short-termism among investors." On that last point, we note that the UK government commissioned a review (*"The Kay Review"*) on whether the time horizons of investors match those of their principals and whether equity markets and government policies promote long-term horizons of institutional shareholders and fund managers and sufficiently encourage boards to have a long-term horizon.

At the heart of good corporate governance lies a strong Board of Directors, which represents the interests of the shareholders and other stakeholders, and the professionalism and integrity of management, creating the foundation for sustainable value. While the size, composition and structure of the Board of Directors are easy to describe and can be easily checked from the outside, it is difficult to demonstrate that the core processes, like information flow and decision making, are state-of-the-art. It is even more difficult, if not impossible, to describe the prevailing board culture, although the latter is essential for its effective function. Novartis aims to foster an atmosphere in which Board members can pose challenging questions, voice dissenting views and secure access to independent information through extensive contacts with senior Novartis executives—inside and outside the boardroom. Diversity of a Board of Directors is a critical success factor for its work. The Novartis Board of Directors today is diverse in terms of background, interests and skills.

Our Corporate Governance Framework

Laws and Regulations

Novartis is subject to the laws of Switzerland, in particular Swiss company and securities laws, and to the securities laws of the United States as applicable to foreign private issuers of securities.

In addition, Novartis is subject to the rules of the Swiss Stock Exchange (SIX Swiss Exchange), including the Directive on Information relating to Corporate Governance.

Novartis is also subject to the rules of the New York Stock Exchange (NYSE) as applicable to foreign private issuers of securities. The NYSE requires Novartis to describe any material ways in which its corporate governance differs from that of domestic US companies listed on the NYSE. Different from corporate governance rules applicable to domestic US companies listed on NYSE, shareholders of Novartis do not receive written reports from committees of the Board of Directors. Also, the external auditors are appointed by our shareholders at the Annual General Meeting, as opposed to being appointed by the Audit and Compliance Committee. In addition, while our shareholders cannot vote on all equity-compensation plans, they are entitled to hold a consultative vote on the compensation system of Novartis. The vote takes place before every significant change to the compensation system, but at least every third Annual General Meeting. Finally, our Board of Directors has set up a separate Risk Committee that is responsible for risk oversight, as opposed to delegating this responsibility to the Audit and Compliance Committee.

Swiss Code of Best Practice for Corporate Governance

Novartis applies the Swiss Code of Best Practice for Corporate Governance.

Novartis Corporate Governance Standards

Novartis has incorporated the corporate governance standards described above into the Articles of Incorporation and the Regulations of the Board of Directors, its Committees and the Executive Committee (www.novartis.com/corporate-governance).

The Corporate Governance and Nomination Committee regularly reviews these standards and principles in the light of prevailing best practices and makes recommendations for improvements of the corporate governance framework of Novartis for consideration by the full Board of Directors.

Additional corporate governance information can be found on the Novartis website: http://www.novartis.com/corporate-governance

Printed copies of the Novartis Articles of Incorporation, Regulations of the Board and Charters of Board Committees can be obtained by writing to: Novartis AG, Attn: Corporate Secretary, Lichtstrasse 35, CH-4056 Basel, Switzerland.

Our Shareholders

Shares share capital of Novartis AG

The share capital of Novartis AG is CHF 1,372,811,500, fully paid-in and divided into CHF 2,745,623,000 registered shares, each with a nominal value of CHF 0.50.

Novartis has neither authorized nor conditional capital. There are no preferential voting shares; all shares have equal voting rights. No participation certificates, non-voting equity securities (Genussscheine) or profit-sharing certificates have been issued.

Novartis shares are listed and traded on the SIX Swiss Exchange (Valor No. 001200526, ISIN CH0012005267, symbol: NOVN) as well as on the NYSE in the form of American Depositary Receipts (ADRs) representing Novartis American Depositary Shares (ADSs) (Valor No. 567514, ISIN US66987V1098, symbol: NVS).

The holder of an ADS has the rights enumerated in the Deposit Agreement (such as the right to vote and to receive a dividend). The ADS depositary of Novartis, JPMorgan Chase Bank, New York, holding the Novartis shares underlying the ADSs, is registered as shareholder in the share register of Novartis. An ADS is not a Novartis share and an ADS holder is not a Novartis shareholder. ADS holders exercise their voting rights by instructing the depositary to exercise their voting rights. Each ADS represents one Novartis share.

Share repurchase programs

Novartis began repurchasing its shares in 1999. Since then, five share repurchase programs have been completed with the repurchase of shares worth CHF 19 billion. Shares repurchased under the first program were not cancelled. However, shares repurchased under the other four programs were cancelled. At the Annual General Meeting in February 2008, shareholders authorized the Board of Directors to launch a sixth program to repurchase shares up to a maximum amount of CHF 10 billion via a second trading line on the SIX Swiss Exchange. In 2008, a total of six million shares were repurchased at an average price of CHF 49.42 per share and cancelled. The share repurchase program was suspended in April 2008 in favor of debt repayment. In December 2010, the Board of Directors announced the reactivation of the share repurchase program to minimize dilution to existing Novartis shareholders in connection with the proposed merger of Alcon, Inc. into Novartis. In 2010, no shares were repurchased under the share repurchase program. In 2011, 39,430,000 shares were repurchased under the share repurchase program.

Changes in share capital

During the last three years there were the following changes to the share capital of Novartis:

Novartis increased its share capital once: On April 8, 2011 for the purpose of completing the merger of Alcon, Inc. into Novartis AG, the share capital was increased by CHF 54 million, from CHF 1,318,811,500 to CHF 1,372,811,500, through the issuance of 108,000,000 fully paid-in registered shares with a nominal value of CHF 0.50 each.

As part of a share repurchase program, Novartis reduced its share capital once: In 2009 the share capital was reduced by CHF 3 million, from CHF 1,321,811,500 to CHF 1,318,811,500.

Capital Changes

Year	Number of shares			Amount of capital changed in CHF
	As of Jan 1	Shares	As of Dec 31	
2009	2,643,623,000	(6,000,000)	2,637,623,000	(3,000,000)
2010	2,637,623,000	0	2,637,623,000	0
2011	2,637,623,000	108,000,000	2,745,623,000[1]	54,000,000

[1] Capital increase as set-out above

Convertible or Exchangeable Securities

Novartis has not issued convertible or exchangeable bonds, warrants, options or other securities granting rights to Novartis shares, other than options granted to associates as an element of compensation.

Shareholdings

Significant Shareholders

According to the share register, as of December 31, 2011, the following registered shareholders (including nominees and the ADS depositary) held more than 2% of the total share capital of Novartis with the right to vote these shares:[1]

– Shareholders: Novartis Foundation for Employee Participation, with its registered office in Basel, Switzerland, holding 4.1%, and Emasan AG, with its registered office in Basel, Switzerland, holding 3.2%;

– Nominees: JPMorgan Chase Bank, New York, holding 10.9%, Nortrust Nominees, London, holding 3.2%, and Mellon Bank, Everett, Massachusetts, holding 3%; and

– ADS depositary: JPMorgan Chase Bank, New York, holding 11%.

According to a disclosure notification filed with Novartis AG and the SIX Swiss Exchange, Capital Group Companies, Inc., Los Angeles, USA, held between 3% and 5% of the share capital of Novartis AG as of December 31, 2011.

Disclosure notifications pertaining to shareholdings in Novartis AG that were filed with Novartis AG and the SIX Swiss Exchange are published on the latter's electronic publication platform, and can be accessed via the database search page:

http://www.six-exchange-regulation.com/obligations/disclosure/ major_shareholders_en.html

Novartis has not entered into any agreement with any shareholder regarding the voting or holding of Novartis shares.

Cross Shareholdings

Novartis has no cross shareholdings in excess of 5% of capital or voting rights with any other company.

Distribution of Novartis shares

The information in the following tables relates only to registered shareholders and does not include holders of unregistered shares. Also, the information provided in the tables below cannot be assumed to be representative of the entire Novartis investor base since nominees and JPMorgan Chase Bank, as ADS depositary, are registered as shareholders for a large number of beneficial owners.

As of December 31, 2011, Novartis had more than 164,000 registered shareholders.

[1] Excluding 5.76% of the share capital held by Novartis AG, together with Novartis affiliates, as treasury shares.

The following table provides information about the distribution of registered shareholders by number of shares held:

Number of shares held

As of December 31, 2011	Number of registered shareholders	% of registered share capital
1-100	20,836	0.05
101-1,000	97,906	1.59
1,001-10,000	41,655	4.25
10,001-100,000	3,837	3.60
100,001-1,000,000	495	5.26
1,000,001-5,000,000	79	6.60
5,000,001 or more[1]	35	53.58
Total registered shareholders/shares	**164,843**	**74.93**
Unregistered shares		25.07
Total		**100.00**

(1) Including significant registered shareholders as listed above

The following table provides information about distribution of registered shareholders by type:

Registered Shareholders by Type

As of December 31, 2011	Shareholders in %	Shares in %
Individual shareholders	96.05	12.37
Legal entities	3.85	39.00
Nominees, fiduciaries	0.10	48.63
Total	**100.00**	**100.00**

The following table provides information about registered shareholders by country:

Registered Shareholders by Country

As of December 31, 2011	Shareholders in %	Shares in %
France	2.86	1.32
Germany	4.34	3.47
Switzerland[1]	89.37	43.03
United Kingdom	0.51	3.07
United States	0.36	44.57
Other countries	2.56	4.54
Total	**100.00**	**100.00**

(1) Excluding 5.76% of the share capital held by Novartis AG, together with Novartis affiliates, as treasury shares

Shareholder Rights

Right to Vote ("one share, one vote")

Each share registered with the right to vote entitles the holder to one vote at General Meetings.

ADS holders may vote by instructing JPMorgan Chase Bank, the ADS depositary, to exercise the voting rights attached to the registered shares underlying the ADSs. JPMorgan Chase Bank exercises the voting rights for registered shares underlying ADSs for which no voting instructions have been given by providing a discretionary proxy to the independent proxy (unabhängiger Stimmrechtsvertreter) appointed by Novartis pursuant to Swiss law.

Resolutions and Elections at General Meetings

The General Meeting passes resolutions and elections with the absolute majority of the votes represented at the meeting. However, under the Articles of Incorporation (www.novartis.com/corporate-governance) the approval of two-thirds of the votes represented at the meeting is required for:

– An alteration of the purpose of Novartis AG;

– The creation of shares with increased voting powers;

– An implementation of restrictions on the transfer of registered shares and the removal of such restrictions;

– An authorized or conditional increase of the share capital;

– An increase of the share capital out of equity, by contribution in kind, for the purpose of an acquisition of property, or the grant of special rights;

– A restriction or suspension of rights or options to subscribe;

– A change of location of the registered office of Novartis AG; or

– The dissolution of Novartis AG.

In addition, the law provides for a special quorum also for other re-solutions, such as, for example, for a merger or spin-off.

Other Shareholder Rights

Shareholders representing at least 10% of the share capital may request that an extraordinary General Meeting of shareholders be convened. Shareholders representing shares with an aggregate nominal value of at least CHF 1 million may request that an item be included in the agenda of a General Meeting of shareholders. Such requests must be made in writing at least 45 days before the date of the General Meeting, specify the item to be included in the agenda and contain the proposal on which the shareholder requests a vote.

Shareholders have the right to receive dividends, appoint another shareholder, the corporate proxy, the independent proxy or a custody proxy as proxy and hold such other rights as are granted under Swiss Law.

Shareholder Registration

No restrictions apply on the transferability of Novartis shares. However, only shareholders registered in the Novartis share register may exercise their voting rights. In order to be registered, a shareholder must declare that he or she acquired the shares in his or her own name and for his or her own account. The Articles of Incorporation provide that the Board of Directors may register nominees with the right to vote. For restrictions on registration of nominees, please see below.

The Articles of Incorporation provide that no shareholder shall be registered with the right to vote for more than 2% of the registered share capital. The Board of Directors may, upon request, grant an exemption from this restriction. Exemptions are in force for the registered Significant Shareholders listed under—Our Shareholders—Shareholdings—Significant Shareholders. In 2011, no exemptions were requested.

The same restrictions apply to holders of ADSs as those holding Novartis shares.

Given that shareholder representation at General Meetings has traditionally been low in Switzerland, Novartis considers the restriction on registration necessary to prevent a minority shareholder from dominating a General Meeting.

The Articles of Incorporation provide that no nominee shall be registered with the right to vote for more than 0.5% of the registered share capital. The Board of Directors may, upon request, grant an exemption from this restriction if the nominee discloses the names, addresses and the number of shares of the persons for whose account it holds 0.5% or more of the registered share capital. Exemptions are in force for the nominees listed under—Our Shareholders—Shareholdings—Significant Shareholders.

The same restrictions apply to holders of ADSs as those holding Novartis shares.

The restrictions on registration contained in the Articles of Incorporation may only be removed by a resolution of the General Meeting of shareholders, with approval of at least two-thirds of the votes represented at the meeting.

Shareholders, ADS holders or nominees that are linked to each other or act in concert to circumvent the restrictions on registration are treated as one person or nominee for the purposes of the restrictions on registration.

No restriction on trading of shares

The registration of shareholders in the Novartis share register or in the ADS register kept by JPMorgan Chase Bank does not affect the tradability of Novartis shares or ADSs. No restrictions are imposed by Novartis or JPMorgan Chase Bank on the trading of registered Novartis shares or ADSs. Registered Novartis shareholders or ADS holders may, therefore, purchase or sell their Novartis shares or ADSs at any time, including prior to a General Meeting regardless of the record date. The record date serves only to determine the right to vote at a General Meeting of Novartis.

Change-of-control provisions

No opting up, no opting out

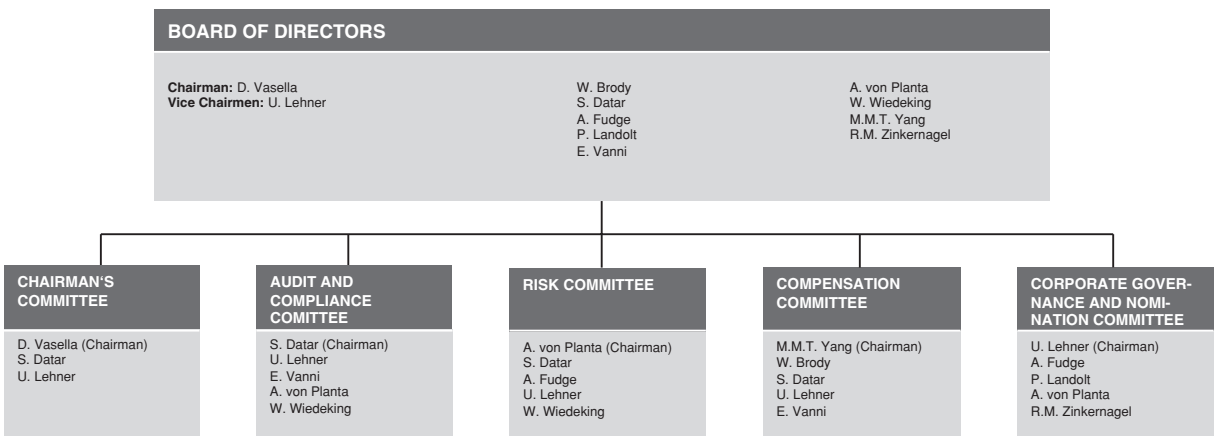
The Swiss Stock Exchange Act provides that anyone who, directly, indirectly or acting in concert with third parties, acquires equity securities exceeding 33⅓% of the voting rights of a company—whether or not such rights are exercisable—is required to make an offer to acquire all listed equity securities of that company. A company may raise this threshold to 49% of the voting rights (“opting up”) or may, under certain circumstances, waive the threshold (“opting out”). Novartis has not adopted any such measures.

Clauses on changes-of-control

There are no change-of-control clauses benefiting Board members. With respect to members of the Executive Committee, see below under—Our Management—Contracts with Members of the Executive Committee.

Our Board of Directors

Composition of the Board of Directors and its Committees



Election and Term of Office

All Board members are elected individually.

Board members are elected to terms of office of three years or less by shareholders at General Meetings. The terms of office among Board members are to be coordinated so that approximately one-third of all Board members are subject each year to re-election or election. Under Swiss law, a General Meeting of shareholders is entitled to remove any Board member at any time, regardless of his or her remaining term of office.

The average tenure of Board members is eight years and the average age is 61. A Board member must retire after reaching age 70. Under special circumstances, shareholders may grant an exemption from this rule and re-elect a Board member for additional terms of office of no more than three years at a time.

Name	Nationality	Year of birth	First election at AGM	Last election at AGM	End of current Term
Daniel Vasella, M.D.	CH	1953	1996	2010	2013
Ulrich Lehner, Ph.D.	D	1946	2002	2011	2014
William Brody, M.D., Ph.D.	US	1944	2009	2009	2012
Srikant Datar, Ph.D.	US	1953	2003	2009	2012
Ann Fudge	US	1951	2008	2011	2014
Pierre Landolt, Ph.D.	CH	1947	1996	2011	2014
Enrico Vanni, Ph.D.	CH	1951	2011	2011	2014
Andreas von Planta, Ph.D.	CH	1955	2006	2009	2012
Dr. Ing. Wendelin Wiedeking	D	1952	2003	2009	2012
Marjorie M.T. Yang	CHN	1952	2007	2010	2013
Rolf M. Zinkernagel, M.D.	CH	1944	1999	2009	2012

Board member Qualifications

The Corporate Governance and Nomination Committee determines the criteria for the selection of the Board members and Board committee members. Factors considered include skills and knowledge, diversity of viewpoints, professional backgrounds and expertise, business and other experience relevant to the business of Novartis, the ability and willingness to commit adequate time and effort to Board and committee responsibilities, the extent to which personality, background, expertise, knowledge and experience will interact with other Board members to build an effective and complementary Board, and whether existing board memberships or other positions held by a candidate could lead to a conflict of interest.

The biographies of the Board members set out the particular qualifications that led the Board of Directors to conclude that a Board member is qualified to serve on the Board of Directors, creating a Board that today is diverse in terms of background, qualifications, interests and skills. See ''—6.A Directors and Senior Management—Board of Directors.''

Role of the Board of Directors and the Board Committees

The Board of Directors is responsible for the overall direction and supervision of the management and holds the ultimate decision-making authority for Novartis AG, except for those decisions reserved to the shareholders.

The Board of Directors has delegated certain responsibilities to five committees: Chairman's Committee, Compensation Committee, Audit and Compliance Committee, Corporate Governance and Nomination

Committee and Risk Committee as set out below (responsibilities described with the terms "overseeing" or "reviewing" are subject to final approval by the Board of Directors).

Responsibilities	Membership comprises	Number of meetings held in 2011/ approximate average duration of each meeting Attendance	Link
The Board of Directors		**9/7**	
The primary responsibilities of the Board of Directors include: —Setting the strategic direction of the Group; —Determining the organizational structure and governance of the Group; —Appointing, overseeing and dismissing key executives and planning their succession; —Determining and overseeing the financial planning, accounting, reporting and controlling; —Approving the annual financial statements and the corresponding financial results releases; and —Approving major transactions and investments.	**Daniel Vasella**[1] Ulrich Lehner William Brody Srikant Datar Ann Fudge Pierre Landolt Enrico Vanni[2] Andreas von Planta Wendelin Wiedeking Marjorie M.T. Yang Rolf M. Zinkernagel	9 9 9 9 9 7 7 9 9 9 8	Articles of Incorporation of Novartis AG Regulations of the Board of Directors, its Committees and the Executive Committee of Novartis AG (Board Regulations) http://www.novartis.com/corporate-governance
The Chairman's Committee		6/2	
The primary responsibilities of this committee include: —Commenting on significant matters before the Board of Directors makes a decision; —Recommending key executive appointments to the Board of Directors; —Dealing with Board matters arising in between Board meetings, including the taking of required preliminary actions; and —Approving transactions and investments as delegated by the Board of Directors.	**Daniel Vasella**[1] Srikant Datar[2] Ulrich Lehner	6 5 6	Charter of the Chairman's Committee http://www.novartis.com/corporate-governance

Responsibilities	Membership comprises	Number of meetings held in 2011/ approximate average duration of each meeting Attendance	Link
The Audit and Compliance Committee		**6/3**	
The primary responsibilities of this committee include: —Overseeing the internal auditors; —Supervising the external auditors and selecting and nominating the external auditors for election by the meeting of the shareholders; —Overseeing the accounting policies, financial controls and compliance with accounting and internal control standards; —Approving quarterly financial statements and financial results releases; —Overseeing internal control and compliance processes and procedures; and —Overseeing compliance with laws and external and internal regulations. The Audit and Compliance Committee has the authority to retain external consultants and other advisors.	**Srikant Datar**[1,3] Ulrich Lehner[3] Enrico Vanni[4] Andreas von Planta Wendelin Wiedeking	6 6 3 6 6	Charter of the Audit and Compliance Committee http://www.novartis.com/corporate-governance

(1) Chair

(2) Since February 2011

(3) Audit Committee Financial Expert as defined by the US Securities and Exchange Commission (SEC)

(4) Since April 2011

Responsibilities	Membership comprises	Number of meetings held in 2011/approximate average duration of each meeting Attendance	Link
The Risk Committee		**4/2**	
The primary responsibilities of this committee include: —Ensuring that Novartis has implemented an appropriate and effective risk management system and process; —Ensuring that all necessary steps are taken to foster a culture of risk-adjusted decision making without constraining reasonable risk-taking and innovation; —Approving guidelines and reviewing policies and processes; and —Reviewing with management, internal auditors and external auditors the identification, prioritization and management of the risks, the accountabilities and roles of the functions involved with risk management, the risk portfolio and the related actions implemented by management. The Risk Committee has the authority to retain external consultants and other advisors.	**Andreas von Planta**[1] Srikant Datar Ann Fudge[2] Ulrich Lehner Wendelin Wiedeking	4 4 3 4 4	Charter of the Risk Committee http://www. novartis.com/corporate-governance

Responsibilities	Membership comprises	Number of meetings held in 2011/approximate average duration of each meeting Attendance	Link
The Compensation Committee		5/1.5	
The primary responsibilities of this committee include:	**Marjorie M.T. Yang**[1]	5	Charter of the Compensation Committee http://www.novartis.com/corporate-governance
—Designing, reviewing and recommending to the Board compensation policies and programs;	William Brody	4	
—Advising the Board on the compensation of the Board members;	Srikant Datar	5	
—Approving the employment terms of key executives;	Ulrich Lehner	4	
—Deciding on the variable compensation of the Chief Executive Officer, the members of the Executive Committee and other key executives for the past year; and	Enrico Vanni[3]	4	
—Deciding on the base salary and the total target compensation of the Chief Executive Officer, the members of the Executive Committee and other key executives for the coming year.			
The Compensation Committee has the authority to retain external consultants and other advisors.			

Responsibilities	Membership comprises	Number of meetings held in 2011/approximate average duration of each meeting Attendance	Link
The Corporate Governance and Nomination Committee		3/2	
The primary responsibilities of this committee include: —Designing, reviewing and recommending to the Board corporate governance principles; —Reviewing on a regular basis the Articles of Incorporation with a view to reinforcing shareholder rights; —Reviewing on a regular basis the composition and size of the Board and its committees; —Reviewing annually the independence status of each Board member; —Reviewing directorships and agreements of board members for conflicts of interest and dealing with conflicts of interest; —Identifying candidates for election as Board member; —Assessing existing Board members and recommending to the Board whether they should stand for re-election; —Preparing and reviewing the succession plan for the CEO; and —Developing and reviewing an orientation program for new Board members and an ongoing education plan for existing Board members. The Corporate Governance and Nomination Committee has the authority to retain external consultants and other advisors.	**Ulrich Lehner**[1] Ann Fudge Pierre Landolt Andreas von Planta Rolf M. Zinkernagel	3 3 2 3 3	Charter of the Corporate Governance and Nomination Committee http://www.novartis.com/corporate-governance

(1) Chair

(2) Since February 2011

(3) Since April 2011

The functioning of the Board of Directors

The Novartis Board of Directors takes decisions as a whole, supported by its five Board committees (Chairman's Committee, Compensation Committee, Audit and Compliance Committee, Corporate Governance and Nomination Committee and Risk Committee). Each Board committee has a written charter outlining its duties and responsibilities and is led by a Chair elected by the Board of Directors.

The Chairman

The Chairman provides leadership to the Board of Directors in its governance role, oversees that the strategy agreed by the Board of Directors is implemented by the Chief Executive Officer and his reports, provides support and advice to the Chief Executive Officer, reviews the yearly objectives and prepares the performance evaluation of the Chief Executive Officer before approval by and feed-back session with the Board of Directors, works closely with the Chief Executive Officer in nominating and evaluating members and permanent attendees of the Executive Committee and in establishing succession plans for key management positions, represents Novartis with stakeholders and oversees Internal Audit.

Meetings of the Board of Directors

The Board of Directors has meetings with the members of the Executive Committee, private meetings without members of the Executive Committee and meetings of only the independent Board members.

Topics addressed in the meetings with the Executive Committee include strategy, business reviews and major projects, investments and transactions. Topics addressed in private meetings include performance evaluation of top management, succession planning and Board self-evaluation.

As long as the Chairman is not independent, Dr. Ulrich Lehner, Vice-Chairman, chairs sessions of the independent Board members and leads the independent Board members in case of a crisis or matters requiring their separate consideration or decision. Moreover, every independent Board member may request separate meetings of the independent Board members if the need arises. Dr. Ulrich Lehner also leads the Board if the Chairman is incapacitated.

In 2011, there were nine meetings of the Board of Directors and six meetings of the independent Board members.

Independence of Board Members

The independence of Board members is a key corporate governance issue. Accordingly, Novartis established independence criteria that are intended to reflect international best-practice standards. These independence criteria (last revised on October 16, 2008) can be found on the Novartis website:

www.novartis.com/investors/governance-documents.shtml

The Corporate Governance and Nomination Committee annually submits to the Board of Directors a proposal concerning the determination of the independence of each Board member. For this assessment, the Committee considers all relevant facts and circumstances of which it is aware.

In its meeting on December 14, 2011, the Board of Directors determined that all of its members, except for Dr. Vasella, were independent.

Dr. Vasella, the Chairman, was until January 31, 2010 also the Chief Executive Officer. The Board of Directors has delegated Rolf M. Zinkernagel, M.D., to the Scientific Advisory Board of the Novartis Institute for Tropical Diseases (NITD), and both Dr. Zinkernagel, M.D. and William Brody, M.D. to the Board of Directors of the Genomics Institute of the Novartis Research Foundation (GNF). The Board of Directors concluded that these activities are supervisory and not consultatory in nature and do not affect Dr. Zinkernagel's or Dr. Brody's independence as a Board member.

Relationship of Non-Executive Board Members with Novartis

With the exception of Dr. Vasella none of the Board members is or was a member of the management of Novartis AG or of any other Novartis Group company in the three financial years preceding 2011.

There are no significant business relationships of any Board member with Novartis AG or with any other Novartis Group company.

Information and control systems of the Board of Directors vis-à-vis Management

Information on the management

The Board of Directors ensures that it receives sufficient information from the Executive Committee to perform its supervisory duty and to make decisions that are reserved for the Board of Directors. The authority of the Board of Directors to determine the compensation of the members of the Executive Committee is an

important element to ensure the alignment of Executive Committee members with the interests of Novartis and its shareholders.

The Board of Directors obtains the information required to perform its duties through several means:

– the Chief Executive Officer informs the Board regularly about current developments;

– the minutes of Executive Committee meetings are made available to the Board members;

– meetings or teleconferences are held as required between Board members and the Chief Executive Officer;

– the Board of Directors regularly meets with all members of the Executive Committee;

– the Board of Directors is updated in detail by each Division Head on a quarterly basis;

– by invitation, other members of management are invited to attend Board meetings to report on areas of the business within their responsibility; and

– Board members are entitled to request information from members of the Executive Committee or any other Novartis associate, and may also visit any Novartis site.

Board Committees

Board committees regularly meet with management and, at times, outside consultants to review the business, better understand applicable laws and policies affecting the Group and support the Board of Directors and the management in meeting the requirements and expectations of stakeholders and shareholders.

In particular, the Chief Financial Officer, the Group General Counsel and representatives of the external auditors are invited to meetings of the Audit and Compliance Committee. Furthermore, the Heads of Internal Audit, Financial Reporting and Accounting, Compliance, as well as the Business Practices Officers, report on a regular basis to the Audit and Compliance Committee.

The Audit and Compliance Committee reviews financial reporting processes on behalf of the Board of Directors. For each quarterly and annual release of financial information, the Disclosure Review Committee reviews the release for accuracy and completeness of disclosures. The Disclosure Review Committee is chaired by the Chief Financial Officer and is attended by the Group General Counsel, the Heads of the Divisions, the Heads of Finance of the Divisions and the Heads of the following Corporate Functions: Treasury, Financial Reporting and Accounting, Internal Audit and Investor Relations. Decisions made by the Disclosure Review Committee are reviewed by the Audit and Compliance Committee before publication of the quarterly and annual release.

The Risk Committee oversees the risk management system and processes, as well as reviews the risk portfolio of the Group to ensure appropriate and professional management of the risks. For this purpose the Corporate Risk Management function and the risk owners of the Divisions report on a regular basis to the Risk Committee. The Group General Counsel and the Head of Internal Audit are also invited to the meetings.

Novartis Management Information System

Novartis produces comprehensive consolidated financial statements on a monthly basis. These are typically available within ten days of the end of the month and include the following:

– consolidated income statement of the month, quarter-to-date and year-to-date in accordance with International Financial Reporting Standards (IFRS), as well as on a year-to-date and quarterly basis adjustments to arrive at Core results as defined by Novartis. The IFRS figures are compared to the prior year period and targets in both $ and on a constant currency basis;

– consolidated balance sheet as of the month end in accordance with IFRS in $;

– consolidated cash flow on a year-to-date basis in accordance with IFRS in $; and

– supplementary data on a monthly, quarterly and year-to-date basis such as free cash flow and gross and net liquidity, headcount, personnel costs, and working capital as defined by Novartis and on a $ basis where applicable.

The above information is made available to the members of the Board on a monthly basis. An analysis of the key deviations from prior year or target is also provided.

The Board also receives on a quarterly basis an outlook of the full year results in accordance with IFRS and Core, together with related commentary prior to the release of the quarterly results.

On an annual basis, in the fourth quarter of the year, the Board receives and approves the operating and financial targets for the following year.

In the middle of the year, the Board also reviews and approves the Strategic Plan for the next five years and the consolidated income statement in $ in accordance with IFRS and Core contained in the Plan.

The Board does not have direct access to Novartis' financial and management reporting systems but can at any time request more detailed financial information on any aspect that is presented to it.

Internal Audit

The Internal Audit function carries out operational and system audits in accordance with an audit plan approved by the Audit and Compliance Committee; assists organizational units in the accomplishment of objectives by providing an independent approach to the evaluation, improvement and effectiveness of their internal control framework; prepares reports regarding the audits it has performed; and reports actual or suspected irregularities to the Audit and Compliance Committee and the Chairman. The Audit and Compliance Committee regularly reviews the scope of Internal Audit, the audit plans and the results of the internal audits.

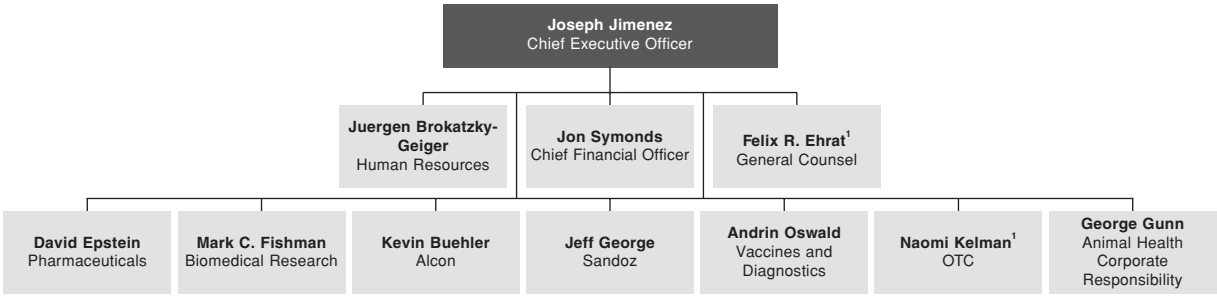
Risk Management

The Corporate Risk Management function reports to the independent Risk Committee of the Board of Directors. The Compensation Committee works closely with the Risk Committee to ensure that the compensation system does not lead to excessive risk-taking by management (for details see our Compensation Report).

Organizational and process measures have been designed to identify and mitigate risks at an early stage. Organizationally, the individual divisions are responsible for risk and risk mitigation, with specialized corporate functions, such as Group Finance, Group Quality Operations, Corporate Health, Safety, Environment and Business Continuity, providing support and controlling the effectiveness of risk management by the Divisions in these respective areas.

Our Management

Composition of the Executive Committee



(1) Permanent attendee until December 31, 2011, full member as per January 1, 2012.

Composition of the Executive Committee

The Executive Committee is headed by the Chief Executive Officer. The members of the Executive Committee are appointed by the Board of Directors. The Chairman may appoint or remove non-voting Permanent Attendees to attend the meetings of the Executive Committee. As of December 31, 2011, there were 2 Permanent Attendees attending meetings of the Executive Committee.

The organizational structure and the details of the responsibility of the Executive Committee are set forth in the Board Regulations (www.novartis.com/corporate-governance).

The Board of Directors has not concluded any contracts with third parties to manage the business.

Role and functioning of the Executive Committee

The Board of Directors has delegated to the Executive Committee the coordination of the Group's day-to-day business operations. This includes:

- Developing policies, strategies and strategic plans for approval by the Board of Directors and implementing those approved by the Board of Directors;
- Submitting to the Board of Directors and its committees proposed changes in management positions of material significance, investments, financial measures, acquisitions or divestitures, contracts of material significance and budgets;
- Preparing and submitting quarterly and annual reports to the Board of Directors or its committees;
- Informing the Board of Directors of all matters of fundamental significance to the businesses;
- Recruiting, appointing and promoting senior management;
- Ensuring the efficient operation of the Group and achievement of optimized results;
- Promoting an active internal and external communications policy; and
- Dealing with any other matters as are delegated by the Board of Directors to the Executive Committee.

the Chief Executive Officer

In addition to other duties that may be assigned by the Board of Directors, the Chief Executive Officer, supported by the Executive Committee, is responsible overall for the management and performance of the business, leads the Executive Committee, builds and maintains an effective executive team and represents Novartis with major customers, financial analysts, investors and with the media.

Contracts with Members of the Executive Committee

In accordance with good corporate governance, employment contracts with members of the Executive Committee do not contain unusually long notice periods, change-of-control clauses or severance payments.

The Independent External Auditors

Duration of the Mandate and Terms of Office

Based on a recommendation by the Audit and Compliance Committee, the Board of Directors nominates an independent auditor for election at the Annual General Meeting. PricewaterhouseCoopers (PwC) assumed its existing auditing mandate for Novartis in 1996. Peter Kartscher, auditor in charge, and Michael P. Nelligan, global relationship partner, began serving in their respective roles in 2009. The Audit and Compliance Committee ensures that the auditor in charge is rotated at least every five years.

Information to the Board of Directors and the Audit and Compliance Committee

The independent auditor, PwC, is responsible for opining on whether the audited consolidated financial statements comply with International Financial Reporting Standards (IFRS) and Swiss law and whether the separate parent company financial statements of Novartis AG comply with Swiss law. Additionally, PwC is responsible for opining on the effectiveness of internal control over financial reporting.

The Audit and Compliance Committee, acting on behalf of the Board of Directors, is responsible for overseeing the activities of PwC. During 2011, the Audit and Compliance Committee held 6 meetings. At each of these meetings, PwC was invited to attend during the discussion of agenda items that dealt with accounting, financial reporting or auditing matters and any other matters relevant for their audit.

On an annual basis, PwC provides to the Audit and Compliance Committee the written disclosures required by Rule 3526, "Communications with Audit Committees Concerning Independence," of the Public Company Accounting Oversight Board (PCAOB), and the Audit and Compliance Committee and PwC discuss PwC's independence from Novartis and Novartis' management.

The Audit and Compliance Committee recommended to the Board of Directors, and the Board of Directors approved, inclusion of the audited financial statements in the Annual Report for the year ended December 31, 2011.

The Audit and Compliance Committee, on a regular basis, evaluates the performance of PwC and, once yearly, based on a performance evaluation, recommends to the Board of Directors whether PwC should be proposed to the Annual General Meeting for election. Also, once yearly, the auditor in charge and the global relationship partner report to the Board of Directors on the activities of PwC during the current year and on the audit plan for the coming year and answer any questions or concerns Board members might have on the performance of PwC, or on the work PwC has conducted or is planning to conduct.

In order to assess the performance of PwC, the Audit and Compliance Committee requires a self-evaluation report from PwC, holds private meetings with the Chief Executive Officer, the Chief Financial Officer and with the Head of Internal Audit and, if necessary, obtains an independent external assessment. The Board of Directors also meets with the auditor in charge and the global relationship partner. Criteria applied for the performance assessment of PwC include technical and operational competence, independent and objective view, sufficient resources employed, focus on areas of significant risk to Novartis, willingness to probe and challenge, ability to provide effective, practical recommendations and open and effective communication and coordination with the Audit and Compliance Committee, the Internal Audit function and management.

Pre-approval of Audit and Non-Audit Services

The Audit and Compliance Committee's pre-approval is required for all services provided by PwC. These services may include audit services, audit-related services, tax services and other services.

Pre-approval is detailed as to the particular services or categories of services, and is subject to a specific budget. PwC and management report, on a quarterly basis, to the Audit and Compliance Committee regarding the extent of services provided in accordance with this pre-approval and the fees for the services performed to date. The Audit and Compliance Committee may also pre-approve additional services on a case-by-case basis.

Auditing and Additional Fees

PwC charged the following fees for professional services rendered for the 12-month periods ended December 31, 2011 and December 31, 2010:

	2011	2010
	$ thousands	$ thousands
Audit Services	30,060	23,675
Audit-Related Services	2,480	2,140
Tax Services	1,550	1,485
Other Services	190	110
Total	**34,280**	**27,410**

Audit Services are defined as the standard audit work performed each year in order to issue opinions on the parent company and consolidated financial statements of the Group, to issue opinions relating to the effectiveness of the Group's internal controls over financial reporting, and to issue reports on local statutory financial statements. Also included are audit services that can only be provided by the Group auditor, such as auditing of non-recurring transactions and implementation of new accounting policies, audits of accounting infrastructure system controls, pre-issuance reviews of quarterly financial results, consents and comfort letters and any other audit services required for SEC or other regulatory filings.

Audit-Related Services include those other assurance services provided by the independent auditor but not restricted to those that can only be provided by the auditor signing the audit report. They comprise amounts for services such as acquisition due diligence and related audits, audits of pension and benefit plans, IT infrastructure control assessments, contractual audits of third-party arrangements, assurance services on corporate citizenship reporting and compliance with corporate integrity agreements, and consultation regarding new accounting pronouncements.

Tax Services represent tax compliance, tax returns, assistance with historical tax matters and other tax-related services.

Other Services include training in the finance area, advice for process improvements, benchmarking studies, assessment of certain non-financial processes and license fees for use of accounting and other reporting guidance databases.

Further Information

The Group structure of Novartis

Novartis AG and Group Companies

Under Swiss company law, Novartis AG is organized as a corporation which has issued shares of common stock to investors. The registered office of Novartis AG is Lichtstrasse 35, CH-4056 Basel, Switzerland.

Business operations are conducted through Novartis Group companies. Novartis AG, a holding company, owns directly or indirectly all companies worldwide belonging to the Novartis Group. Except as described below, the shares of these companies are not publicly traded. The most important Novartis subsidiaries and associated companies are listed in Note 31 to the Group's consolidated financial statements.

Divisions

The wholly-owned businesses of Novartis are divided on a worldwide basis into six operating divisions, Pharmaceuticals, Alcon (eye care), Sandoz (generics), Vaccines and Diagnostics, Over-the-Counter and Animal Health, and Corporate activities.

Majority holdings in publicly traded group companies

76% of Novartis India Limited, with its registered office in Mumbai, India, and listed on the Bombay Stock Exchange (ISIN INE234A01025, symbol: HCBA). The total market value of the 24% free float of Novartis India Limited was $92.3 million at December 31, 2011, using the quoted market share price at the year end. Applying this share price to all the shares of the company the market capitalization of the whole company is $391.5 million.

Significant minority holdings in publicly traded companies

Novartis AG holds

– 33.3% of the bearer shares of Roche Holding AG, with its registered office in Basel, Switzerland, and listed on the SIX Swiss Exchange (Valor No. 1203211, ISIN CH0012032113, symbol: RO). The market value of the Group's interest in Roche Holding AG, as of December 31, 2011, was $9.45 billion. The total market value of Roche Holding AG was $147.4 billion. Novartis does not exercise control over Roche Holding AG, which is independently governed, managed and operated.

– 31.1% of Idenix Pharmaceuticals, Inc., with its registered office in Delaware, USA, and listed on NASDAQ (Valor No. 1630029, ISIN US45166R2040, symbol: IDIX). The total market value of the 66.48% free float of Idenix Pharmaceuticals, Inc. was $529.3 million at December 31, 2011, using the quoted market share price at the year end. Applying this share price to all the shares of the company the market capitalization of the whole company is $793.3 million. Novartis does not exercise control over Idenix Pharmaceuticals, Inc., which is independently governed, managed and operated.

Information of our stakeholders

Introduction

Novartis is committed to open and transparent communication with shareholders, financial analysts, customers, suppliers and other stakeholders. Novartis aims to disseminate material developments in its businesses in a broad and timely manner that complies with the rules of the SIX Swiss Exchange and the NYSE.

Communications

Novartis publishes an Annual Report each year that provides information on the Group's results and operations. In addition to the Annual Report, Novartis prepares an annual report on Form 20-F that is filed with the SEC. Novartis discloses quarterly financial results in accordance with IFRS and issues press releases from time to time regarding developments in its businesses.

Novartis furnishes press releases relating to financial results and material events to the SEC via Form 6-K. An archive containing Annual Reports, annual reports on Form 20-F, and quarterly results releases, as well as related materials such as slide presentations and conference call webcasts, is on the Novartis Investor Relations website (www.novartis.com/investors). The archive is available on the Novartis website:

http://www.novartis.com/newsroom/media-releases/index.shtml

Information contained in reports and releases issued by Novartis is only correct and accurate at the time of release. Novartis does not update past releases to reflect subsequent events and advises against relying on them for current information.

Investor Relations program

An Investor Relations team manages the Group's interaction with the international financial community. Several events are held each year to provide institutional investors and analysts various opportunities to learn more about Novartis.

Investor Relations is based at the Group's headquarters in Basel, Switzerland. A part of the team is located in New York to coordinate interaction with US investors. Information is available on the Novartis website: www.novartis.com/investors. Investors are also welcome to subscribe to a free e-mail service on this site.

WEBSITE INFORMATION

Topic	Information
Share Capital	Articles of Incorporation of Novartis AG http://www.novartis.com/corporate-governance Novartis key share data http://www.novartis.com/key-share-data
Shareholder Rights	Articles of Incorporation of Novartis AG http://www.novartis.com/corporate-governance Investor Relations information http://www.novartis.com/investors
Board Regulations	Board Regulations http://www.novartis.com/corporate-governance
Executive Committee	Executive Committee http://www.novartis.com/executive-committee
Novartis Code for Senior Financial Officers	Novartis Code of Ethical Conduct for CEO and Senior Financial Officers http://www.novartis.com/corporate-governance
Additional Information	Novartis Investor Relations http://www.novartis.com/investors

6.D Employees

The table below sets forth the breakdown of the total year-end number of our full time equivalent employees by main category of activity and geographic area for the past three years.

For the year ended December 31, 2011 (full time equivalents)	Research & Development	Production & Supply	Marketing & Sales	General & Administration	Total
USA	8,269	7,785	8,930	2,258	27,242
Canada and Latin America	537	2,713	5,541	1,146	9,937
Europe	11,203	20,384	19,532	6,434	57,553
Asia/Africa/Australasia	3,509	4,725	18,551	2,169	28,954
Total	**23,518**	**35,607**	**52,554**	**12,007**	**123,686**

For the year ended December 31, 2010 (full time equivalents)	Research & Development	Production & Supply	Marketing & Sales	General & Administration	Total
USA	7,995	7,186	9,942	2,464	27,587
Canada and Latin America	555	2,660	5,435	1,064	9,714
Europe	11,009	19,601	19,477	6,103	56,190
Asia/Africa/Australasia	2,849	4,193	17,083	1,802	25,927
Total	**22,408**	**33,640**	**51,937**	**11,433**	**119,418**

For the year ended December 31, 2009 (full time equivalents)	Research & Development	Production & Supply	Marketing & Sales	General & Administration	Total
USA	6,367	3,683	8,626	1,849	20,525
Canada and Latin America	556	2,365	4,644	912	8,477
Europe	10,433	17,226	16,946	5,389	49,994
Asia/Africa/Australasia	2,466	3,888	13,083	1,401	20,838
Total	**19,822**	**27,162**	**43,299**	**9,551**	**99,834**

Movements in full time equivalents	2011	2010
Associates as of January 1	**119,418**	**99,834**
Separations	(4,572)	(3,467)
Retirements	(751)	(757)
Resignations	(8,297)	(7,309)
External hirings	17,049	14,402
Impact of major business combinations	839	16,715
Total associates as of December 31	**123,686**	**119,418**

A significant number of our associates are represented by unions or works councils. We have not experienced any material work stoppages in recent years, and we consider our employee relations to be good.

6.E Share Ownership

The aggregate amount of our shares owned by current non-executive Directors and the current members of our Executive Committee and Permanent Attendees (including persons closely linked to them) as of January 19, 2012 was 6,219,881 shares.

The aggregate amount of Novartis share and ADS options, including other information regarding the options, held by current non-executive Directors and the current members of our Executive Committee and Permanent Attendees as of January 19, 2012 is set forth below:

Title of Options	Amount of shares called for by the options	Exercise Price[1] (CHF)	Purchase Price (if any)	Expiration Date	Total number of options held
Novas12 Options	1	48.86	0	February 3, 2012	0
Novas14 Options	1	57.45	0	February 3, 2014	9,559
Novas15 Options	1	57.45	0	February 3, 2015	34,127
Novas16 Options	1	71.30	0	February 5, 2016	101,446
Novas17 Options	1	72.85	0	February 3, 2017	898,530
Novas18 Options	1	64.05	0	January 10, 2018	273,708
Novas19 Options	1	53.65	0	January 18, 2019	643,140
Novas20 Options	1	55.85	0	January 19, 2020	1,782,610
Novas21 Options	1	54.70	0	January 19, 2021	141,396
Novas22 Options	1	54.20	0	January 19, 2022	0
Total Novartis Share Options					**3,884,516**
Novartis ADS Options Cycle V	1	$41.97	0	March 7, 2011	0
Novartis ADS Options Cycle VI	1	$37.28	0	March 7, 2012	0
Novartis ADS Options Cycle VII	1	$36.31	0	February 4, 2013	149,782
Novartis ADS Options Cycle VIII	1	$46.09	0	February 4, 2014	112,932
Novartis ADS Options Cycle IX	1	$47.84	0	February 4, 2015	151,659
Novartis ADS Options Cycle X	1	$54.70	0	February 5, 2016	124,876
Novartis ADS Options Cycle XI	1	$58.38	0	February 3, 2017	186,850
Novartis ADS Options Cycle XII	1	$57.96	0	January 10, 2018	184,870
Novartis ADS Options Cycle XIII	1	$46.42	0	January 18, 2019	128,827
Novartis ADS Options Cycle XIV	1	$53.70	0	January 19, 2020	0
Novartis ADS Options Cycle XV	1	$57.07	0	January 19, 2021	0
Novartis ADS Options Cycle XVI	1	$58.33	0	January 19, 2022	0
Total Novartis ADS Options					**1,039,796**

[1] Exercise price indicated is per share, and denominated in Swiss francs except where indicated.

In addition, one Executive Committee member, Kevin Buehler, owns 782,485 other options, consisting of non tradable options and share settled appreciation rights, resulting from the conversion of Alcon equity into Novartis equity.

For more information on the Novartis shares and share options owned by individual members of our Executive Committee and by our current non-executive Directors, see "—Item 6.B Compensation—Ownership of Novartis Shares and Share Option by Executive Committee Members." and "—Item 6.B Compensation—Ownership of Novartis Shares and Share Option by Non-Executive Directors." For information on our equity-based compensation plans see "—Item 6.B Compensation—Compensation to Novartis Associates."

Item 7. Major Shareholders and Related Party Transactions

7.A Major Shareholders

Based on our share register, we believe that we are not directly or indirectly owned or controlled by another corporation or government, or by any other natural or legal persons.

According to the share register, on December 31, 2011, no person or entity was registered as the owner of more than 5% of our shares. As of that date, excluding 5.76% of our share capital held by Novartis AG, together with Novartis affiliates, as treasury shares, the following shareholders (including nominees and the ADS depositary) held more than 2% of the total share capital of Novartis with the right to vote these shares:

- Shareholders: Novartis Foundation for Employee Participation, with its registered office in Basel, Switzerland, holding 4.1% and Emasan AG, with its registered office in Basel, Switzerland, holding 3.2%;

- Nominees: JPMorgan Chase Bank, New York (holding 10.9%); Nortrust Nominees, London (holding 3.2%); Mellon Bank, Everett, Massachusetts (holding 3%); and
- ADS depositary: JPMorgan Chase Bank, New York (holding 11%).

According to disclosure notifications filed with Novartis AG and SIX Swiss Exchange, Capital Group Companies, Inc., Los Angeles, California held between 3% and 5% of the share capital of Novartis AG as of December 31, 2011.

As of December 31, 2011, no other shareholder was registered as owner of more than 2% of the registered share capital. Novartis has not entered into any agreement with any shareholder regarding the voting or holding of Novartis shares.

According to the share register, on December 31, 2010, no person or entity was registered as the owner of more than 5% of our shares. As of that date, excluding 6.3% of our share capital held by Novartis AG, together with Novartis affiliates, as treasury shares, the following shareholders (including nominees and the ADS depositary) held more than 2% of the total share capital of Novartis with the right to vote these shares:

- Shareholders: Novartis Foundation for Employee Participation, with its registered office in Basel, Switzerland, holding 4.3% and Emasan AG, with its registered office in Basel, Switzerland, holding 3.3%;
- Nominees: JPMorgan Chase Bank, New York (holding 10.7%); Mellon Bank, Everett, Massachusetts (holding 2.9%); Nortrust Nominees, London (holding 2.8%); and
- ADS depositary: JPMorgan Chase Bank, New York (holding 9.6%).

According to disclosure notifications filed with Novartis AG and SIX Swiss Exchange, each of the following shareholders held between 3% and 5% of the share capital of Novartis AG as of December 31, 2010:

- Capital Group Companies, Inc., Los Angeles, CA
- BlackRock, Inc., New York, NY

As of December 31, 2009, the holdings of the shareholders listed above with a right to vote were as follows:

- Shareholders: Novartis Foundation for Employee Participation, with its registered office in Basel, Switzerland, holding 4.6% and Emasan AG, with its registered office in Basel, Switzerland, holding 3.3%;
- Nominees: JPMorgan Chase Bank, New York (holding 10.2%); Mellon Bank, Everett, Massachusetts (holding 2.9%); Nortrust Nominees, London (holding 2.5%); and
- ADS depositary: JPMorgan Chase Bank, New York (holding 10.5%).

7.B Related Party Transactions

Genentech/Roche: Novartis has two agreements with Genentech, Inc., USA, a subsidiary of Roche Holdings AG which is indirectly included in the consolidated financial statements using equity accounting since Novartis holds 33.3% of the outstanding voting shares of Roche.

Lucentis. We have licensed the exclusive rights to develop and market *Lucentis* outside the US for indications related to diseases of the eye. As part of this agreement, Novartis paid Genentech/Roche an initial milestone and shared the cost for the subsequent development by making additional milestone payments upon the achievement of certain clinical development points and product approval. Novartis also pays royalties on the net sales of *Lucentis* products outside the US. *Lucentis* sales of $2.0 billion (2010: $1.5 billion; 2009: $1.2 billion) have been recognized by Novartis.

Xolair. In February 2004, Novartis Pharma AG, Genentech, Inc., and Tanox, Inc., finalized a three-party collaboration to govern the development and commercialization of certain anti-IgE antibodies including *Xolair* and TNX-901. Under this agreement, all three parties co-developed *Xolair*. On August 2, 2007, Genentech, Inc. completed the acquisition of Tanox, Inc. and has taken over its rights and obligations. Novartis and Genentech/Roche are co-promoting *Xolair* in the US where Genentech/Roche records all sales.

Novartis markets *Xolair* and records all sales and related costs outside the *US,* as well as co-promotion costs in the US. Genentech and Novartis share the resulting profits from sales in the US, Europe and other countries, according to agreed profit-sharing percentages. Novartis recognized total sales of *Xolair* of $478 million (2010: $369 million) including sales to Genentech/Roche for the US market.

The net expense for royalties, cost sharing and profit sharing arising out of the *Lucentis* and *Xolair* agreements with Genentech totaled $396 million (2010: $300 million; 2009: $200 million).

Furthermore, Novartis has several patent license, supply and distribution agreements with Roche and several Novartis entities hold Roche bonds totaled $20 million (2010: $17 million; 2009: $1 billion).

Idenix: Novartis Pharma AG entered into a collaboration agreement with Idenix in May 2003 relating to the worldwide development and commercialization of drug candidates and purchased approximately 54% of the common stock of Idenix. As Novartis had the ability to exercise control, Idenix was fully consolidated. In August 2009, Novartis opted not to purchase shares that were issued pursuant to an underwritten offering and waived and amended certain rights under the development and commercialization agreement. As a result of this, the Novartis shareholding was diluted from the pre-offering level of 53% to 47% and since September 1, 2009 Idenix has been accounted for according to the equity method. Novartis has a license agreement with Idenix for *Tyzeka*/*Sebivo* and may pay additional license fees and development expenses for drug candidates that Novartis may elect to license from Idenix. The sales of *Tyzeka*/*Sebivo* totaled $114 million in 2011 ($95 million in 2010; 2009: $84 million).

Executive Officer: During 2009, an Executive Officer acquired real estate for CHF 3.7 million from a consolidated entity. The transaction price was based on independent external valuation reports.

7.C Interests of Experts and Counsel

Not applicable.

Item 8. Financial Information

8.A Consolidated Statements and Other Financial Information

See "Item 18. Financial Statements."

Dividend policy

Subject to the dividend policy described below, our Board of Directors expects to recommend the payment of a dividend in respect of each financial year. If approved by our shareholders at the relevant annual Shareholders' Meeting, the dividends will be payable shortly following such approval. Any shareholder who purchased our shares on or before the second trading day after the shareholders' meeting and holds the shares through that date shall be deemed to be entitled to receive the dividends approved at that meeting. Dividends are reflected in our financial statements in the year in which they are approved by our shareholders.

Our Board's stated policy is that, over the long term, the size of the dividend should be geared to growth in our after-tax earnings. In December 2007, our Board established a policy of paying dividends, subject to shareholder approval, of between 35% and 60% of our net income from continuing operations. In July 2011, in order to retain a good balance between attractive shareholder returns, investment in the business and a sound capital structure, our Board amended this policy by eliminating the 60% payout ceiling. However, all future dividends paid by us will depend upon our financial condition at the time, the results of our operations and other factors.

The Board will propose a dividend of CHF 2.25 per share to the shareholders for approval at the Annual General Meeting to be held on February 23, 2012. Because we pay dividends in Swiss francs, exchange rate fluctuations will affect the US dollar amounts received by holders of ADSs. For a summary of dividends we paid in the past five years, see "Item 3. Key Information—3.A Selected Financial Data—Cash Dividends per Share." See also "Item 3. Key Information—3.D Risk Factors—The price of our ADSs and the US dollar value of any dividends may be negatively affected by fluctuations in the US dollar/Swiss franc exchange rate."

8.B Significant Changes

None.

Item 9. The Offer and Listing

9.A Listing Details

Our shares are listed in Switzerland on the SIX Swiss Exchange (SIX).

American Depositary Shares, each representing one share, have been available in the US through an American Depositary Receipts (ADR) program since December 1996. This program was established pursuant to a Deposit Agreement which we entered into with JPMorgan Chase Bank N.A. as Depositary (Deposit Agreement). Our ADSs have been listed on the NYSE since May 2000, and are traded under the symbol "NVS."

The table below sets forth, for the periods indicated, the high and low closing sales prices for our shares traded in Switzerland and for ADSs traded in US. The data below regarding our shares reflects price and volume information for trades completed by members of the SIX during the day as well as for inter-dealer trades completed off the SIX and certain inter-dealer trades completed during trading on the previous business day.

The following share data was taken from SIX; the ADS data was taken from Bloomberg:

	Shares		ADSs	
	High	Low	High	Low
	CHF per share		$ per ADS	
Annual information for the past five years				
2007	74.65	57.55	59.70	51.60
2008	66.25	45.62	61.06	43.85
2009	56.90	39.64	56.16	33.96
2010	60.25	50.55	59.77	43.78
2011	55.80	39.99	64.52	51.65
Quarterly information for the past two years				
2011				
First Quarter	55.80	48.10	59.24	52.75
Second Quarter	55.00	48.62	64.52	54.23
Third Quarter	52.15	39.99	62.82	53.73
Fourth Quarter	53.70	47.80	58.86	51.65
2010				
First Quarter	60.25	53.50	55.52	51.91
Second Quarter	56.90	50.75	53.83	43.78
Third Quarter	56.90	50.55	58.09	47.85
Fourth Quarter	57.35	53.10	59.77	53.41
Monthly information for most recent six months				
August 2011	46.99	39.99	61.18	54.34
September 2011	50.80	44.45	58.57	53.73
October 2011	52.35	49.61	58.86	54.69
November 2011	50.70	47.80	56.62	51.65
December 2011	53.70	49.63	57.17	53.51
January 2012 (through January 19)	54.70	53.00	58.33	55.80

Fluctuations in the exchange rate between the Swiss franc and the US dollar will affect any comparisons of Swiss share prices and US ADS prices.

The average daily volumes traded on the SIX (ON/OFF exchange) for the years 2011, 2010 and 2009 were 7,036,042, 6,216,952 and 7,110,909, respectively. These numbers are based on total annual turnover statistics supplied by the SIX via the Swiss Market Feed, which supplies such data to subscribers and to other information providers. The average daily volumes traded in the US for the years 2011, 2010 and 2009 were 3,492,488, 3,515,307 and 1,640,066, respectively.

The Depositary has informed us that as of January 19, 2012, there were 302,529,087 ADSs outstanding, each representing one Novartis share (approximately 11% of total Novartis shares issued). On January 19, 2012, the closing sales price per share on the SIX was CHF 54.20 and $58.33 per ADS on the NYSE.

9.B Plan of Distribution

Not applicable.

9.C Market

See "9.A Listing Details."

9.D Selling Shareholders

Not applicable.

9.E Dilution

Not applicable.

9.F Expenses of the Issue

Not applicable.

Item 10. Additional Information

10.A Share capital

Not applicable.

10.B Memorandum and Articles of Association

The following is a summary of certain provisions of our Articles of Incorporation (Articles), our Regulations of the Board of Directors (Board Regulations) and of Swiss law, particularly, the Swiss Code of Obligations (Swiss Code). This is not a summary of all the significant provisions of the Articles, the Board Regulations or of Swiss law. This summary is qualified in its entirety by reference to the Articles and the Board Regulations, which are an exhibit to this Form 20-F, and to Swiss law.

10.B.1 ***Company Purpose***

Novartis AG is registered in the commercial register of the Canton of Basel-Stadt, Switzerland, under number CH-270.3.002.061-2. Our business purpose, as stated in Article 2 of the Articles, is to hold interests in enterprises in the area of healthcare or nutrition. We may also hold interests in enterprises in the areas of biology, chemistry, physics, information technology or related areas. We may acquire, mortgage, liquidate or sell real estate and intellectual property rights in Switzerland or abroad. In pursuing our business purpose, we strive to create sustainable value.

10.B.2 ***Directors***

(a) According to our Board Regulations, our Directors may not participate in deliberations or resolutions on matters which affect, or reasonably might affect, the Director's interests, or the interests of a person close to the Director. In addition, the Swiss Code sets forth that if, in connection with the conclusion of a contract, the Company is represented by the person with whom it is concluding the contract, such contract shall be in writing. Furthermore, the Swiss Code does require directors and members of senior management to safeguard the interests of the corporation and, in this connection, imposes a duty of care and a duty of loyalty on such persons. This rule is generally interpreted to mean that directors and members of senior management are disqualified from participating in decisions which affect them personally.

(b) As with any Board resolution, Directors may not vote on their own compensation unless at least a majority of the Directors are present.

(c) The Articles and the Board Regulations contain no specific provision permitting or prohibiting Directors from borrowing from us. The Board of Directors may take decisions on all matters which by law or the Articles are not allocated to the General Meeting of Shareholders.

(d) Directors must retire after the end of their seventieth year of age, but the retirement does not become effective until the date of the next Ordinary General Meeting of Shareholders. The General Meeting of Shareholders may, under special circumstances, grant an exemption from this rule and may elect a Director for further terms of office of no more than three years at a time.

(e) Under the Articles, each of our Directors must also be a shareholder. Ownership of one share is sufficient to satisfy this requirement.

10.B.3 ***Shareholder Rights***

Because we have only one class of registered shares, the following information applies to all shareholders.

(a) The Swiss Code requires that at least 5% of our annual profit be retained as general reserves, so long as these reserves amount to less than 20% of our registered share capital. The law and the Articles permit us to accrue additional reserves.

Under the Swiss Code, we may only pay dividends out of the balance sheet profit or out of reserves created for this purpose. In either event, under the Swiss Code, while the Board of Directors may propose that a dividend be paid, we may only pay dividends upon shareholders' approval at a General Meeting of Shareholders. Our auditors must confirm that the dividend proposal of our Board of Directors conforms with the Swiss Code and the Articles. Our Board of Directors intends to propose a dividend once each year. See "Item 3. Key Information—3.A. Selected Financial Data—Cash Dividends per Share."

Dividends are usually due and payable shortly after the shareholders have passed a resolution approving the payment. Dividends which have not been claimed within five years after the due date revert to us, and are allocated to our general reserves. For information about deduction of the withholding tax from dividend payments, see "Item 10. Additional Information—10.E Taxation."

(b) Each share is entitled to one vote at a General Meeting of Shareholders. Voting rights may only be exercised for shares registered with the right to vote on the Record Date. In order to do so, the shareholder must file a share registration form with us, setting forth the shareholder's name, address and citizenship (or, in the case of a legal entity, its registered office). If the shareholder has not timely filed the form, then the shareholder may not vote at, or participate in, General Meetings of Shareholders.

To vote its shares, the shareholder must also explicitly declare that it has acquired the shares in its own name and for its own account. If the shareholder refuses to make such a declaration, the shares may not be voted unless the Board of Directors recognizes such shareholder as nominee. The Board of Directors may grant such nominees the right to vote up to 0.5% of the registered share capital as set forth in the commercial register.

Except as described below, no shareholder may be registered with the right to vote shares composing more than 2% of our registered share capital as set forth in the commercial register. If a shareholder holds more than 2% of Novartis' shares, that shareholder will be entitled to register the excess shares, but not to cast votes based upon them (registration without the right to vote).

For purposes of the 2% rule for shareholders and the 0.5% rule for nominees, groups of companies and groups of shareholders acting in concert are considered to be one shareholder. The Board of Directors may, upon request, grant exemptions from both the 2% rule for shareholders and the 0.5% rule for nominees. The Board of Directors may delegate this power. To date, such a request has never been denied. Finally, the shareholders may cancel the registration restrictions upon a resolution carrying a two-thirds majority of the vote at a General Meeting of Shareholders.

After hearing the registered shareholder or nominee, the Board of Directors may cancel, with retroactive effect as of the date of registration, the registration of the shareholders if the registration was effected based on false information.

Shareholders' resolutions generally require the approval of a majority of the votes present at a General Meeting of Shareholders. As a result, abstentions have the effect of votes against the resolution. Shareholder

resolutions requiring a vote by such "absolute majority" include (1) amendments to the Articles; (2) elections of directors and statutory auditors; (3) approval of the annual report and the annual accounts; (4) setting the annual dividend; (5) decisions to discharge directors and management from liability for matters disclosed to the General Meeting of Shareholders; and (6) the ordering of an independent investigation into specific matters proposed to the General Meeting of Shareholders.

According to the Articles and Swiss law, the following types of shareholders' resolutions require the approval of a "supermajority" of at least two-thirds of the votes present at a General Meeting of Shareholders: (1) an alteration of our corporate purpose; (2) the creation of shares with increased voting powers; (3) an implementation of restrictions on the transfer of registered shares and the removal of such restrictions; (4) an authorized or conditional increase of the share capital; (5) an increase of the share capital by conversion of equity, by contribution in kind, or for the purpose of an acquisition of property or the grant of special rights; (6) a restriction or an elimination of shareholders' preemptive rights; (7) a change of our domicile; (8) our dissolution; or (9) any amendment to the Articles which would create or eliminate a supermajority requirement.

The Directors' terms of office are coordinated so that in each year approximately one-third of all the Directors are subject to re-election or election. Cumulative voting of shares is not permitted under Swiss law.

At General Meetings of Shareholders, shareholders can be represented by proxy. However, a proxy must either be the shareholder's legal representative, another shareholder with the right to vote, a proxy appointed by us, an independent representative nominated by us, or a depositary. Votes are taken either by a show of hands or by electronic voting, unless the General Meeting of Shareholders resolves to have a ballot or where a ballot is ordered by the chairman of the meeting.

A holder of a Novartis American Depositary Receipt (ADR) has a paper receipt issued by our depositary JPMorgan Chase Bank, New York, and not by us. The ADR is vested with rights defined and enumerated in the Deposit Agreement (such as the rights to vote, to receive a dividend and to receive a share of Novartis in exchange for a certain number of ADRs). The enumeration of rights, including any limitations on those rights, is final. There are no other rights given to the ADR holders. Only the ADR depositary, holding our shares underlying the ADRs, is registered as shareholder in our share register. An ADR is not a Novartis share and an ADR holder is not a Novartis shareholder.

The Deposit Agreement between our depositary, the ADR holder and us has granted the right to vote to the ADR holders. ADR holders may not attend Novartis General Meetings in person. ADR holders exercise their voting rights by instructing JPMorgan Chase Bank, our depositary, to exercise the voting rights attached to the registered shares underlying the ADRs. Each ADR represents one Novartis share. JPMorgan Chase Bank exercises the voting rights for registered shares underlying ADRs for which no voting instructions have been given by providing a discretionary proxy to the independent proxy appointed by Novartis pursuant to paragraph 13 of the Deposit Agreement governing ADRs. The same voting restrictions apply to ADR holders as to those holding Novartis shares (i.e. the right to vote up to 2% of the Novartis registered share capital—unless otherwise granted an exemption by the Board—and disclosure requirement for nominees).

(c) Shareholders have the right to allocate the profit shown on our balance sheet by vote taken at the General Meeting of Shareholders, subject to the legal requirements described in "Item 10.B.3(a) Shareholder Rights".

(d) Under the Swiss Code, any surplus arising out of a liquidation of our company (*i.e.*, after the settlement of all claims of all creditors) would be distributed to the shareholders in proportion to the paid-in nominal value of their shares.

(e) The Swiss Code limits a corporation's ability to hold or repurchase its own shares. We and our subsidiaries may only repurchase shares if we have freely disposable equity, in the amount necessary for this purpose, available. The aggregate nominal value of all Novartis shares held by us and our subsidiaries may not exceed 10% of our registered share capital. However, it is accepted that a corporation may repurchase its own shares beyond the statutory limit of 10%, if the repurchased shares are clearly dedicated for cancellation and if the shareholders passed a respective resolution at a General Meeting of Shareholders. In addition, we are required to create a special reserve on our balance sheet in the amount of the purchase price of the acquired shares. Repurchased shares held by us or our subsidiaries do not carry any rights to vote at a General Meeting of Shareholders, but are entitled to the economic benefits generally connected with the shares. It should be noted that the definition of what constitutes subsidiaries, and therefore, treasury shares, for purposes of the above described reserves requirement and voting restrictions differs from the definition included in the consolidated financial statements. The definition in the consolidated financial statements requires consolidation for financial

reporting purposes of special purpose entities, irrespective of their legal structure, in instances where we have the power to govern the financial and operating policies of the entity so as to obtain benefits from its activities.

Under the Swiss Code, we may not cancel treasury shares without the approval of a capital reduction by our shareholders.

(f) Not applicable.

(g) Since all of our issued and outstanding shares have been fully paid in, we can make no further capital calls on our shareholders.

(h) See Items "10.B.3(b) Shareholder Rights" and "10.B.7 Change in Control".

10.B.4 ***Changes To Shareholder Rights***

Under the Swiss Code, we may not issue new shares without the prior approval of a capital increase by our shareholders. If a capital increase is approved, then our shareholders would have certain preemptive rights to obtain newly issued shares in an amount proportional to the nominal value of the shares they already hold. These preemptive rights could be modified in certain limited circumstances with the approval of a resolution adopted at a General Meeting of Shareholders by a supermajority of votes. In addition, we may not create shares with increased voting powers or place restrictions on the transfer of registered shares without the approval of a resolution adopted at a General Meeting of Shareholders by a supermajority of votes. In addition, see Item 10.B.3(b) with regard to the Board of Directors' ability to cancel the registration of shares under limited circumstances.

10.B.5 ***Shareholder Meetings***

Under the Swiss Code and the Articles, we must hold an annual ordinary General Meeting of Shareholders within six months after the end of our financial year. General Meetings of Shareholders may be convened by the Board of Directors or, if necessary, by the statutory auditors. The Board of Directors is further required to convene an extraordinary General Meeting of Shareholders if so resolved by a General Meeting of Shareholders, or if so requested by shareholders holding an aggregate of at least 10% of the registered shares, specifying the items for the agenda and their proposals. Shareholders holding shares with a nominal value of at least CHF 1,000,000 (*i.e.*, 2,000,000 Novartis shares) have the right to request that a specific proposal be put on the agenda and voted upon at the next General Meeting of Shareholders. A General Meeting of Shareholders is convened by publishing a notice in the official Swiss Commercial Gazette (*Schweizerisches Handelsamtsblatt*) at least 20 days prior to such meeting. Shareholders may also be informed by mail. There is no provision in the Swiss Code or our Articles requiring a quorum for the holding of a General Meeting of Shareholders. In addition see "Item 10.B.3(b) Shareholder Rights" regarding conditions for exercising a shareholder's right to vote at a General Meeting of Shareholders.

10.B.6 ***Limitations***

There are no limitations under the Swiss Code or our Articles on the right of non-Swiss residents or nationals to own or vote shares other than the restrictions applicable to all shareholders. But see "Item 10.B.3(b) Shareholder Rights" regarding conditions for exercising an ADR holder's right to vote at a shareholder meeting.

10.B.7 ***Change in Control***

The Articles and the Board Regulations contain no provision that would have an effect of delaying, deferring or preventing a change in control of Novartis and that would operate only with respect to a merger, acquisition or corporate restructuring involving us or any of our subsidiaries.

According to the Swiss Merger Act, shareholders may pass a resolution to merge with another corporation at any time. Such a resolution would require the consent of at least two-thirds of all votes present at the necessary General Meeting of Shareholders.

Under the Swiss Stock Exchange Act, shareholders and groups of shareholders acting in concert who acquire more than 33⅓% of our shares would be under an obligation to make an offer to acquire all remaining Novartis shares.

10.B.8 ***Disclosure of Shareholdings***

Under the Swiss Stock Exchange Act, holders of our voting shares are required to notify us and the SIX Swiss Exchange of the level of their holdings whenever such holdings reach or exceed, or in some cases, fall short of, certain thresholds—3%, 5%, 10%, 15%, 20%, 25%, 33⅓%, 50% and 66⅔%—of our registered share capital. Following receipt of such notification we are required to inform the public by publishing the information via the electronic publication platform operated by the competent Disclosure Office.

An additional disclosure obligation exists under the Swiss Code which requires us to disclose, once a year in the notes to the financial statements published in our annual report, the identity of all of our shareholders (or related groups of shareholders) who have been granted exemption entitling them to vote more than 2% of our registered share capital, as described in "Item 10.B.3(b) Shareholder Rights".

10.B.9 ***Differences in the Law***

See the references to Swiss law throughout this "Item 10.B Memorandum and Articles of Association".

10.B.10 ***Changes in Capital***

The requirements of the Articles regarding changes in capital are not more stringent than the requirements of Swiss law.

10.C Material contracts

In April 2008, we entered into an agreement with Nestlé S.A. of Switzerland under which we obtained the right to acquire majority ownership in Alcon Inc. (NYSE: ACL) in two steps. The first step was completed on July 7, 2008, when we acquired an initial 25% stake (74 million shares) from Nestlé for $10.4 billion in cash. This investment reflects a price of $140.68 per share (the initial transaction price of $143.18, later reduced to account for the dividend paid by Alcon in May 2008). In the second step, we had the right to acquire Nestlé's remaining 52% majority stake in Alcon between January 1, 2010 and July 31, 2011 for a fixed price of $181.00 per share, or approximately $28 billion. Novartis completed the second step, acquiring Nestlé's 52% stake, on August 25, 2010, for approximately $28.3 billion, or $180 per share.

On December 14, 2010, we entered into a definitive agreement with Alcon to merge Alcon into Novartis. During the period from January to April 8, 2011, we acquired 4.8% of the shares in Alcon for $2.4 billion. On April 8, 2011, the Novartis Extraordinary General Meeting approved the merger with Alcon, Inc. creating the global leader in eye care. As a result, the new Alcon Division became the fifth growth platform in our strategically diversified healthcare portfolio. The Extraordinary General Meeting also authorized the issuance of 108 million new shares.

Under the terms of the December 14, 2010 agreement, Alcon shareholders received 2.9228 Novartis shares (which amount included a dividend adjustment) and $8.20 in cash for each share of Alcon, resulting in a total consideration of $168.00 per share. The completion of the acquisition of the outstanding 18.6% non-controlling interest in Alcon on April 8 and the subsequent merger resulted in the issuance of Novartis shares with a fair value of $9.2 billion, and a contingent value payment of $0.5 billion.

10.D Exchange controls

There are no Swiss governmental laws, decrees or regulations that restrict, in a manner material to Novartis, the export or import of capital, including any foreign exchange controls, or that affect the remittance of dividends or other payments to non-residents or non-citizens of Switzerland who hold Novartis' shares.

10.E Taxation

The taxation discussion set forth below is intended only as a descriptive summary and does not purport to be a complete analysis or listing of all potential tax effects relevant to the ownership or disposition of our shares or ADSs. The statements of US and Swiss tax laws set forth below are based on the laws and regulations in force as of the date of this 20-F, including the current Convention Between the United States and the Swiss Confederation for the Avoidance of Double Taxation with Respect to Taxes on Income, entered into force on December 19, 1997 (the "Treaty"), and the US Internal Revenue Code of 1986, as amended (the "Code"), Treasury regulations,

rulings, judicial decisions and administrative pronouncements, and may be subject to any changes in US and Swiss law, and in any double taxation convention or treaty between the United States and Switzerland occurring after that date, which changes may have retroactive effect.

Swiss Taxation

Swiss Residents

Withholding Tax on Dividends and Distributions. Dividends which we pay and similar cash or in-kind distributions which we may make to a holder of shares or ADSs (including distributions of liquidation proceeds in excess of the nominal value, stock dividends and, under certain circumstances, proceeds from repurchases of shares by us in excess of the nominal value) are generally subject to a Swiss federal withholding tax (the "Withholding Tax") at a current rate of 35%. Under certain circumstances distributions out of capital contribution reserves made by shareholders after December 31, 1996 are exempt from Withholding Tax. We are required to withhold this Withholding Tax from the gross distribution and to pay the Withholding Tax to the Swiss Federal Tax Administration. The Withholding Tax is refundable in full to Swiss residents who are the beneficial owners of the taxable distribution at the time it is resolved and duly report the gross distribution received on their personal tax return or in their financial statements for tax purposes, as the case may be.

Income Tax on Dividends. A Swiss resident who receives dividends and similar distributions (including stock dividends and liquidation surplus) on shares or ADSs is required to include such amounts in the shareholder's personal income tax return. However, distributions out of qualified capital contribution reserves are not subject to income tax. A corporate shareholder may claim substantial relief from taxation of dividends and similar distributions received if the shares held represent a fair market value of at least CHF 1 million.

Capital Gains Tax upon Disposal of shares. Under current Swiss tax law, the gain realized on shares held by a Swiss resident who holds shares or ADSs as part of his private property is generally not subject to any federal, cantonal or municipal income taxation on gains realized on the sale or other disposal of shares or ADSs. However, gains realized upon a repurchase of shares by us may be characterized as taxable dividend income if certain conditions are met. Book gains realized on shares or ADSs held by a Swiss corporate entity or by a Swiss resident individual as part of the shareholder's business property are, in general, included in the taxable income of such person. However, the Federal Law on the Direct Federal Tax of December 14, 1990 and several cantonal laws on direct cantonal taxes provide for exceptions for Swiss corporate entities holding more than 10% of our voting stock for more than one year.

Residents of Other Countries

Recipients of dividends and similar distributions on the shares who are neither residents of Switzerland for tax purposes nor holding shares as part of a business conducted through a permanent establishment situated in Switzerland ("Non-resident Holders") are not subject to Swiss income taxes in respect of such distributions. Moreover, gains realized by such recipients upon the disposal of shares are not subject to Swiss income taxes.

Non-resident Holders of shares are, however, subject to the Withholding Tax on dividends and similar distributions mentioned above and under certain circumstances to the Stamp Duty described below. Such Non-resident Holders may be entitled to a partial refund of the Withholding Tax if the country in which they reside has entered into a bilateral treaty for the avoidance of double taxation with Switzerland. Non-resident Holders should be aware that the procedures for claiming treaty refunds (and the time frame required for obtaining a refund) may differ from country to country. Non-resident Holders should consult their own tax advisors regarding receipt, ownership, purchase, sale or other dispositions of shares or ADSs and the procedures for claiming a refund of the Withholding Tax.

As of January 1, 2012, Switzerland has entered into bilateral treaties for the avoidance of double taxation with respect to income taxes with the following countries, whereby a part of the above-mentioned Withholding Tax may be refunded (subject to the limitations set forth in such treaties):

Albania	Finland	Kuwait	Russia
Algeria	France	Kyrgyzstan	Serbia and Montenegro
Armenia	Germany	Latvia	Singapore
Australia	Georgia	Lithuania	Slovak Republic
Austria	Ghana	Luxembourg	Slovenia
Azerbaijan	Greece	Macedonia	South Africa
Bahrain	Hungary	Malaysia	Spain
Bangladesh	Iceland	Mexico	Sri Lanka
Belarus	India	Moldova	Sweden
Belgium	Indonesia	Mongolia	Tajikistan
Bulgaria	Iran	Morocco	Thailand
Canada	Israel	Netherlands	Trinidad and Tobago
Chile	Italy	New Zealand	Tunisia
China	Ivory Coast	Norway	Ukraine
Colombia	Republic of Ireland	Pakistan	United Kingdom
Croatia	Jamaica	Philippines	United States of America
Czech Republic	Japan	Poland	Uzbekistan
Denmark	Kazakhstan	Portugal	Venezuela
Ecuador	Republic of Korea	Quatar	Vietnam
Egypt	(South Korea)	Romania	
Estonia			

Tax treaty negotiations are under way, or have been concluded, with Argentina (treaty not yet in force but provisionally applicable as from January 1, 2001), Brazil, Costa Rica, Hong Kong, Libya, Malta, North Korea, Oman, Peru, Saudi Arabia, Senegal, Syria, Turkey, United Arab Emirates, Uruguay and Zimbabwe.

A Non-resident Holder of shares or ADSs will not be liable for any Swiss taxes other than the Withholding Tax described above and, if the transfer occurs through or with a Swiss bank or other Swiss securities dealer, the Stamp Duty described below. If, however, the shares or ADSs of Non-resident Holders can be attributed to a permanent establishment or a fixed place of business maintained by such person within Switzerland during the relevant tax year, the shares or ADSs may be subject to Swiss income taxes in respect of income and gains realized on the shares or ADSs and such person may qualify for a full refund of the Withholding Tax based on Swiss tax law.

Residents of the United States. A Non-resident Holder who is a resident of the United States for purposes of the Treaty is eligible for a reduced rate of tax on dividends equal to 15% of the dividend, provided that such holder (i) qualifies for benefits under the Treaty, (ii) holds, directly and indirectly, less than 10% of our voting stock, and (iii) does not conduct business through a permanent establishment or fixed base in Switzerland to which the shares or ADSs are attributable. Such an eligible holder must apply for a refund of the amount of the Withholding Tax in excess of the 15% Treaty rate. A Non-resident Holder who is a resident of the United States for purposes of the Treaty is eligible for a reduced rate of tax on dividends equal to 5% of the dividend, provided that such holder (i) is a company, (ii) qualifies for benefits under the Treaty, (iii) holds directly at least 10% of our voting stock, and (iv) does not conduct business through a permanent establishment or fixed place of business in Switzerland to which the shares or ADSs are attributable. Such an eligible holder must apply for a refund of the amount of the Withholding Tax in excess of the 5% Treaty rate. Claims for refunds must be filed on Swiss Tax Form 82 (82C for corporations; 82I for individuals; 82E for other entities), which may be obtained from any Swiss Consulate General in the United States or from the Federal Tax Administration of Switzerland at the address below, together with an instruction form. Four copies of the form must be duly completed, signed before a notary public of the United States, and sent to the Federal Tax Administration of Switzerland, Eigerstrasse 65, CH-3003 Berne, Switzerland. The form must be accompanied by suitable evidence of deduction of Swiss tax withheld at source, such as certificates of deduction, signed bank vouchers or credit slips. The form may be filed on or after July 1 or January 1 following the date the dividend was payable, but no later than December 31 of the third year following the calendar year in which the dividend became payable. For US resident holders of ADSs, JPMorgan

Chase Bank, N.A., as Depositary, will comply with these Swiss procedures on behalf of the holders, and will remit the net amount to the holders.

Stamp Duty upon Transfer of Securities. The sale of shares, whether by Swiss residents or Non-resident Holders, may be subject to federal securities transfer Stamp Duty of 0.15%, calculated on the sale proceeds, if the sale occurs through or with a Swiss bank or other Swiss securities dealer, as defined in the Swiss Federal Stamp Duty Act. The Stamp Duty has to be paid by the securities dealer and may be charged to the parties in a taxable transaction who are not securities dealers. Stamp Duty may also be due if a sale of shares occurs with or through a non-Swiss bank or securities dealer, provided (i) such bank or dealer is a member of the SIX, and (ii) the sale takes place on the SIX. In addition to this Stamp Duty, the sale of shares by or through a member of the SIX may be subject to a minor stock exchange levy.

United States Federal Income Taxation

The following is a general discussion of the material US federal income tax consequences of the ownership and disposition of our shares or ADSs that may be relevant to you if you are a US Holder (as defined below). Because this discussion does not consider any specific circumstances of any particular holder of our shares or ADSs, persons who are subject to US taxation are strongly urged to consult their own tax advisers as to the overall US federal, state and local tax consequences, as well as to the overall Swiss and other foreign tax consequences, of the ownership and disposition of our shares or ADSs. In particular, additional or different rules may apply to US expatriates, banks and other financial institutions, regulated investment companies, traders in securities who elect to apply a mark-to-market method of accounting, dealers in securities or currencies, tax-exempt entities, insurance companies, broker-dealers, investors liable for alternative minimum tax, investors that hold shares or ADSs as part of a straddle, hedging or conversion transaction, holders whose functional currency is not the US dollar, partnerships or other pass through entities, persons who acquired our shares pursuant to the exercise of employee stock options or otherwise as compensation and persons who hold directly, indirectly or by attribution, 10% or more of the voting power of our outstanding shares. This discussion generally applies only to US Holders who hold the shares or ADSs as a capital asset (generally, for investment purposes), and whose functional currency is the US dollar. Investors are urged to consult their own tax advisors concerning whether they are eligible for benefits under the Treaty.

For purposes of this discussion, a "US Holder" is a beneficial owner of our shares or ADSs who is (i) an individual who is a citizen or resident of the United States for US federal income tax purposes, (ii) a corporation (or other entity taxable as a corporation for US federal income tax purposes) created or organized in or under the laws of the US or a state thereof or the District of Columbia, (iii) an estate the income of which is subject to US federal income taxation regardless of its source, or (iv) a trust (i) subject to the primary supervision of a US court and the control of one or more US persons or (ii) that has a valid election in place to be treated as a US person. If a partnership (or other entity treated as a partnership for US federal income tax purposes) holds shares or ADSs, the tax treatment of a partner generally will depend upon the status of the partner and the activities of the partnership. Partners in a partnership that holds shares or ADSs are urged to consult their own tax advisor regarding the specific tax consequences of the owning and disposing of such shares or ADSs by the partnership.

For US federal income tax purposes, a US Holder of ADSs generally will be treated as the beneficial owner of our shares represented by the ADSs. However, see the discussion below under "—Dividends" regarding certain statements made by the US Treasury concerning depositary arrangements.

This discussion assumes that each obligation in the Deposit Agreement and any related agreement will be performed in accordance with its terms.

Dividends. US Holders will be required to include in gross income, as an item of ordinary income, the full amount (including the amount of any Withholding Tax) of a dividend paid with respect to our shares or ADSs at the time that such dividend is received by the US Holder, in the case of shares, or by the Depository, in the case of ADSs. For this purpose, a "dividend" will include any distribution paid by us with respect to our shares or ADSs (other than certain pro rata distributions of our capital stock) paid out of our current or accumulated earnings and profits, as determined under US federal income tax principles. To the extent the amount of a distribution by us exceeds our current and accumulated earnings and profits, such excess will first be treated as a tax-free return of capital to the extent of a US Holder's tax basis in the shares or ADSs (with a corresponding reduction in such tax basis), and thereafter will be treated as capital gain, which will be long-term capital gain if the US Holder held our shares or ADSs for more than one year. Under the Code, dividend payments by us on the shares or ADSs are not eligible for the dividends received deduction generally allowed to corporate shareholders.

Dividend income in respect of our shares or ADSs will constitute income from sources outside the United States for US foreign tax credit purposes. Subject to the limitations and conditions provided in the Code, US Holders generally may claim as a credit against their US federal income tax liability, any Withholding Tax withheld from a dividend. The rules governing the foreign tax credit are complex. Each US Holder is urged to consult its own tax advisor concerning whether, and to what extent, a foreign tax credit will be available with respect to dividends received from us. Alternatively, a US Holder may claim the Withholding Tax as a deduction for the taxable year within which the Withholding Tax is paid or accrued, provided a deduction is claimed for all of the foreign income taxes the US Holder pays or accrues in the particular year. A deduction does not reduce US tax on a dollar-for-dollar basis like a tax credit. The deduction, however, is not subject to the limitations applicable to foreign tax credits.

The US Treasury has expressed concern that parties to whom ADSs are released may be taking actions inconsistent with the claiming of foreign tax credits for US Holders of ADSs. Accordingly, the summary above of the creditability of the Withholding Tax could be affected by future actions that may be taken by the US Treasury.

In general, a US Holder will be required to determine the amount of any dividend paid in Swiss francs, including the amount of any Withholding Tax imposed thereon, by translating the Swiss francs into US dollars at the spot rate on the date the dividend is actually or constructively received by a US Holder, in the case of shares, or by the Depositary, in the case of ADSs, regardless of whether the Swiss francs are in fact converted into US dollars. If a US Holder converts the Swiss francs so received into US dollars on the date of receipt, the US Holder generally should not recognize foreign currency gain or loss on such conversion. If a US Holder does not convert the Swiss francs so received into US dollars on the date of receipt, the US Holder will have a tax basis in the Swiss francs equal to the US dollar value on such date. Any foreign currency gain or loss that a US Holder recognizes on a subsequent conversion or other disposition of the Swiss francs generally will be treated as US source ordinary income or loss.

For a non-corporate US Holder, the US dollar amount of any dividends paid to it prior to January 1, 2011 that constitute qualified dividend income generally will be taxable at a maximum rate of 15%, provided that the US Holder meets certain holding period and other requirements. We currently believe that dividends paid with respect to our shares and ADSs will constitute qualified dividend income for US federal income tax purposes. However, the US Treasury and the US Internal Revenue Service (“IRS”) have announced their intention to promulgate rules pursuant to which US Holders of shares and ADSs, among others, will be permitted to rely on certifications from issuers to establish that dividends are treated as qualified dividends. US Holders of shares or ADSs are urged to consult their own tax advisors regarding the availability to them of the reduced dividend rate in light of their own particular situation and the computations of their foreign tax credit limitation with respect to any qualified dividends paid to them, as applicable.

Sale or Other Taxable Disposition. Upon a sale or other taxable disposition of shares or ADSs, US Holders generally will recognize capital gain or loss in an amount equal to the difference between the US dollar value of the amount realized on the disposition and the US Holder’s tax basis (determined in US dollars) in the shares or ADSs. This capital gain or loss generally will be US source gain or loss and will be treated as long-term capital gain or loss if the holding period in the shares or ADSs exceeds one year. In the case of certain US Holders (including individuals), any long term capital gain generally will be subject to US federal income tax at preferential rates, which rates are currently scheduled to increase on January 1, 2011. The deductibility of capital losses is subject to significant limitations under the Code. Deposits or withdrawals of our shares by US Holders in exchanges for ADSs will not result in the realization of gain or loss for US federal income tax purposes.

United States Information Reporting and Backup Withholding. Dividend payments with respect to shares or ADSs and proceeds from the sale, exchange or other disposition of shares or ADSs received in the United States or through US-related financial intermediaries, may be subject to information reporting to the IRS and possible US backup withholding at a current rate of 28% (which rate is currently scheduled to increase on January 1, 2013). Certain exempt recipients (such as corporations) are not subject to these information reporting and backup withholding requirements. Backup withholding will not apply to a US Holder who furnishes a correct taxpayer identification number and makes any other required certification or who is otherwise exempt from backup withholding. Any US Holders required to establish their exempt status generally must provide a properly-executed IRS Form W-9 (Request for Taxpayer Identification Number and Certification). Backup withholding is not an additional tax. Amounts withheld as backup withholding may be credited against a US Holder’s US federal income tax liability, and a US Holder may obtain a refund of any excess amounts withheld under the backup withholding rules by timely filing the appropriate claim for refund with the IRS and furnishing any required information.

10.F Dividends and paying agents

Not applicable.

10.G Statement by experts

Not applicable.

10.H Documents on display

Any statement in this Form 20-F about any of our contracts or other documents is not necessarily complete. If the contract or document is filed as an exhibit to the Form 20-F the contract or document is deemed to modify the description contained in this Form 20-F. You must review the exhibits themselves for a complete description of the contract or document.

You may review a copy of our filings with the SEC, as well as other information furnished to the SEC, including exhibits and schedules filed with it, at the SEC's public reference room at 100 F Street, N.E., Room 1580, Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information. In addition, the SEC maintains an Internet site at http://www.sec.gov that contains reports and other information regarding issuers that file electronically with the SEC. These SEC filings are also available to the public from commercial document retrieval services.

We are required to file or furnish reports and other information with the SEC under the Securities Exchange Act of 1934 and regulations under that act. As a foreign private issuer, we are exempt from the rules under the Exchange Act prescribing the form and content of proxy statements and our officers, directors and principal shareholders are exempt from the reporting and short swing profit recovery provisions contained in Section 16 of the Exchange Act.

10.I Subsidiary Information

Not applicable.

	Change in constant currencies	Change in $	Percentage point currency impact
2011[1]			
Currency impact:			
Net sales	12%	16%	4
Operating income	1%	−5%	−6
Net income	−2%	−7%	−5
Core operating income	16%	14%	−2
Core net income	15%	12%	−3

	Net sales	Operating expenses
2011		
Net sales and operating costs by currency:		
$	36%	38%
Euro	27%	25%
CHF	2%	14%
Yen	9%	4%
Other	26%	19%
	100%	**100%**

	Liquid funds	Financial debt
2011		
Liquid funds and financial debt by currency (as of December 31):		
$	60%	56%
Euro	2%	13%
CHF	33%	15%
Yen	0%	14%
Other	5%	2%
	100%	**100%**

	Change in constant currencies	Change in $	Percentage point currency impact
2010[1]			
Currency impact:			
Net sales	14%	14%	0
Operating income	17%	15%	−2
Net income	20%	18%	−2
Core operating income	24%	22%	−2
Core net income	18%	17%	−1

(1) The impact of currency movements on operating income and net income and core operating income and core net income related to transactions of an entity conducted in a foreign currency other than the reporting currency of the entity, are excluded.

	Net sales	Operating expenses
2010		
Net sales and operating costs by currency:		
$	36%	36%
Euro	28%	26%
CHF	2%	13%
Yen	8%	4%
Other	26%	21%
	100%	**100%**

	Liquid funds	Financial debt
2010		
Liquid funds and financial debt by currency (as of December 31):		
$	82%	64%
Euro	3%	13%
CHF	11%	13%
Yen	0%	8%
Other	4%	2%
	100%	**100%**

Market Risk

We are exposed to market risk, primarily related to foreign currency exchange rates, interest rates and the market value of the investments of liquid funds. We actively monitor these exposures. To manage the volatility relating to these exposures, we enter into a variety of derivative financial instruments. Our objective is to reduce, where it is deemed appropriate to do so, fluctuations in earnings and cash flows associated with changes in interest rates, foreign currency exchange rates and market rates of investments of liquid funds and of the currency exposure of certain net investments in foreign subsidiaries. It is our policy and practice to use derivative financial instruments to manage exposures and to enhance the yield on the investment of liquid funds. We do not enter any financial transactions containing a risk that cannot be quantified at the time the transaction is concluded. In addition, we do not sell short assets we do not have, or do not know we will have, in the future. We only sell existing assets or enter into transactions and future transactions (in the case of anticipatory hedges) which we confidently expect we will have in the future based on past experience. In the case of liquid funds, we write call options on assets we have or we write put options on positions we want to acquire and have the liquidity to acquire. We expect that any loss in value for these instruments generally would be offset by increases in the value of the underlying transactions.

Foreign currency exchange rate risk: We use the US dollar as our reporting currency. As a result, we are therefore exposed to foreign exchange movements, primarily in European, Japanese and other Asian and Latin American currencies. Consequently, we enter into various contracts that reflect the changes value of foreign currency exchange rates to preserve the value of assets, commitments and anticipated transactions. We also use forward contracts and foreign currency option contracts to hedge certain anticipated net revenues in foreign currencies.

At December 31, 2011, we had long and short forward foreign exchange rate contracts and currency option contracts with corresponding values of $6.5 billion and $2.1 billion, respectively. At December 31, 2010, we had long and short forward foreign exchange rate contracts and currency option contracts with corresponding values of $4.8 billion and $4.0 billion, respectively.

Net investments in subsidiaries in foreign countries are long-term investments. Their fair value changes through movements of the foreign currency exchange rates. In the very long term, however, the difference in the inflation rate should match the foreign currency exchange rate movement, so that the market value of the foreign

non-monetary assets will compensate for the change due to foreign currency movements. For this reason, we only hedge the net investments in foreign subsidiaries in exceptional cases.

Commodity price risk: We have only a very limited exposure to price risk related to anticipated purchases of certain commodities used as raw materials by our businesses. A change in those prices may alter the gross margin of a specific business, but generally by not more than 10% of the margin and thus below our risk management tolerance levels. Accordingly, we do not enter into significant commodity futures, forward and option contracts to manage fluctuations in prices of anticipated purchases.

Interest rate risk: We address our net exposure to interest rate risk mainly through the ratio of the fixed rate financial debt and variable rate financial debt ratio contained in our total financial debt portfolio. To manage this mix, we may enter into interest rate swap agreements, in which we exchange the periodic payments, based on a notional amount and agreed-upon fixed and variable interest rates.

Equity risk: We purchase equities as investments of our liquid funds. As a policy, we limit our holdings in an unrelated company to less than 5% of our liquid funds. Potential investments are thoroughly analyzed in respect to their past financial track record (mainly cash flow and return on investment), their market potential, their management and their competitors. Call options are written on equities that we own and put options are written on equities which we want to buy and for which cash has been reserved.

Credit risk: Credit risks arise from the possibility that customers may not be able to settle their obligations as agreed. To manage this risk we periodically assess the financial reliability of customers, taking into account their financial position, past experience and other factors. Individual risk limits are set accordingly.

The largest customer accounts for approximately 9% of net sales and the second and third largest each accounts for 7% of net sales. No other customer accounts for 2% or more of our net sales.

The highest amounts of trade receivables outstanding were for these three customers. They amounted to 10%, 6% and 6%, respectively, of our trade receivables at December 31, 2011. There is no other significant concentration of credit risk.

Counterparty risk: Counterparty risk encompasses issuer risk on marketable securities, settlement risk on derivative and money market contracts and credit risk on cash and time deposits. Issuer risk is reduced by only buying securities which are at least AA- rated. Settlement and credit risk is reduced by the policy of entering into transactions with counterparties that are usually at least AA- rated banks or financial institutions. Exposure to these risks is closely monitored and kept within predetermined parameters. We have policies that limit the amount of credit exposure to any financial institution. The limits are regularly assessed and determined based upon credit analysis including financial statement and capital adequacy ratio reviews. In addition, net settlement agreements are contracted with significant counterparties.

Our cash and cash equivalents are held with major regulated financial institutions, the three largest ones hold 31.8%, 12.5% and 12.1%, respectively (2010: 14%, 9% and 8%, respectively).

We do not expect any losses from non-performance by these counterparties and do not have any significant grouping of exposures to financial sector or country risk.

Liquidity risk: Liquidity risk is defined as the risk that we could not be able to settle or meet our obligations on time or at a reasonable price. Group Treasury is responsible for liquidity, funding as well as settlement management. In addition, liquidity and funding risks, related processes and policies are overseen by management. We manage our liquidity risk on a consolidated basis based on business needs, tax, capital or regulatory considerations, if applicable, through numerous sources of finance in order to maintain flexibility. Management monitors our net debt or liquidity position through rolling forecasts on the basis of expected cash flows.

Our liquidity needs may change if overall economic conditions worsen and/or liquidity and credit within the financial markets remains tight for an extended period of time, and such conditions impact the collectability of our customer accounts receivable, or impact credit terms with our vendors, or disrupt the supply of raw materials and services.

Capital risk management: We strive to maintain strong debt ratings. In managing our capital, we focus on a sound debt/equity ratio. Credit agencies in 2011 maintained their ratings for Novartis. Moody's rated the Group as Aa2 for long-term maturities and P−1 for short-term maturities and Standard & Poor's had a rating of AA− for long-term and A−1+ for short-term maturities. Fitch had a long-term rating of AA and a short-term rating of F1+.

Our 2011 year-end debt/equity ratio decreased to 0.31:1 from 0.33:1 in 2010 principally due to less current financial debt outstanding under the commercial paper program. Our 2010 year-end debt/equity ratio increased to 0.33:1 from 0.24:1 in 2009 principally due to additional financing programs.

Value at risk: We use a value at risk (VAR) computation to estimate the potential ten-day loss in the fair value of our financial instruments.

We use a ten-day period because of an assumption that not all positions could be undone in one day, given the size of the positions. The VAR computation includes our financial debt, short-term and long-term investments, foreign currency forwards, swaps and options as well as anticipated transactions. Foreign currency trade payables and receivables as well as net investments in foreign subsidiaries are included in the computation.

The VAR estimates are made assuming normal market conditions, using a 95% confidence interval. We use a "Delta Normal" model to determine the observed inter-relationships between movements in interest rates, stock markets and various currencies. These inter-relationships are determined by observing interest rate, stock market movements and forward foreign currency rate movements over a sixty-day period for the calculation of VAR amounts.

The estimated potential ten-day loss in pre-tax income from our foreign currency instruments, the estimated potential ten-day loss on our equity holdings and the estimated potential ten-day loss in fair value of our interest rate sensitive instruments (primarily financial debt and investments of liquid funds under normal market conditions) as calculated in the VAR model, are the following:

	At December 31, 2011	At December 31, 2010
	$ millions	$ millions
All financial instruments	235	311
Analyzed by components:		
Instruments sensitive to foreign currency rates	145	193
Instruments sensitive to equity market movements	56	27
Instruments sensitive to interest rates	102	219

The average, high, and low VAR amounts are as follows:

	Average	High	Low
	$ millions	$ millions	$ millions
2011			
All financial instruments	214	281	180
Analyzed by components:			
Instruments sensitive to foreign currency rates	98	219	50
Instruments sensitive to equity market movements	49	74	28
Instruments sensitive to interest rates	154	190	96

	Average	High	Low
	$ millions	$ millions	$ millions
2010			
All financial instruments	267	319	139
Analyzed by components:			
Instruments sensitive to foreign currency rates	192	271	98
Instruments sensitive to equity market movements	49	76	27
Instruments sensitive to interest rates	164	219	70

The VAR computation is a risk analysis tool designed to statistically estimate the maximum potential ten day loss from adverse movements in foreign currency rates, equity prices and interest rates under normal market conditions. The computation does not purport to represent actual losses in fair value on earnings to be incurred by us, nor does it consider the effect of favorable changes in market rates. We cannot predict actual future movements in such market rates and do not present these VAR results to be indicative of future movements in such market rates or to be representative of any actual impact that future changes in market rates may have on our future results of operations or financial position.

In addition to these VAR analyses, we use stress testing techniques which are aimed to reflect a worst case scenario. For these calculations, we use the worst movements during a period of six months over the past 20 years in each category. For 2011 and 2010, the worst case loss scenario was configured as follows:

	At December 31, 2011	At December 31, 2010
	$ millions	$ millions
All financial instruments	406	406
Analyzed by components:		
Instruments sensitive to foreign currency rates	328	286
Instruments sensitive to equity market movements	31	59
Instruments sensitive to interest rates	47	62

In our risk analysis, we consider this worst case scenario acceptable as it could reduce income, but would not endanger our solvency or our investment grade credit standing. While it is highly unlikely that all worst case fluctuations would happen simultaneously, as shown in the model, the actual market can of course produce bigger movements in the future than it has historically. Additionally, in such a worst case environment, management actions could further mitigate our exposure.

The major financial risks facing the Group are managed centrally by Group Treasury. We have a written Treasury Policy and have implemented a strict segregation of front office and back office controls. The Group does regular reconciliations of its positions with its counterparties. In addition the Treasury function is included in Management's internal control assessment.

For further information, see "Item 18. Financial Statements—note 16".

Item 12. Description of Securities other than Equity Securities

12.A Debt Securities

Not applicable.

12.B Warrants and Rights

Not applicable.

12.C Other Securities

Not applicable.

12.D American Depositary Shares

Fees Payable By ADS Holders

According to our Deposit Agreement with the ADS depositary, JPMorgan Chase Bank (JPMorgan), holders of our ADSs may have to pay to JPMorgan, either directly or indirectly, fees or charges up to the amounts set forth below:

Category	Depositary actions	Associated Fee
Depositing or substituting underlying shares	Acceptance of shares surrendered, and issuance of ADSs in exchange, including surrenders and issuances in respect of: —Share distributions —Stock split —Rights —Merger —Exchange of shares or any other transaction or event or other distribution affecting the ADSs or the deposited shares	$5.00 for each 100 ADSs (or portion thereof) evidenced by the new ADSs delivered
Withdrawing underlying shares	Acceptance of ADSs surrendered for withdrawal of deposited shares	$5.00 for each 100 ADSs (or portion thereof) evidenced by the ADSs surrendered
Selling or exercising rights	Distribution or sale of shares, the fee being in an amount equal to the fee for the execution and delivery of ADSs which would have been charged as a result of the deposit of such shares	$5.00 for each 100 ADSs (or portion thereof)
Transferring, splitting or grouping receipts	Transfers, combining or grouping of depositary receipts	$2.50 per ADS
Expenses of the depositary	Expenses incurred on behalf of holders in connection with —compliance with foreign exchange control regulations or any law or regulation relating to foreign investment —the depositary's or its custodian's compliance with applicable law, rule or regulation. —stock transfer or other taxes and other governmental charges —cable, telex and facsimile transmission and delivery —expenses of the depositary in connection with the conversion of foreign currency into US dollars (which are paid out of such foreign currency) —any other charge payable by any of the depositary or its agents	Expenses payable at the sole discretion of the Depositary by billing Holders or by deducting charges from one or more cash dividends or other cash distributions.
Advance tax relief	Tax relief/reclamation process for qualified holders.	A depositary service charge of $0.0035 per ADS

Fees Payable By The Depositary To The Issuer

JPMorgan, as depositary, has agreed to reimburse Novartis $3.5 million per year for expenses directly related to our ADS program (the "Program") which were incurred during the year, including Program-related legal fees, expenses related to investor relations in the US, US investor presentations, ADS-related financial advertising and public relations, fees and expenses of JPMorgan as administrator of the ADS Direct Plan, reasonable accountants' fees in relation to our Form 20-F, maintenance and broker reimbursement expenses. Because our expenses related to these categories exceed $3.5 million (see, for example, the amount of our accountants' fees set forth at "Item 16C. Principal Accountant Fees and Services—Auditing and Additional Fees"), the $3.5 million cannot be deemed to have reimbursed us for any particular one or more of these expenses.

JPMorgan has further agreed to waive an annual maintenance fee of $50,000 associated with the administration of the Program, and not to seek reimbursement of up to $50,000 of out-of-pocket expenses incurred annually in providing such administrative services. In addition, JPMorgan has agreed to pay for our annual NYSE listing fees incurred during the initial term of our agreement with JPMorgan.

Part II

Item 13. Defaults, Dividend Arrearages and Delinquencies

None.

Item 14. Material Modifications to the Rights of Security Holders and Use of Proceeds

None.

Item 15. Controls and Procedures

(a) Novartis AG's chief executive officer and chief financial officer, after evaluating the effectiveness of our disclosure controls and procedures (as defined in Exchange Act Rule 13a-15(e)) as of the end of the period covered by this Form 20-F, have concluded that, as of such date, our disclosure controls and procedures were effective.

(b) *Report of Novartis Management on Internal Control Over Financial Reporting:* Novartis' Board of Directors and management of the Group are responsible for establishing and maintaining adequate internal control over financial reporting. The Novartis Group's internal control system was designed to provide reasonable assurance to the Novartis Group's management and Board of Directors regarding the reliability of financial reporting and the preparation and fair presentation of its published consolidated financial statements.

All internal control systems, no matter how well designed, have inherent limitations. Therefore, even those systems determined to be effective may not prevent or detect misstatements and can provide only reasonable assurance with respect to financial statement preparation and presentation. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Novartis Group management assessed the effectiveness of the Group's internal control over financial reporting as of December 31, 2011. In making this assessment, it used the criteria established in *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on our assessment management concluded that, as of December 31, 2011, Novartis Group's internal control over financial reporting is effective based on those criteria.

PricewaterhouseCoopers AG, Switzerland (PwC), an independent registered public accounting firm, has issued an opinion on the effectiveness of the Group's internal control over financial reporting which is included under "Item 18. Financial Statements" on page F-2.

(c) See the report of PwC, an independent registered public accounting firm, included under "Item 18. Financial Statements" on page F-2.

(d) There were no changes to our internal control over financial reporting that occurred during the period covered by this Form 20-F that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Item 16A. Audit Committee Financial Expert

Our Audit and Compliance Committee has determined that Srikant Datar and Ulrich Lehner each possess specific accounting and financial management expertise and that each is an Audit Committee Financial Expert as defined by the US Securities and Exchange Commission (SEC). The Board of Directors has also determined that other members of the Audit and Compliance Committee have sufficient experience and ability in finance and compliance matters to enable them to adequately discharge their responsibilities.

Item 16B. Code of Ethics

In addition to our Code of Conduct, which is applicable to all of our associates, we have adopted a Code of Ethical Conduct that imposes additional obligations on our principal executive officer, principal financial officer, principal accounting officer, and persons performing similar functions. This document is accessible on our Internet website at

http://www.novartis.com/investors/corporate-governance.shtml

Item 16C. Principal Accountant Fees and Services

Duration of the Mandate and Terms of Office of the Independent Auditors

Based on a recommendation by the Audit and Compliance Committee, the Board nominates an independent auditor for election at the Annual General Meeting. PricewaterhouseCoopers (PwC) assumed its existing auditing mandate for Novartis in 1996. Peter Kartscher, auditor in charge, and Michael P. Nelligan, global relationship partner, began serving in their respective roles in 2009. The Audit and Compliance Committee ensures that the lead audit partners are rotated at least every five years.

Auditing and Additional Fees

PwC charged the following fees for professional services rendered for the 12-month periods ended December 31, 2011 and December 31, 2010:

	2011	2010
	$ thousands	$ thousands
Audit Services	30,060	23,675
Audit-Related Services	2,480	2,140
Tax Services	1,550	1,485
Other Services	190	110
Total	**34,280**	**27,410**

Audit Services are defined as the standard audit work performed each year in order to issue opinions on the consolidated financial statements of the Group, to issue opinions relating to the effectiveness of the Group's internal controls over financial reporting, and to issue reports on local statutory financial statements. Also included are audit services that can only be provided by the Group auditor, such as auditing of nonrecurring transactions and implementation of new accounting policies, audits of accounting infrastructure system controls, pre-issuance reviews of quarterly financial results, consents and comfort letters and any other audit services required for SEC or other regulatory filings.

Audit-Related Services include those other assurance services provided by the independent auditor but not restricted to those that can only be provided by the auditor signing the audit report. They comprise amounts for services such as acquisition due diligence and related audits, audits of pension and benefit plans, IT infrastructure control assessments, contractual audits of third-party arrangements, assurance services on corporate citizenship reporting, and consultation regarding new accounting pronouncements.

Tax Services represent tax compliance, tax returns, assistance with historical tax matters and other tax-related services.

Other Services include training in the finance area, benchmarking studies, assessment of certain non-financial processes and license fees for use of accounting and other reporting guidance databases.

As the independent auditor, PwC is responsible for opining on whether the audited financial statements comply with International Financial Reporting Standards (IFRS) and Swiss law. Additionally, PwC is responsible for opining on the effectiveness of internal control over financial reporting.

The Audit and Compliance Committee is responsible for overseeing the conduct of these activities by management and PwC. During 2011, the Audit and Compliance Committee held 6 meetings. At each of these meetings, PwC was invited to attend during the discussion of agenda items that dealt with accounting, financial reporting or auditing matters. PwC provided to the Audit and Compliance Committee the written disclosures required by Rule 3526, Communication with Audit Committees Concerning Independence, of the Public Company Accounting Oversight Board (PCAOB), and the Audit and Compliance Committee and PwC have discussed PwC's independence from Novartis and Novartis management.

Based on the reviews and discussions with management and PwC referred to above, the Audit and Compliance Committee recommended to the Board, and the Board approved, inclusion of the audited financial statements in the Annual Report for the year ended December 31, 2011.

Policy on Pre-Approval of Audit and Non-Audit Services of Independent Auditors

The Audit and Compliance Committee's pre-approval is required for all audit and non-audit services provided by PwC. These services may include audit services, audit-related services, tax services and other services, as described above. Pre-approval is detailed as to the particular service or categories of services, and is subject to a specific budget.

PwC and management report, on a quarterly basis, to the Audit and Compliance Committee regarding the extent of services provided in accordance with this pre-approval and the fees for the services performed to date. The Audit and Compliance Committee may also pre-approve additional services on a case-by-case basis.

Item 16D. Exemptions from the Listing Standards for Audit Committees

Not Applicable.

Item 16E. Purchases of Equity Securities by the Issuer and Affiliated Purchaser

2011	Total Number of Shares Purchased[1] (a)	Average Price Paid per Share in $ (b)	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs[2] (c)	Maximum Approximate Value of Shares that may yet be purchased under the Plans or Programs in CHF (d)	Maximum Approximate Value of Shares that may yet be purchased under the Plans or Programs in $[3] (e)
				(CHF millions)	($ millions)
Jan. 1-31	634,061	56.94		9,704	10,312
Feb. 1-28	2,010,227	55.91	1,900,000	9,605	10,355
Mar. 1-31	7,940,789	57.37	7,800,000	9,190	10,020
Apr. 1-30	6,352,652	58.48	6,280,000	8,868	10,154
May 1-31	18,588,530	61.21	18,350,000	7,888	9,243
Jun. 1-30	5,201,573	61.89	5,100,000	7,621	9,152
Jul. 1-31	92,086	61.56		7,621	9,511
Aug. 1-31	3,639,511	55.89		7,621	9,332
Sep. 1-30	4,895,478	55.27		7,621	8,448
Oct. 1-31	3,708,974	57.41		7,621	8,776
Nov. 1-30	8,268,987	54.50		7,621	8,249
Dec. 1-31	642,679	55.96		7,621	8,109
Total	**61,975,547**	**58.32**	**39,430,000**		

(1) Column (a) shows shares we purchased as part of our sixth share purchase program plus the following types of share purchases outside of our publicly announced repurchase program: (1) shares which we purchased on the open market; and (2) shares which we purchased from Swiss employees who had obtained the shares through a Novartis Employee Ownership Plan. See "Item 6. Directors, Senior Management and Employees—6.B Compensation—Compensation for Novartis Associates."

(2) Column (c) shows shares purchased as part of our sixth share repurchase program which was approved by the shareholders February 26, 2008 for an amount of up to CHF 10.0 billion. See "Item 5. Operating and Financial Review and Prospects—5.B Liquidity and Capital Resources—Share Repurchase Program."

(3) Column (e) shows the Swiss franc amount from column (d) converted into US dollars as of the month-end, using the Swiss franc/US dollar exchange rate at the applicable month-end.

Item 16F. Change in Registrant's Certifying Accountant

Not applicable.

Item 16G. Corporate Governance

Novartis ADSs are listed on the NYSE. Our corporate governance practices differ from those followed by domestic companies as required under the listing standards of the NYSE in that our shareholders do not receive written reports from committees of the Board of Directors. Also, our external auditors are appointed by our shareholders at the Annual General Meeting, as opposed to being appointed by the Audit and Compliance Committee. In addition, while our shareholders cannot vote on all equity compensation plans, they are entitled to hold a consultative vote on the compensation system of Novartis. The vote takes place before every significant change to the compensation system, but at least every third Annual General Meeting. Finally, our Board of Directors has set up a separate Risk Committee that is responsible for risk oversight, as opposed to delegating this responsibility to the Audit and Compliance Committee.

Part III

Item 17. Financial Statements

See "Item 18. Financial Statements."

Item 18. Financial Statements

The following financial statements are filed as part of this annual report on Form 20-F.

	Page
Index to consolidated financial statements	F-1
Report of PricewaterhouseCoopers AG	F-2
Consolidated income statements	F-4
Consolidated statements of comprehensive income	F-5
Consolidated statements of changes in equity	F-6
Consolidated balance sheets	F-7
Consolidated cash flow statements	F-8
Notes to the consolidated financial statements	F-9

Item 19. Exhibits

1.1	Articles of Incorporation, as amended April 8, 2011 (English translation).
1.2	Regulations of the Board and Committee Charters of Novartis AG, as amended December 14, 2011.
2.1	Restricted Issuance Agreement dated as of January 11, 2002 among Novartis AG, J.P. Morgan Chase & Co., as depositary, and all holders from time to time of ADRs issued thereunder (incorporated by reference to Exhibit 4 to the Registration Statement on Form F-3, File No. 333-81862, as filed with the SEC on January 31, 2002).
2.2	Letter Agreement dated October 27, 2004 between Novartis AG and JPMorgan Chase Bank, as depositary (incorporated by reference to Exhibit 2.2 to the Form 20-F for the year ended December 31, 2004 as filed with the SEC on January 28, 2005).
2.3	Letter Agreement dated September 12, 2005 between Novartis AG and JPMorgan Chase Bank, as depositary (incorporated by reference to Exhibit 2.3 to the Form 20-F for the year ended December 31, 2005 as filed with the SEC on January 30, 2006).
2.4	Letter Agreement dated December 14, 2007 between Novartis AG and JPMorgan Chase Bank, as depositary (incorporated by reference to Exhibit 2.4 to the Form 20-F for the year ended December 31, 2007 as filed with the SEC on January 28, 2008).
4.1	Purchase and Option Agreement as of 6 April 2008 between Nestlé S.A. and Novartis AG concerning the sale and purchase of common shares of Alcon, Inc. owned by the seller (incorporated by reference to Exhibit 4.5 to the Form 20-F for the year ended December 31, 2008 as filed with the SEC on January 28, 2009).
4.2	Shareholders Agreement as of 6 April 2008 among Nestlé S.A. and Novartis AG concerning certain matters with respect to Alcon, Inc. and any common shares of the company with a par value of CHF 0.20 per share, whether or not issued (incorporated by reference to Exhibit 4.6 to the Form 20-F for the year ended December 31, 2008 as filed with the SEC on January 28, 2009).
4.3	Merger Agreement dated December 14, 2010, between Novartis AG and Alcon, Inc. (incorporated by reference to Annex A to the Registration Statement on Form F-4 as filed with the SEC on December 23, 2010).
6.1	For earnings per share calculation, see "Item 18. Financial Statements—note 7."
8.1	For a list of all of our principal Group subsidiaries and associated companies, see "Item 18. Financial Statements—note 31."
12.1	Certification of Joseph Jimenez, Chief Executive Officer of Novartis AG, pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
12.2	Certification of Jonathan Symonds, Chief Financial Officer of Novartis AG, pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
13.1	Certification of Joseph Jimenez, Chief Executive Officer of Novartis AG, pursuant to Section 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
13.2	Certification of Jonathan Symonds, Chief Financial Officer of Novartis AG, pursuant to Section 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes Oxley Act of 2002.
14.1	Consent of PricewaterhouseCoopers AG to the incorporation by reference of the audit report contained in this Form 20-F into Novartis AG's Registration Statement on Form F-3ASR filed on March 5, 2009 (File No. 333-157707), on Form F-3 filed on May 11, 2001 (File No. 333-60712), on Form F-3 filed on January 31, 2002 (File No. 333-81862), on Form F-4 filed on December 23, 2010 (File No. 333-171381), on Form S-8 filed on October 1, 2004 (File No. 333-119475), on Form S-8 filed on September 5, 2006 (File No. 333-137112), on Form S-8 filed on October 29, 2009 (File No. 333-162727) and on Form S-8 filed on January 18, 2011 (File No. 333-171739).

SIGNATURES

The registrant hereby certifies that it meets all of the requirements for filing on Form 20-F and that it has duly caused and authorized the undersigned to sign this annual report on its behalf.

NOVARTIS AG

By: /s/ JONATHAN SYMONDS

Name: Jonathan Symonds
Title: *Chief Financial Officer, Novartis Group*

By: /s/ FELIX R. EHRAT

Name: Felix R. Ehrat
Title: *General Counsel, Novartis Group*

Date: January 25, 2012

NOVARTIS GROUP

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

	Page
Index to consolidated financial statements	F-1
Report of PricewaterhouseCoopers AG	F-2
Consolidated income statements	F-4
Consolidated statements of comprehensive income	F-5
Consolidated statements of changes in equity	F-6
Consolidated balance sheets	F-7
Consolidated cash flow statements	F-8
Notes to the consolidated financial statements	F-9

Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors of Novartis AG, Basel

We have completed integrated audits of Novartis AG and its consolidated subsidiaries (Novartis Group) consolidated financial statements and of Novartis Groups' internal control over financial reporting as of December 31, 2011. Our opinions, based on our integrated audits, are presented below.

Consolidated financial statements

We have audited the accompanying consolidated financial statements of the Novartis Group as of December 31, 2011 and 2010, and for each of the three years in the period ended December 31, 2011 (comprising consolidated income statements, consolidated statements of comprehensive income, consolidated statements of changes in equity, consolidated balance sheets, consolidated cash flow statements and notes) as set out on pages F-4 through F-95 in this Form 20-F.

These consolidated financial statements are the responsibility of the Board of Directors and management. Our responsibility is to express an opinion on these consolidated financial statements based on our integrated audits.

We conducted our audits in accordance with Swiss Auditing Standards, International Standards on Auditing and the standards of the Public Company Accounting Oversight Board of the United States of America. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement. An audit of consolidated financial statements includes examining, on a test basis, evidence supporting the amounts and disclosures in the consolidated financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall consolidated financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the financial position of the Novartis Group at December 31, 2011 and 2010, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2011 in conformity with International Financial Reporting Standards as issued by the International Accounting Standards Board.

Internal control over financial reporting

We have also audited the effectiveness of the Novartis Group's internal control over financial reporting as of December 31, 2011, based on criteria established in *Internal Control—Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Novartis' Board of Directors and management of the Group are responsible for maintaining effective internal control over financial reporting and management is responsible for the assessment of the effectiveness of internal control over financial reporting included in the accompanying *"Report of Novartis Management on Internal Control Over Financial Reporting"* appearing under Item 15(b). Our responsibility is to express an opinion on the Novartis Group's internal control over financial reporting based on our integrated audit.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board of the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. An audit of internal control over financial reporting includes obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also includes performing such other procedures as we consider necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable

assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate. In our opinion, the Novartis Group maintained, in all material respects, effective internal control over financial reporting as of December 31, 2011, based on criteria established in *Internal Control—Integrated Framework* issued by the COSO.

PricewaterhouseCoopers AG

/s/ PETER M. KARTSCHER

Peter M. Kartscher
Audit expert
Auditor in charge

/s/ MICHAEL P. NELLIGAN

Michael P. Nelligan
Global relationship partner

Basel, January 24, 2012

NOVARTIS GROUP CONSOLIDATED FINANCIAL STATEMENTS

CONSOLIDATED INCOME STATEMENTS

(for the years ended December 31, 2011, 2010 and 2009)

	Note	2011	2010	2009
		$ m	$ m	$ m
Net sales	3	**58,566**	**50,624**	**44,267**
Other revenues		809	937	836
Cost of Goods Sold		(18,983)	(14,488)	(12,179)
Gross profit		**40,392**	**37,073**	**32,924**
Marketing & Sales		(15,079)	(13,316)	(12,050)
Research & Development		(9,583)	(9,070)	(7,469)
General & Administration		(2,970)	(2,481)	(2,281)
Other income		1,354	1,234	782
Other expense		(3,116)	(1,914)	(1,924)
Operating income	3	**10,998**	**11,526**	**9,982**
Income from associated companies	4	528	804	293
Interest expense	5	(751)	(692)	(551)
Other financial income and expense	5	(2)	64	198
Income before taxes		**10,773**	**11,702**	**9,922**
Taxes	6	(1,528)	(1,733)	(1,468)
Net income		**9,245**	**9,969**	**8,454**
Attributable to:				
Shareholders of Novartis AG		*9,113*	*9,794*	*8,400*
Non-controlling interests		*132*	*175*	*54*
Basic earnings per share ($)	7	3.83	4.28	3.70
Diluted earnings per share ($)	7	3.78	4.26	3.69

The accompanying notes form an integral part of the consolidated financial statements.

NOVARTIS GROUP CONSOLIDATED FINANCIAL STATEMENTS

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(for the years ended December 31, 2011; 2010 and 2009)

	Note	2011	2010	2009
		$ m	$ m	$ m
Net income from continuing operations		**9,245**	**9,969**	**8,454**
Fair value adjustments on financial instruments, net of taxes	8.1	21	(33)	93
Actuarial (losses)/gains from defined benefit plans, net of taxes	8.2	(1,421)	(685)	949
Novartis share of equity recognized by associated companies, net of taxes	8.3	1	(94)	(43)
Currency translation effects		(559)	554	789
Total comprehensive income		**7,287**	**9,711**	**10,242**
Attributable to:				
Shareholders of Novartis AG		*7,171*	*9,524*	*10,180*
Non-controlling interests		*116*	*187*	*62*

The accompanying notes form an integral part of the consolidated financial statements.

NOVARTIS GROUP CONSOLIDATED FINANCIAL STATEMENTS

CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY

(for the years ended December 31, 2011, 2010 and 2009)

	Note	Share capital	Treasury shares	Share premium	Retained earnings	Total value adjustments	Total reserves	Non-controlling interests	Total equity
		$ m	$ m	$ m	$ m	$ m	$ m	$ m	$ m
Total equity at January 1, 2009		**959**	**(139)**	**198**	**49,825**	**(555)**	**49,468**	**149**	**50,437**
Net income					8,400		8,400	54	8,454
Other comprehensive income	8				(43)	1,823	1,780	8	1,788
Total comprehensive income					**8,357**	**1,823**	**10,180**	**62**	**10,242**
Dividends	9.1				(3,941)		(3,941)		(3,941)
Sale of treasury shares, net	9.2		1		224		224		225
Reduction of share capital	9.8	(2)	2						
Equity-based compensation	9.3		4		631		631		635
Changes in non-controlling interests	9.6							(136)	(136)
Total of other equity movements		**(2)**	**7**		**(3,086)**		**(3,086)**	**(136)**	**(3,217)**
Total equity at December 31, 2009		**957**	**(132)**	**198**	**55,096**	**1,268**	**56,562**	**75**	**57,462**
Net income					9,794		9,794	175	9,969
Other comprehensive income	8				(94)	(176)	(270)	12	(258)
Total comprehensive income					**9,700**	**(176)**	**9,524**	**187**	**9,711**
Dividends	9.1				(4,486)		(4,486)		(4,486)
Sale of treasury shares, net	9.2		4		338		338		342
Equity-based compensation	9.3		3		596		596		599
Impact of change of ownership of Alcon, Inc.	9.4				(74)		(74)		(74)
Excess of consideration exchanged for acquiring non-controlling interest compared to the recorded amounts	9.5				(96)		(96)		(96)
Changes in non-controlling interests	9.6							6,311	6,311
Total of other equity movements			**7**		**(3,722)**		**(3,722)**	**6,311**	**2,596**
Total equity at December 31, 2010		**957**	**(125)**	**198**	**61,074**	**1,092**	**62,364**	**6,573**	**69,769**
Net income					9,113		9,113	132	9,245
Other comprehensive income	8				1	(1,943)	(1,942)	(16)	(1,958)
Total comprehensive income					**9,114**	**(1,943)**	**7,171**	**116**	**7,287**
Dividends	9.1				(5,368)		(5,368)		(5,368)
Purchase of treasury shares, net	9.2		(31)		(3,429)		(3,429)		(3,460)
Equity-based compensation	9.3		4		802		802		806
Excess of consideration exchanged for acquiring non-controlling interest compared to the recorded amounts	9.5				(5,664)		(5,664)		(5,664)
Changes in non-controlling interests	9.6							(6,593)	(6,593)
Fair value of Novartis shares used to acquire outstanding non-controlling interests in Alcon, Inc.	9.7	59	31		9,073		9,073		9,163
Total of other equity movements		**59**	**4**		**(4,586)**		**(4,586)**	**(6,593)**	**(11,116)**
Total equity at December 31, 2011		**1,016**	**(121)**	**198**	**65,602**	**(851)**	**64,949**	**96**	**65,940**

The accompanying notes form an integral part of the consolidated financial statements.

NOVARTIS GROUP CONSOLIDATED FINANCIAL STATEMENTS

CONSOLIDATED BALANCE SHEETS

(at December 31, 2011 and 2010)

	Note	2011	2010
		$ m	$ m
Assets			
Non-current assets			
Property, plant & equipment	10	15,627	15,840
Goodwill	11	29,943	29,692
Intangible assets other than goodwill	11	31,969	35,231
Investments in associated companies	4	8,622	8,385
Deferred tax assets	12	5,857	5,240
Financial assets	13	976	1,840
Other non-current non-financial assets		418	405
Total non-current assets		**93,412**	**96,633**
Current assets			
Inventories	14	5,930	6,093
Trade receivables	15	10,323	9,873
Marketable securities and derivative financial instruments	16	1,366	2,815
Cash and cash equivalents	16	3,709	5,319
Other current assets	17	2,756	2,585
Total current assets		**24,084**	**26,685**
Total assets		**117,496**	**123,318**
Equity and liabilities			
Equity			
Share capital	18	1,016	957
Treasury shares	18	(121)	(125)
Reserves		64,949	62,364
Issued share capital and reserves attributable to Novartis AG shareholders		**65,844**	**63,196**
Non-controlling interests		96	6,573
Total equity		**65,940**	**69,769**
Liabilities			
Non-current liabilities			
Financial debts	19	13,855	14,360
Deferred tax liabilities	12	6,761	7,689
Provisions and other non-current liabilities	20	7,792	6,842
Total non-current liabilities		**28,408**	**28,891**
Current liabilities			
Trade payables		4,989	4,788
Financial debts and derivative financial instruments	21	6,374	8,627
Current income tax liabilities		1,706	1,710
Provisions and other current liabilities	22	10,079	9,533
Total current liabilities		**23,148**	**24,658**
Total liabilities		**51,556**	**53,549**
Total equity and liabilities		**117,496**	**123,318**

The accompanying notes form an integral part of the consolidated financial statements.

NOVARTIS GROUP CONSOLIDATED FINANCIAL STATEMENTS

CONSOLIDATED CASH FLOW STATEMENTS

(for the years ended December 31, 2011, 2010 and 2009)

	Note	2011	2010	2009
		$ m	$ m	$ m
Net income		**9,245**	**9,969**	**8,454**
Reversal of non-cash items	23.1	9,300	6,162	5,448
Dividends from associated companies		403	568	504
Dividends received from marketable securities		1	3	3
Interest received		66	170	106
Interest paid		(640)	(525)	(268)
Other financial payments		(47)	(145)	(386)
Taxes paid		(2,435)	(2,616)	(1,623)
Cash flows before working capital and provision changes		**15,893**	**13,586**	**12,238**
Restructuring payments and other cash payments from provisions		(1,471)	(1,281)	(735)
Change in net current assets and other operating cash flow items	23.2	(113)	1,762	688
Cash flows from operating activities		**14,309**	**14,067**	**12,191**
Purchase of property, plant & equipment		(2,167)	(1,678)	(1,887)
Proceeds from sales of property, plant & equipment		61	36	48
Purchase of intangible assets		(220)	(554)	(846)
Proceeds from sales of intangible assets		643	545	51
Purchase of financial assets		(139)	(124)	(215)
Proceeds from sales of financial assets		59	66	124
Purchase of non-current non-financial assets		(48)	(15)	(23)
Proceeds from sales of non-current non-financial assets		5	3	3
Acquisitions of interests in associated companies		(12)		
Acquisitions and divestments of businesses	23.3	(569)	(26,666)	(925)
Acquisition of non-controlling interests				(81)
Purchase of marketable securities		(1,750)	(40,569)	(14,103)
Proceeds from sales of marketable securities		3,345	53,200	3,635
Cash flows used in investing activities		**(792)**	**(15,756)**	**(14,219)**
Acquisition of treasury shares		(3,628)	(311)	(461)
Disposal of treasury shares		159	711	685
Increase in non-current financial debts		281	5,674	7,052
Repayment of non-current financial debts		(28)	(5)	(22)
Change in current financial debts		(3,054)	2,610	(491)
Proceeds from issuance of share capital to third parties		4	19	39
Acquisition of Alcon non-controlling interests		(3,187)	(32)	
Dividends paid to non-controlling interests and other financing cash flows		(203)	(64)	(52)
Dividends paid to shareholders of Novartis AG		(5,368)	(4,486)	(3,941)
Cash flows used in/from financing activities		**(15,024)**	**4,116**	**2,809**
Net effect of currency translation on cash and cash equivalents		(103)	(2)	75
Net change in cash and cash equivalents		**(1,610)**	**2,425**	**856**
Cash and cash equivalents at January 1		5,319	2,894	2,038
Cash and cash equivalents at December 31		**3,709**	**5,319**	**2,894**

The accompanying notes form an integral part of the consolidated financial statements.

1. Accounting Policies

The Novartis Group (Group or Novartis) consolidated financial statements comply with the International Financial Reporting Standards (IFRS) as published by the International Accounting Standards Board (IASB). They are prepared in accordance with the historical cost convention except for items that are required to be accounted for at fair value.

The preparation of financial statements requires management to make estimates and other judgments that affect the reported amounts of assets and liabilities as well as the accounting and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual outcomes could differ from those estimates.

Scope of Consolidation

The consolidated financial statements include all companies that Novartis AG, Basel, Switzerland directly or indirectly controls (generally more than 50% of voting interest). Special purpose entities, irrespective of their legal structure, are consolidated in instances where the Group has the power to govern the financial and operating policies of an entity so as to obtain benefits from their activities.

Investments in associated companies (generally defined as investments in companies in which Novartis holds between 20% and 50% of voting shares or over which it otherwise has significant influence) and joint ventures are accounted for using the equity method. In these situations, the Group records its share of the estimated associated company's net income and equity. The share of results attributed to Novartis from these associated companies is included in the income statement line "Income from associated companies" and is calculated after the deduction of related taxes and non-controlling interests included in the financial results of the associated company.

Principles of Consolidation

The Group's financial year end is December 31, and the annual closing date of the individual financial statements incorporated into the Group's consolidated financial statements is December 31.

The acquisition method of accounting is used to account for business combinations by the Group in transactions where Novartis takes control of another entity, including consideration of IFRS 3 (revised) "Business Combinations" which was adopted with effect from January 1, 2010. The cost of an acquisition is measured as the fair value of the transferred assets as well as incurred or assumed liabilities at the date of acquisition. Up to December 31, 2009 contingent consideration would not have been generally recorded at the date of acquisition. From January 1, 2010 the fair value of any contingent consideration potentially due to former owners of the acquired business is also included in the cost of the acquisition. Costs directly attributable to an acquisition were capitalized up to December 31, 2009. Costs for acquisitions subsequent to January 1, 2010 are expensed. Identifiable acquired assets as well as assumed liabilities and contingent liabilities obtained in a business combination are measured initially at their fair values as of the acquisition date, irrespective of the extent of any non-controlling interest. The excess of the consideration transferred to obtain a controlling interest and the fair value of any previous non-controlling interest in the acquiree, over the fair value of the Group's share of net identifiable assets in a business combination, is recorded as goodwill in the balance sheet and is denominated in the functional currency of the related acquisitions. Up to December 31, 2009, the excess of the cost of an acquisition over the Group's share of the fair value of acquired net identifiable assets related to acquiring an additional interest in an already controlled entity was also recorded as goodwill. From January 1, 2010 such amounts are recorded in consolidated equity. Up to December 31, 2009 any difference between the proceeds received from reducing the interest in a controlled entity compared to the share of the related net assets was recorded in the consolidated income statement. From January 1, 2010 such amounts are recorded in consolidated equity. Up to December 31, 2009, for an acquisition of an entity in stages, any revaluation of an initial non-controlling interest in an entity required as a result of obtaining control was recognized in a separate component of comprehensive income. From January 1, 2010 such amounts are recorded in the consolidated income statement. Also from January 1, 2010 Novartis has elected to value any remaining outstanding non-controlling interest in a controlled subsidiary only at its proportionate share of the fair value of the net identified assets.

1. Accounting Policies (Continued)

Companies acquired or disposed of during the year are included in the consolidated financial statements from the date of acquisition or until the date of disposal.

Intercompany income and expenses, including unrealized profits from internal Novartis transactions and intercompany receivables and payables, are eliminated.

Foreign Currencies

The consolidated financial statements of Novartis are presented in US dollars ($). The functional currency of certain Swiss and foreign finance companies used for preparing the consolidated financial statements is $ instead of the respective local currencies. This reflects the fact that the cash flows and transactions of these entities are primarily denominated in $. Generally, the respective local currency is used as the functional currency for other entities. In the respective entity financial statements, monetary assets and liabilities denominated in foreign currencies are translated at the prevailing exchange rate at the balance sheet date. Transactions are recorded using the approximate exchange rate at the time of the transaction. All resulting foreign exchange transaction gains and losses are recognized in the entity's income statement.

Income, expense and cash flows of the consolidated entities have been translated into $ using the average of monthly exchange rates during the year. Balance sheets are translated using year-end exchange rates. Translation differences arising from movements in exchange rates used to translate equity and long-term intercompany financing transactions relating to net investments in a foreign entity, retained earnings and other equity components and net income for the year are allocated directly to the cumulative translation effects included in the fair value adjustments in the consolidated statement of comprehensive income. Translation gains and losses accumulated in the consolidated statement of comprehensive income are included in the income statement when the foreign operation is completely or partially liquidated or is sold.

Impairment of long-lived intangible and tangible assets

Novartis reviews long-lived intangible and tangible assets for impairment whenever events or changes in circumstance indicate that the asset's balance sheet carrying amount may not be recoverable.

An asset, as defined, is generally considered impaired when its carrying amount exceeds its estimated recoverable amount. The recoverable amount is measured as the higher of: a) an asset or related cash-generating unit's fair value less costs to sell and b) its value in use. Fair value reflects the Group's estimates of assumptions that market participants would use when pricing the asset. In contrast the value in use concept reflects the Group's estimates based on its expected use of the asset, including the effects of factors that may be specific to the Group and not applicable to entities in general. Value in use, and fair value, are measured principally on the basis of discounted cash flow analysis using management's best estimate of the range of economic conditions that are expected to exist over the remaining useful life of the asset. Also value in use measurements specifically exclude consideration of any estimated future net cash flows that might be expected to arise from future restructuring or from improving or enhancing the asset's performance.

The net present values involve highly sensitive estimates and assumptions including consideration of factors such as the following:

- the amount and timing of projected future cash flows;
- the selected discount and tax rate;
- the outcome of Research & Development (R&D) activities (compound efficacy, results of clinical trials, etc.);
- the amount and timing of projected costs to develop In-Process Research & Development (IPR&D) projects into commercially viable products;
- the probability of obtaining regulatory approval;
- long-term sales forecasts for periods of up to 25 years;

1. Accounting Policies (Continued)

- sales erosion rates after the end of patent protection and timing of the entry of generic competition; and
- the behavior of competitors (launch of competing products, marketing initiatives, etc.).

Factors that could result in shortened useful lives or impairments include:

- entry into the market of generic or alternative products;
- lower than expected sales for acquired products or for sales associated with patents and trademarks;
- lower than anticipated future sales resulting from acquired IPR&D;
- the closing of facilities; and
- changes in the planned use of property, plant & equipment.

Goodwill and the Alcon brand name have an indefinite useful life and impairment testing is done at least annually. Any impairment charge is recorded in the consolidated income statement under "Other expense". Novartis considers that the Alcon brand name has an indefinite life as Alcon has a history of strong revenue and cash flow performance, and Novartis has the intent and ability to support the brand with marketplace spending for the foreseeable future. IPR&D is also assessed for impairment at least on an annual basis, with any impairment charge recorded in the consolidated income statement under "Research & Development". Once a project included in IPR&D has been successfully developed and is available for use, it is amortized over its useful life in the consolidated income statement under "Cost of Goods Sold", where related impairment charges, if any, are also recorded.

Novartis has adopted a uniform method for assessing goodwill and indefinite-life intangible assets for impairment and any other intangible asset indicated as being possibly impaired. Generally, for intangible assets Novartis uses cash flow projections for the whole useful life of these assets, and for goodwill and the Alcon brand name, Novartis utilizes cash flow projections for a five-year period based on management forecasts, with a terminal value based on sales projections usually in line with or lower than inflation rates for later periods. Probability-weighted scenarios are typically used.

Discount rates used in these scenarios are based on the Group's weighted average cost of capital as an approximation of the weighted average cost of capital of a comparable market participant, which are adjusted for specific country and currency risks associated with cash flow projections.

Due to the above factors, actual cash flows and values could vary significantly from forecasted future cash flows and related values derived using discounting techniques.

Property, Plant & Equipment

Land is recorded at acquisition cost less accumulated impairment, if any. Prepayments for long-term leasehold land agreements are amortized over the life of the lease.

Other items of property, plant & equipment are recorded at acquisition cost or production cost and are depreciated on a straight-line basis to the consolidated income statement over the following estimated useful lives:

Buildings	20 to 40 years
Other property, plant & equipment:	
—Machinery and equipment	7 to 20 years
—Furniture and vehicles	5 to 10 years
—Computer hardware	3 to 7 years

1. Accounting Policies (Continued)

Additional costs that enhance the future economic benefit of property, plant & equipment are capitalized. Government grants for construction activities and equipment are deducted from the carrying value of the assets. Borrowing costs associated with the construction of new property, plant and equipment projects are capitalized. Property, plant & equipment is reviewed for impairment whenever events or changes in circumstances indicate that the balance sheet carrying amount may not be recoverable.

Property, plant & equipment that are financed by leases giving Novartis substantially all risks and rewards of ownership are capitalized at the lower of the fair value of the leased asset or the present value of minimum lease payments at the inception of the lease. These are depreciated in the same manner as other assets over the shorter of the lease term or their useful life. Leases in which a significant portion of the ownership risks and rewards are retained by the lessor are classified as operating leases. These are charged to the consolidated income statement over the life of the lease, generally, on a straight-line basis.

Intangible Assets

Goodwill

The excess of the consideration transferred to obtain a controlling interest and the fair value of any previous non-controlling interest in the acquiree, over the fair value of the Group's share of net identifiable assets in a business combination, is recorded as goodwill in the balance sheet and is denominated in the functional currency of the related acquisition. Goodwill is allocated to an appropriate cash-generating unit which is defined as the smallest group of assets that generates independent cash inflows that support the goodwill. All goodwill is tested for impairment at least annually. In addition, goodwill is evaluated for impairment at each reporting date for each cash-generating unit with any resulting goodwill impairment charge recorded under "Other Expense" in the consolidated income statement.

Goodwill is tested for possible impairment annually and whenever events or changes in circumstances indicate the value may not be fully recoverable. If the initial accounting for goodwill in the reporting period is only provisional, it is not tested for impairment unless an impairment indicator exists, and not included in the calculation of the net book values at risk from changes in the amount of discounted cash flows. An impairment is recognized when the consolidated balance sheet carrying amount is higher than the greater of "fair value less costs to sell" and "value in use."

Other Intangible Assets

All identifiable intangible assets acquired in a business combination are recognized at their fair value. Furthermore, all acquired Research & Development assets, including upfront and milestone payments on licensed or acquired compounds, which are deemed to enhance the intellectual property of Novartis, are capitalized at cost as intangible assets, when it is probable that future economic benefits will arise, even though uncertainties exist as to whether the R&D projects will be ultimately successful in producing a commercial product.

All Novartis intangible assets are allocated to cash-generating units. IPR&D and the Alcon brand name are the only classes of separately identified intangible assets that are not amortized. Both are tested for impairment on an annual basis or when facts and circumstances warrant an impairment test. Any impairment charge is recorded in the consolidated income statement under "Research & Development" for IPR&D and under "Other Expense" for the Alcon brand name. Once a project included in IPR&D has been successfully developed and is available for use, it is amortized over its useful life in the consolidated income statement under "Cost of Goods Sold," where any related impairment charges are also recorded. The Alcon brand name is considered to have an indefinite life as Alcon has a history of strong revenue and cash flow performance, and we have the intent and ability to support the brand with marketplace spending for the foreseeable future.

Internally developed computer software is capitalized and once available for use amortized over its estimated useful life.

1. Accounting Policies (Continued)

All other intangible assets are amortized over their estimated useful lives once they are available for use and tested for impairment whenever facts and circumstances indicate that their carrying value may not be recoverable. The useful lives assigned to acquired intangible assets are based on the period over which they are expected to generate economic benefits, commencing in the year in which they first generate sales or are used in development. Acquired intangible assets are amortized on a straight-line basis over the following periods:

Trademarks	Over their estimated economic or legal life with a maximum of 20 years
Currently marketed products and marketing know-how	5 to 25 years
Technology	10 to 30 years
Software	3 to 5 years
Others	3 to 5 years
Alcon brand name	Indefinite useful life, not amortized

Amortization of trademarks, currently marketed products and marketing know-how is charged in the consolidated income statement to "Cost of Goods Sold" over their useful lives. Technology, which represents identified and separable acquired know-how used in the research, development and production process, is amortized in the consolidated income statement under "Cost of Goods Sold" or "Research & Development." Any impairment charges are recorded in the consolidated income statement in the same functional cost lines as the related amortization charges.

Financial Assets

Investments in debt and equity securities are initially recorded at fair value on the trade date, and subsequently carried at fair value. The fair values of quoted investments are based on current market prices. If the market for a financial asset is not active or no market is available, fair values are established using valuation techniques. These include the use of data from the most recent arm's length relevant transactions, such as new financing rounds or partial disposals; reference to other instruments that are substantially the same; a discounted cash flow analysis; and other pricing models that make maximum use of observable market data. Loans are carried at amortized cost, less any allowances for uncollectable amounts. Exchange rate gains and losses and interest income using the effective interest rate method on loans are recorded in the consolidated income statement. All other changes in the fair value of financial assets are deferred as a fair value adjustment in the consolidated statement of comprehensive income and recognized in the income statement when the asset is sold. Any impairments in value below initial cost are immediately expensed in the consolidated income statement.

Associated companies

Novartis uses the equity method to account for investments in associated companies (generally defined as investments in companies that correspond to holdings of between 20% and 50% of voting shares or over which Novartis otherwise has significant influence).

Novartis considers investments in associated companies for impairment testing whenever there is a quoted share price and when this has a fair value less than the carrying value per share for the investment. For unquoted investments in associated companies recent financial information is taken into account to assess whether impairment testing is necessary. In a situation in which, based on the quoted share price, the fair value less cost to sell is considered to be below the carrying amount, the value in use is determined in order to test the investment for impairment. If the value in use is also below the carrying amount an impairment loss is recognized for the difference between carrying amount and the higher of "value in use" or "fair value less costs to sell". In addition, an impairment test for separately identified assets of the associated company other than its goodwill is performed whenever an indication for impairment exists. Any impairment charge is recorded in the income statement under "Income from associated companies".

1. Accounting Policies (Continued)

Derivative Financial Instruments and Hedging

Derivative financial instruments are initially recognized in the balance sheet at fair value, and they are re-measured to their current fair value at the end of each subsequent reporting period.

The method of recognizing the resulting gain or loss is dependent on whether a derivative contract is designed to hedge a specific risk and qualifies for hedge accounting. The purpose of hedge accounting is to match the impact of the hedged item and the hedging instrument in the consolidated income statement. The Group designates derivatives that qualify as hedges for accounting purposes as either a) a hedge of the fair value of a recognized asset or liability (fair value hedge), or b) a hedge of a forecasted transaction or firm commitment (cash flow hedge) or c) a hedge of a net investment in a foreign entity.

Changes in the fair value of derivatives that are fair value hedges and that are highly effective are recognized in the consolidated income statement along with any changes in the fair value of the hedged asset or liability attributable to the hedged risk. Any gain or loss on the hedging instrument relating to the effective portion of changes in the fair value of derivatives in cash flow hedges are recognized in the consolidated statement of comprehensive income. Gains or losses relating to the ineffective portion are recognized immediately in the consolidated income statement. In determining whether the impact of a cash flow hedge can be deferred in the consolidated statement of comprehensive income, management assesses the probability of the forecasted transaction occurring. Amounts are only deferred when management judges the forecasted transaction to be highly probable.

Hedges of net investments in foreign entities are accounted for similarly to cash flow hedges. All foreign exchange gains or losses arising on translation are included in cumulative translation effects and recognized in the consolidated statement of comprehensive income. Gains and losses accumulated in this statement are included in the consolidated income statement when the foreign operation is completely or partially liquidated or is sold.

Certain derivative instruments, while providing effective economic hedges under the Group's policies, do not qualify for hedge accounting. Changes in the fair value of any derivative instruments that do not qualify for cash flow hedge accounting are recognized immediately in "other financial income and expense" in the consolidated income statement.

Inventories

Purchased products are valued at acquisition cost while own-manufactured products are valued at manufacturing cost including related production expenses. In the consolidated balance sheet, inventory is valued at historical cost determined on a first-in first-out basis, and this value is used for the "Cost of Goods Sold" in the consolidated income statement. Provisions are made for inventories with a lower market value or which are slow-moving. If it becomes apparent that such inventory can be reused, provisions are reversed with inventory being revalued up to the lower of its net realizable value or original cost. Inventory produced ahead of regulatory approval is provided for with the provision being released on obtaining approval. Unsalable inventory is fully written off in "Cost of Goods Sold".

Trade Receivables

Trade receivables are initially recognized at fair value representing the invoiced amounts, less adjustments for estimated revenue deductions such as rebates, chargebacks and cash discounts. Doubtful trade receivables provisions are established based upon the difference between the recognized value and the estimated net collectible amount with the estimated loss recognized in the consolidated income statement within "Marketing & Sales" expenses. When a trade receivable becomes uncollectible, it is written off against the doubtful trade receivables provisions.

1. Accounting Policies (Continued)

Cash and Cash Equivalents

Cash and cash equivalents include highly liquid investments with original maturities of three months or less which are readily convertible to known amounts of cash. Bank overdrafts are presented within other bank and financial debt within "Current financial debts" on the consolidated balance sheet.

Marketable Securities

Marketable securities consist of equity and debt securities which are principally traded in liquid markets. The Group has classified all its marketable securities as available-for-sale, as they are not acquired to generate profit from short-term fluctuations in price. All purchases and sales of marketable securities are recognized on the trade date, which is the date that the Group commits to purchase or sell the asset. Marketable securities are initially recorded at their acquired fair value and subsequently carried at fair value. Exchange rate gains and losses and interest income using the effective interest rate method on debt securities are recorded in the consolidated income statement. All other changes in the fair value of unhedged securities are deferred as a fair value adjustment in the consolidated statement of comprehensive income and recognized in the consolidated income statement when the asset is sold or impaired. Where hedge accounting is applied, the change in fair value of effectively hedged securities is recorded in the consolidated income statement where it offsets the gains or losses of the hedging derivative.

Unrealized losses on impaired marketable securities are included as a reduction of financial income in the consolidated income statement. A security is assessed for impairment when its market value at the balance sheet date is less than initial cost reduced by any previously recognized impairment.

Repurchase Agreements

Underlying securities related to repurchase agreements are included within marketable securities. Repurchase financing agreements for securities sold but agreed to be repurchased are recognized gross and included in short-term financial debts. Income and expenses are recorded net in interest income within financial income.

Taxes

Taxes on income are provided in the same periods as the revenues and expenses to which they relate. Deferred taxes are determined using the comprehensive liability method and are calculated on the temporary differences that arise between the tax base of an asset or liability and its carrying value in the subsidiary's balance sheet prepared for consolidation purposes, except for those temporary differences related to investments in subsidiaries and associated companies, where the timing of their reversal can be controlled and it is probable that the difference will not reverse in the foreseeable future. Furthermore, withholding or other taxes on eventual distribution of subsidiaries' retained earnings are only taken into account where a dividend has been planned since generally the retained earnings are reinvested. Deferred tax assets or liabilities, measured at the tax rates that are expected to apply in the period of tax settlement or realization by the applicable entity, are included in the consolidated balance sheet as either a non-current asset or liability, with changes in the year recorded in the consolidated income statement in "Taxes" or in the consolidated statement of comprehensive income, if they relate to an item directly recorded in this statement. Deferred tax assets related to tax losses of relevant Group entities are recognized to the extent it is considered probable that future taxable profits will be available against which such losses can be utilized in the foreseeable future.

The estimated amounts for current and deferred tax assets or liabilities, including any amounts related to any uncertain tax positions, are based on currently known facts and circumstances. Tax returns are based on an interpretation of tax laws and regulations and record estimates based on these judgments and interpretations. The tax returns are subject to examination by the competent taxing authorities, which may result in an assessment being made requiring payments of additional tax, interest or penalties. Inherent uncertainties exist in the estimates of the tax positions.

1. Accounting Policies (Continued)

Defined Benefit Pension Plans, Other Post-Employment Benefits and Other Non-Current Benefits of Associates

Defined Benefit Pension Plans

The liability in respect of defined benefit pension plans is the defined benefit obligation calculated annually by independent actuaries using the projected unit credit method. The defined benefit obligation is measured as the present value of the estimated future payments required to settle the obligation that is attributable to the service of associates in the current and prior periods. The service cost for such pension plans is included in the personnel expenses of the various functions where the associates are employed, while the expected return on assets and interest expense are recognized as "Other income" or "Other expense". Plan assets are recorded at their fair value. Unvested past service costs arising from amendments to pension plans are charged or credited on a straight-line basis to income over the associates' remaining vesting period. Vested past service costs, including such costs for retired associates are immediately recognized in the consolidated income statement. Gains or losses arising from plan curtailments or settlements are accounted for at the time they occur. Any net pension asset is limited to the present value of future economic benefits available to the Group in the form of refunds from the plan or expected reductions in future contributions to the plan.

The effects of changes in actuarial assumptions and experience adjustments on the value of plan assets and liabilities of defined benefit plans are immediately recognized in the consolidated balance sheet with a corresponding movement in the consolidated statement of comprehensive income.

Other Post-Employment Benefits

Certain subsidiaries provide healthcare and insurance benefits for a portion of their retired associates and their eligible dependents. The cost of these benefits is actuarially determined and accrued over the service lives of the related associates. Service costs are included in the personnel expenses of the various functions where the associates are located, while the expected return on assets and interest expense are recognized as "Other income" or "Other expense". The related obligation is recognized in non-current liabilities.

Other Non-Current Benefits of Associates

Other non-current benefits of associates represent amounts due to associates under deferred compensation arrangements available in certain jurisdictions in which the Group conducts its operations. Benefit costs are recognized on an accrual basis in the personnel expenses of the various functions where the associates are located. The related obligation is recognized in other non-current liabilities.

Equity-Based Compensation

The fair value of Novartis shares, restricted shares, restricted share units (RSU) and American Depositary Shares (ADS) and related options granted to associates as compensation is recognized as an expense over the related vesting or service period adjusted to reflect actual and expected vesting levels. The charge for equity-based compensation is included in the personnel expenses which are allocated to functional costs and credited to equity for equity-settled amounts or to other current liabilities for cash-settled amounts. An option's fair value at grant date is calculated using the trinomial valuation method. Accurately measuring the value of share options is difficult and requires an estimate of factors used in the valuation model. These key factors involve uncertain future events, such as expected dividend yield and expected share price volatility. Expected volatilities are based on those implied from listed warrants on Novartis shares, and—to the extent that equivalent options are not available—a future extrapolation based on historical volatility. Novartis shares, restricted shares, RSUs and ADSs are valued using the market value on the grant date.

Revenue Recognition

Revenue is recognized when there is persuasive evidence that a sales arrangement exists, title and risks and rewards for the products are transferred to the customer, the price is determinable and collectability is reasonably assured. Where contracts contain customer acceptance provisions, sales are recognized upon the satisfaction of acceptance criteria. Revenue is recognized for products that are stockpiled at the request of the customer once

1. Accounting Policies (Continued)

the products have been inspected and accepted by the customer and there is no right of return or replenishment on product expiry, and cost of storage will be paid by the customer on normal commercial terms. Provisions for rebates and discounts granted to government agencies, wholesalers, retail pharmacies, managed care and other customers are recorded as a reduction of revenue at the time the related revenues are recorded or when the incentives are offered. They are calculated on the basis of historical experience and the specific terms in the individual agreements. Provisions for refunds granted to healthcare providers under innovative pay for performance agreements are recorded as a reduction of revenue at the time the related revenues are recorded. They are calculated on the basis of historical experience and clinical data for the product as well as the specific terms in the individual agreements. In cases where historical experience and clinical data are not sufficient for a reliable estimation of the outcome, revenue recognition is deferred until such history is available.

Cash discounts are offered to customers to encourage prompt payment and are recorded as revenue deductions. Wholesaler shelf-inventory adjustments are granted to customers based on the existing inventory of a product at the time of decreases in the invoice or contract price of a product or at the point of sale if a price decline is reasonably estimable. Where there is an historical experience of Novartis agreeing to customer returns or Novartis can otherwise reasonably estimate expected future returns, Novartis records a provision for estimated sales returns. In doing so it applies the estimated rate of return, determined based on historical experience of customer returns or considering any other relevant factors, to the amounts invoiced also considering the amount of returned products to be destroyed versus products that can be placed back in inventory for resale. Where shipments are made on a re-sale or return basis, without sufficient historical experience for estimating sales returns, revenue is only recorded when there is evidence of consumption or when the right of return has expired. Provisions for revenue deductions are adjusted to actual amounts as rebates, discounts and returns are processed.

Research & Development

Internal Research & Development (R&D) costs are fully charged to the consolidated income statement in the period in which they are incurred. The Group considers that regulatory and other uncertainties inherent in the development of new products preclude the capitalization of internal development expenses as an intangible asset until marketing approval from a regulatory authority is obtained in a major market such as for the US, the EU, Switzerland or Japan.

Payments made to third parties in compensation for subcontracted R&D that is deemed not to enhance the intellectual property of Novartis such as contract research and development organizations are expensed as internal R&D expenses in the period in which they are incurred. Such payments are only capitalized if they meet the criteria for recognition of an internally generated intangible asset, usually when marketing approval has been achieved from a regulatory authority in a major market.

Payments made to third parties in order to in-license or acquire intellectual property rights, compounds and products (In-Process Research & Development assets, "IPR&D"), including initial upfront and subsequent milestone payments, are capitalized as are payments for other assets, such as technologies to be used in R&D activities. If additional payments are made to the originator company to continue to perform R&D activities, an evaluation is made as to the nature of the payments. Such additional payments will be expensed if such additional payments are deemed to be compensation for subcontracted R&D services not resulting in an additional transfer of intellectual property rights to Novartis. By contrast, such additional payments will be capitalized if these additional payments are deemed to be compensation for the transfer to Novartis of additional intellectual property developed at the risk of the originator company. Subsequent internal R&D costs in relation to IPR&D and other assets are expensed since the technical feasibility of the internal R&D activity can only be demonstrated by the receipt of marketing approval for a related product from a regulatory authority in a major market.

Costs for post-approval studies performed to support the continued registration of a marketed product are recognized as marketing expenses. Costs for activities that are required by regulatory authorities as a condition for obtaining marketing approval are charged as development expenses as they are incurred in cases where it is anticipated that the related product will be sold over a longer period than the activities required to be performed to obtain the marketing approval. In the rare cases where costs related to the conditional approval need to be

1. Accounting Policies (Continued)

incurred over a period beyond that of the anticipated product sales, then the expected costs of these activities will be expensed over the shorter period of the anticipated product sales. As a result, all activities necessary as a condition to maintain a received approval, whether conditional or not, are expensed in the consolidated income statement.

IPR&D assets are amortized in the consolidated income statement over their useful life once the related project has been successfully developed and regulatory approval for a product launch has been obtained. Other acquired technologies included in intangible assets are amortized in the consolidated income statement over their estimated useful lives.

Laboratory buildings and equipment included in property, plant & equipment are depreciated in the consolidated income statement over their estimated useful lives.

Government Grants

Grants from the government are recognized at their fair value where there is a reasonable assurance that the grant will be received and the Group will comply with all attached conditions.

Government grants are deferred and recognized in the consolidated income statement over the period necessary to match them with the related costs which they are intended to compensate.

Government grants relating to property, plant and equipment are deducted from the carrying value of assets and released to the consolidated income statement on a straight-line basis over the expected lives of the related assets.

Government grants related to income are deducted in reporting the related expense.

Provisions

Novartis records provisions when it is judged probable that a liability has been incurred and the amount can be reliably estimated. These provisions are adjusted periodically as assessments change or additional information becomes available.

Cost of future expenditures do not usually reflect any insurance or other claims or recoveries, as Novartis only recognizes insurance or other recoveries at such time the amount is reliably estimable and collection is virtually certain.

Product Liabilities

Provisions are made for present product liability obligations resulting from past sales including related legal and other fees and expenses. The provision is actuarially determined taking into consideration such factors as past experience, amount and number of claims reported and estimates of claims incurred but not yet reported. Individually significant cases are provided for when probable and reliably estimable.

Legal Liabilities

Provisions are made for anticipated settlement costs where a reliable estimate can be made of the probable outcome of legal or other disputes against the Group. In addition, provisions are made for legal and other fees and expenses arising from claims affecting Novartis.

Environmental Liabilities

Novartis is exposed to environmental liabilities relating to its past operations, principally in respect to remediation costs. Provisions for remediation costs are made when expenditure on remedial work is probable and the cost can be reliably estimated. These remediation costs are calculated as the present value of expected cash outflows including anticipated inflation, discounted at a rate based on the market yields for high quality corporate

1. Accounting Policies (Continued)

bonds. The increase in provisions due to the passage of time and the effect of changes in the discount rates are included in Interest Expense.

Contingent consideration in a business combination

Up to December 31, 2009 contingent consideration would not have been generally recorded at the date of acquisition. From January 1, 2010, contingent consideration potentially due to former owners as part of the consideration paid for a business combination is recognized as a liability at fair value as of the acquisition date. Any subsequent change in the fair value of the contingent consideration liability is recognized in the consolidated income statement.

Restructuring Charges

Restructuring charges are accrued against operating income in the period in which management has committed to a plan and has raised the valid expectation of the plan's implementation by those affected and the amount can be reliably estimated. The Group recognizes the costs for terminating the employment contracts of associates when it is demonstrably committed to either terminating employment according to a detailed formal plan without possibility of withdrawal or when it is committed to providing termination benefits as a result of an offer made to encourage voluntary redundancy.

Charges to increase restructuring provisions are included in "Other expense" in the consolidated income statement. Corresponding releases are recorded in "Other income".

Dividends

Dividends are recorded in the Group's consolidated financial statements in the period in which they are approved by the Group's shareholders.

Treasury Shares

Treasury shares are deducted from consolidated equity at their nominal value of CHF 0.50 per share. Differences between this amount and the amount paid for acquiring, or received for disposing of, treasury shares are recorded in consolidated retained earnings.

Reporting Segments

Reporting segments are reported in a manner consistent with the internal reporting to the chief operating decision maker. The chief operating decision maker, who is responsible for allocating resources and assessing the performance of the reporting segments, has been identified as being the Executive Committee.

Status of Adoption of Significant New or Amended IFRS Standards or Interpretations

The following new or amended IFRS standards will, based on a Novartis analysis, be of significance to the Group, but have not yet been adopted.

In 2009, 2010 and 2011, IFRS 9 *Financial Instruments* was issued which will substantially change the classification and measurement of financial instruments, hedging requirements and the recognition of certain fair value changes in the consolidated financial statements. Currently, only new requirements on the classification and measurement for financial assets and financial liabilities have been issued. The mandatory effective date for requirements issued as part of IFRS 9 will be on or after January 1, 2015. Early application of the requirements is permitted.

In 2011, IAS 19 revised on *Employee Benefits* was issued, for adoption by January 1, 2013. The principal impact for Novartis will be that the concepts of expected return on plan assets and interest expense on the defined benefit obligation as separate components of defined benefit cost will be replaced by a concept that interest will be calculated on the net of the defined benefit obligation and funded post-employment obligation assets generally

1. Accounting Policies (Continued)

using an interest rate reflecting market yields of high quality corporate bonds in deep markets. If this concept had been adopted by Novartis in 2011, it is estimated that operating income would have been lower by approximately $260 million. Novartis will retrospectively adopt the standard on January 1, 2013.

Two other new standards were also issued in 2011, IFRS 10 *Consolidated Financial Statements* and IFRS 11 *Joint Arrangements* which are potentially important for Novartis. Under IFRS 10, Novartis will need to consolidate an investee based on control, i.e. when it is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee. IFRS 11 will require that Novartis classifies joint arrangements as either joint operations, where assets, liabilities, revenues and expenses are accounted for proportionally in accordance with the agreement, or as joint ventures, which are accounted for under the equity method. These new standards become effective on January 1, 2013.

The following IFRSs and amendments are not yet effective and are not early adopted by the Group:

- IFRS 12, *Disclosures of interests in other entities*, effective for annual periods beginning on or after January 1, 2013
- IFRS 13, *Fair value measurement*, effective for annual periods beginning on or after January 1, 2013
- Amendment to IAS 1, *Presentation of items of other comprehensive income*, effective for annual periods beginning on or after July 1, 2012

Although Novartis is still completing its evaluation of these new standards, apart from where indicated, Novartis does not currently consider that the other new standards will have a significant impact.

2. Significant Transactions, Business Combinations and Divestments

The following acquisitions, divestments, business combinations and other significant transactions occurred during 2011, 2010 and 2009. See notes 3 and 24 for further details of the impact of these transactions on the consolidated financial statements.

Alcon majority control in 2010; full ownership and merger in 2011

On August 25, 2010 Novartis completed the acquisition of a further 52% interest in Alcon, Inc. (Alcon) following on from the January 4, 2010 announcement that Novartis had exercised its call option to acquire Nestlé's remaining 52% Alcon interest for approximately $28.3 billion or $180 per share. The overall purchase price of $38.7 billion included certain adjustments for Alcon dividends and interest due. This increased the interest in Alcon to a 77% controlling interest as Novartis had already acquired an initial 25% Alcon interest from Nestlé for $10.4 billion or $143 per share in July 2008.

On December 14, 2010 Novartis entered into a definitive agreement to merge Alcon into Novartis in consideration for Novartis shares and a Contingent Value Amount. The acquisition of the remaining outstanding non-controlling interests in Alcon were separate transactions following the previous acquisition of majority ownership in Alcon by Novartis in 2010.

On April 8, 2011 a Novartis Extraordinary General Meeting approved the merger with Alcon, Inc. leading to the creation of the Alcon Division which became the fifth reported segment in Novartis' strategically diversified healthcare portfolio. The Extraordinary General Meeting also authorized the issuance of 108 million new shares. Alcon shareholders received 2.9228 Novartis shares (which included a dividend adjustment) and $8.20 in cash for each share of Alcon, resulting in a total consideration of $168.00 per share.

For business combinations achieved in stages, IFRS requires that any previously held interest of an acquirer in an acquiree is adjusted to its fair value through the consolidated income statement as of the acquisition date. The agreement that Novartis entered into with Nestlé in 2008 specified an average price of up to $168 per share for all of the approximately 77% interest in Alcon held by Nestlé, including $143 per share for the initial 25% interest acquired by Novartis in 2008, and a maximum of $181 per share for the remaining 52%, including a premium for the change of majority ownership.

2. Significant Transactions, Business Combinations and Divestments (Continued)

Novartis reassessed the fair value of the initial 25% non-controlling interest in Alcon it acquired from Nestlé in 2008. In 2010, Novartis recognized a revaluation gain of $378 million on its initial 25% equity-method investment in Alcon upon acquiring a 52% controlling interest in the second-stage purchase from Nestlé on August 25, 2010. This gain was based on Novartis concluding that the fair value of that interest had a corresponding per-share value of $139. On this date the quoted marked price of Alcon on the NYSE was $160. Novartis measured this revaluation gain based on the estimated current fair value of its investment in Alcon, with the assistance of outside specialist investment bank advisors. This valuation demonstrated that, as at August 25, 2010, the quoted price for Alcon was affected by an anticipated premium on Novartis' eventual purchase of the 23% not owned at that time. Novartis concluded that this "premium" should not be included in the valuation of the previously held equity interest.

This gain was reduced by $43 million of accumulated losses recorded in the consolidated statement of comprehensive income of Novartis since the July 2008 acquisition date of the initial interest. These accumulated losses were recorded under the equity accounting method, which requires such accumulated losses to be recycled into the consolidated income statement at the time of acquiring majority ownership. The net amount of $335 million was recorded as a gain under "Income from Associated Companies".

At December 31, 2010 Novartis recorded the outstanding non-controlling interests in Alcon at their proportionate share of identifiable net assets which amounted to $6.3 billion. After the acquisition of majority ownership in Alcon, Inc. on August 25, 2010, Alcon contributed in 2010 net sales of $2.4 billion and operating income of $323 million to the 2010 consolidated income statement.

During 2011, prior to the merger of Alcon, Inc. into Novartis AG on April 8, 4.8% of the non-controlling interests in Alcon, Inc. were acquired for $2.4 billion. Completion of the acquisition of the outstanding 18.6% on April 8, 2011 and subsequent merger, resulted in the issuance of Novartis shares with a fair value of $9.2 billion and a contingent value payment of $0.5 billion.

The final purchase price allocation was completed in 2011 and resulted in a fair value of net identifiable assets of $27.0 billion and goodwill of $18.0 billion. The excess of the value exchanged for the non-controlling interests in 2011 over the recorded value of the non-controlling interest together with merger related transaction costs resulted in a reduction in equity of $5.7 billion.

Pharmaceuticals—Acquisition of Genoptix, Inc.

On March 7, 2011 Novartis completed the acquisition of Genoptix, Inc., a specialized laboratory providing personalized diagnostic services to community-based hematologists and oncologists. Genoptix employed approximately 500 people and became part of the Novartis Molecular Diagnostics unit within the Pharmaceuticals Division.

The acquisition in cash of 100% of the shares of Genoptix totaled $458 million, excluding the $24 million of cash acquired. The final purchase price allocation resulted in net identified assets of $237 million and goodwill of $221 million. Results of operations since the acquisition date were not material.

Vaccines and Diagnostics—Acquisition of Zhejiang Tianyuan

On March 22, 2011 Novartis completed the acquisition in cash of an 85% stake in the Chinese vaccines company, Zhejiang Tianyuan Bio-Pharmaceutical Co. Ltd. The acquisition provides Novartis with an expanded presence in the Chinese vaccines market and is expected to facilitate the introduction of additional Novartis vaccines into China. The total amount paid for the 85% interest was $194 million, excluding $39 million of cash acquired. The final purchase price allocation resulted in net identified assets of $131 million and goodwill of $82 million. Non-controlling interests have increased by $19 million from this transaction. Results of operations since the acquisition date were not material.

2. Significant Transactions, Business Combinations and Divestments (Continued)

Pharmaceuticals—Divestment of Elidel®

On May 11, 2011 Novartis completed the divestment of *Elidel®* Cream 1% to Meda Pharma Sarl and Novartis received an upfront payment of $420 million and recognized a gain of $324 million in "Other Income".

Other Significant Transactions in 2010

Pharmaceuticals—Acquisition of Corthera

On February 3, 2010 Novartis completed the 100% acquisition (announced on December 23, 2009) of the privately held US-based Corthera Inc., gaining worldwide rights to relaxin for the treatment of acute decompensated heart failure and assumed full responsibility for development and commercialization for a total purchase consideration of $327 million. This amount consists of an initial cash payment of $120 million and $207 million of deferred contingent consideration. The deferred contingent consideration is the net present value of the additional milestone payments due to Corthera's previous shareholders which they are eligible to receive contingent upon the achievement of specified development and commercialization milestones. The final purchase price allocation resulted in net identified assets of $309 million and goodwill of $18 million. Results of operations since the acquisition date were not material.

Sandoz—Acquisition of Oriel Therapeutics

On June 1, 2010 Sandoz completed the 100% acquisition of the privately held US-based Oriel Therapeutics Inc., to broaden its portfolio of projects in the field of respiratory drugs for a total purchase consideration of $332 million. This amount consists of an initial cash payment of $74 million and $258 million of deferred contingent consideration. Oriel's previous shareholders are eligible to receive milestone payments, which are contingent upon the company achieving future development steps, regulatory approvals and market launches, and sales royalties. The total $258 million of deferred contingent consideration represents the net present value of expected milestone and royalty payments. The final purchase price allocation, including the valuation of the contingent payment elements of the purchase price, resulted in net identified assets of $281 million and goodwill of $51 million. Results of operations since the acquisition date were not material. During 2011, $106 million of contingent consideration has been released to the consolidated income statement as it is remote that the related contingent event will occur.

Pharmaceuticals—Divestment of Enablex®

On October 18, 2010 Novartis finalized the sale of the US rights for Enablex® (darifenacin) to Warner Chilcott Plc for $400 million and recognized a gain of $392 million.

Corporate—Issuance of bond in US dollars

On March 9, 2010 Novartis issued a three-tranche bond totaling $5.0 billion registered with the US Securities and Exchange Commission as part of a shelf registration statement filed by Novartis in 2008. A 1.9% three-year tranche totaling $2.0 billion, a 2.9% five-year tranche totaling $2.0 billion and a 4.4% 10-year tranche totaling $1.0 billion were issued by the Group's US entity, Novartis Capital Corp. All tranches are unconditionally guaranteed by Novartis AG.

Corporate—Change of pension plan in Switzerland

On April 23, 2010 the Board of Trustees of the Novartis Swiss Pension Fund agreed to amend the conditions and insured benefits of the current Swiss pension plan with effect from January 1, 2011. These amendments do not have an impact on existing pensions in payment or on plan members born before January 1, 1956. Under the previous rules, benefits from the plan are primarily linked to the level of salary in the years prior to retirement while under the new rules benefits are also partially linked to the level of contributions made by the members during their active service period up to their retirement. This has led to changes in the amounts that need to be included in the Group's consolidated financial statements prepared using IFRS in respect of the Swiss Pension Fund.

2. Significant Transactions, Business Combinations and Divestments (Continued)

As part of this change, Novartis, supported by the Swiss Pension Fund, will make transitional payments, which vary according to the member's age and years of service. As a result, it is estimated that additional payments will be made over a ten-year period of up to approximately $481 million (CHF 453 million) depending on whether or not all current members affected by the change remain in the plan over this ten-year period.

The accounting consequence of this change in the Swiss pension plan rules results in the Group's consolidated financial statements prepared under IFRS reflecting a net pre-tax curtailment gain of $265 million (CHF 283 million) in 2010. This calculation only takes into account the discounted value of transition payments of $202 million (CHF 219 million) attributed to already completed years of service of the affected plan members as calculated in accordance with IFRS requirements. It does not take into account any amount for transitional payments related to their future years of service.

Other Significant Transactions in 2009

Sandoz—Acquisition of EBEWE Pharma

On May 20, 2009 Novartis announced a definitive agreement for Sandoz to acquire 100% of the specialty generic injectables business of EBEWE Pharma for EUR 925 million ($1.3 billion) in cash, to be adjusted for any cash or debt assumed at closing. This transaction was completed on September 22, 2009. The first payment of EUR 600 million ($0.9 billion) was made in 2009, with the balance paid in 2010. Based on a final purchase price allocation, EBEWE's identified net assets were $0.7 billion, which resulted in goodwill of $0.5 billion. Results of operations from this acquisition, which were not material in 2009, were included from the completion date of this transaction.

Vaccines and Diagnostics—Agreement to acquire Zhejiang Tianyuan

On November 4, 2009 Novartis announced a definitive agreement to acquire an 85% stake in the Chinese vaccines company Zhejiang Tianyuan Bio-Pharmaceutical Co., Ltd. Terms call for Novartis to purchase an 85% majority interest for approximately $125 million in cash. The transaction was completed in 2011.

Corporate—Issuance of bond in US dollars

On February 5, 2009 Novartis issued a two-tranche bond totaling $5.0 billion registered with the US Securities and Exchange Commission as part of a shelf registration statement filed by Novartis in 2008. A 4.125% five-year tranche totaling $2.0 billion was issued by the Group's US entity, Novartis Capital Corp., while a 5.125% 10-year tranche totaling $3.0 billion was issued by the Group's Bermuda unit, Novartis Securities Investment Ltd. Both tranches are unconditionally guaranteed by Novartis AG.

Corporate—Issuance of bond in euros

On June 2, 2009 Novartis issued a EUR 1.5 billion bond (approximately $2.1 billion) with a coupon of 4.25% under its EUR 15 billion Euro Medium Term Note Programme. The seven-year bond, issued by Novartis Finance S.A., Luxembourg, has a maturity date of June 15, 2016, and is guaranteed by Novartis AG.

Corporate—Tender offer for additional interest in Novartis India Ltd.

On June 8, 2009 Novartis completed a tender offer to acquire additional shares from public shareholders and increased its stake in the majority-owned Indian subsidiary, Novartis India Ltd., to 76.4% from 50.9% for approximately INR 3.8 billion ($80 million). Almost all large institutional investors and quasi-institutional shareholders participated in the offer. This transaction resulted in $57 million of goodwill.

Pharmaceuticals—Loss of majority control of Idenix

On August 5, 2009 Novartis did not participate in an underwritten public offering by Idenix Pharmaceuticals, which reduced the Group's stake to 47% from the pre-offering level of 53%. As a result of this offering, Novartis no longer controls this company, so Idenix was deconsolidated with effect from September 1. Idenix has been

2. Significant Transactions, Business Combinations and Divestments (Continued)

accounted for on an equity basis since this date, which had no material impact on the Group's consolidated income statement.

3. Segmentation of Key Figures 2011, 2010 and 2009

Reporting Segments

The businesses of Novartis are divided operationally on a worldwide basis into five reporting segments: Pharmaceuticals, Alcon, Sandoz, Vaccines and Diagnostics and Consumer Health and Corporate activities. Following the full acquisition of Alcon, Inc., on April 8, 2011 a new divisional segment allocation was introduced. As a result, the Alcon Division includes CIBA Vision and certain Pharmaceuticals Division ophthalmology products. Falcon, the US generics business of Alcon, Inc. was transferred to the Sandoz Division. Certain residual operational costs incurred for the Consumer Health Division headquarters were transferred to Corporate and Corporate R&D was transferred to the Pharmaceuticals Division. All segment results for all periods presented use this new allocation. Except for Consumer Health, these segments reflect the Group's internal management structures. These segments are managed separately, including the two divisions of the Consumer Health segment, because they manufacture, distribute, and sell distinct products which require differing marketing strategies. In the case of Consumer Health, the segment comprises two divisions which are also managed separately, however, neither of these two divisions is material enough to the Group to be disclosed separately as a segment. The reported segments are as follows:

Pharmaceuticals researches, develops, manufactures, distributes and sells patented prescription medicines in the following therapeutic areas: Cardiovascular and Metabolism; Oncology; Neuroscience and Ophthalmics; Respiratory; Integrated Hospital Care; and additional products. Pharmaceuticals is organized into global business franchises responsible for the development and marketing of various products, as well as a business unit, called Novartis Oncology, responsible for the global development and marketing of oncology products. The Novartis Oncology Business Unit is not required to be disclosed separately as a segment since it shares common long-term economic perspectives, customers, research, development, production, distribution and regulatory factors with the rest of the division.

Alcon discovers, develops, manufactures, distributes and sells eye care products. Alcon is the global leader in eye care with product offerings in Surgical, Ophthalmic Pharmaceuticals and Vision Care. In Surgical, Alcon develops, manufactures, distributes and sells ophthalmic surgical equipment, instruments, disposable products and intraocular lenses. In Ophthalmic Pharmaceuticals, Alcon discovers, develops, manufactures, distributes and sells medicines to treat chronic and acute diseases of the eye, as well as over-the-counter medicines for the eye. In Vision Care, Alcon develops, manufactures, distributes and sells contact lenses and lens care products.

Sandoz develops, manufactures, distributes and sells prescription medicines, as well as pharmaceutical and biotechnological active substances, which are not protected by valid and enforceable third-party patents. Sandoz has activities in Retail Generics, Anti-Infectives, Biopharmaceuticals & Oncology Injectables. In Retail Generics, Sandoz develops, manufactures, distributes and markets active ingredients and finished dosage forms of pharmaceuticals, as well as supplying active ingredients to third parties. In Anti-Infectives, Sandoz develops and manufactures, distributes and sells active pharmaceutical ingredients and intermediates — mainly antibiotics — for internal use by Retail Generics and for sale to third-party customers. In Biopharmaceuticals, Sandoz develops, manufactures, distributes and markets protein- or other biotechnology-based products (known as biosimilars or follow-on biologics) and sells biotech manufacturing services to other companies. In Oncology Injectables, Sandoz develops, manufacturers, and markets cytotoxic products for the hospital market.

Vaccines and Diagnostics consists of two activities: Vaccines and Diagnostics. Vaccines researches, develops, manufactures, distributes and sells human vaccines worldwide. Diagnostics researches, develops, distributes and sells blood testing and molecular diagnostics products.

Consumer Health now consists of two divisions: OTC (over-the-counter medicines) and Animal Health. OTC offers readily available consumer medicine. Animal Health provides veterinary products for farm and companion animals.

3. Segmentation of Key Figures 2011, 2010 and 2009 (Continued)

The following shows an overview of the impact of the restatement on the segmentation structure. Unless otherwise stated this has been used for all years presented in this Form 20-F.

Segment	Newly included	Newly excluded
Pharmaceuticals	Corporate R&D	Certain ophthalmic products
Alcon	CIBA Vision, certain ophthalmic products	Falcon
Sandoz	Falcon	
Consumer Health		CIBA Vision; disbanded Consumer Health divisional management costs
Corporate	Disbanded Consumer Health divisional management costs	Corporate R&D

A summary of the above restatements on 2010 and 2009 net sales and operating income is as follows:

	2010		2009	
Segment	Net sales	Operating income	Net sales	Operating income
	$ m	$ m	$ m	$ m
Pharmaceuticals	(252)	(327)	(251)	(320)
Alcon	2,020	473	1,965	473
Sandoz	74	49		
Consumer Health	(1,842)	(375)	(1,714)	(333)
Corporate		180		180
Total	**0**	**0**	**0**	**0**

Inter-segmental sales are made at amounts which are considered to approximate arm's length transactions. Where practicable, the same accounting policies are applied by the Group and the segments. Currently, the Executive Committee principally evaluates segmental performance and allocates resources among the segments based on their operating income, cash flow and cash flow return on invested capital (CFROI).

Segment net operating assets consist primarily of property, plant & equipment, intangible assets, inventories and trade and other operating receivables less operating liabilities.

Corporate

Income and expenses relating to Corporate include the costs of the Group headquarters and those of corporate coordination functions in major countries. In addition, Corporate includes other items of income and expense which are not attributable to specific segments such as certain expenses related to post-employment benefits, environmental liabilities, charitable activities, donations and sponsorships. Usually, no allocation of Corporate items is made to the segments. Corporate assets and liabilities principally consist of net liquidity (cash and cash equivalents, marketable securities less financial debts), investments in associated companies and current and deferred taxes and non-segmental specific environmental and post-employment benefit liabilities.

3. Segmentation[1] of Key Figures 2011 and 2010 (Continued)

In $ m	Pharmaceuticals		Alcon		Sandoz		Vaccines and Diagnostics		Consumer Health		Corporate (including eliminations)		Total Group	
	2011	2010	2011	2010[2]	2011	2010	2011	2010	2011	2010	2011	2010	2011	2010
Net sales to third parties	**32,508**	**30,306**	**9,958**	**4,446**	**9,473**	**8,592**	**1,996**	**2,918**	**4,631**	**4,362**			**58,566**	**50,624**
Sales to other segments	244	157	22	14	319	267	73	60	15	35	(673)	(533)		
Net sales of segments	**32,752**	**30,463**	**9,980**	**4,460**	**9,792**	**8,859**	**2,069**	**2,978**	**4,646**	**4,397**	**(673)**	**(533)**	**58,566**	**50,624**
Other revenues	453	422	43	34	9	16	295	433	24	34	(15)	(2)	809	937
Cost of Goods Sold	(6,573)	(5,272)	(4,566)	(1,760)	(5,445)	(4,878)	(1,410)	(1,551)	(1,735)	(1,560)	746	533	(18,983)	(14,488)
Gross profit	**26,632**	**25,613**	**5,457**	**2,734**	**4,356**	**3,997**	**954**	**1,860**	**2,935**	**2,871**	**58**	**(2)**	**40,392**	**37,073**
Marketing & Sales	(8,929)	(8,663)	(2,537)	(1,299)	(1,591)	(1,450)	(363)	(338)	(1,674)	(1,569)	15	3	(15,079)	(13,316)
Research & Development	(7,232)	(7,276)	(892)	(352)	(640)	(658)	(523)	(523)	(296)	(261)			(9,583)	(9,070)
General & Administration	(1,047)	(919)	(509)	(255)	(369)	(350)	(150)	(149)	(291)	(269)	(604)	(539)	(2,970)	(2,481)
Other income	697	687	262	7	88	77	18	35	91	38	198	390	1,354	1,234
Other expense	(1,825)	(971)	(309)	(39)	(422)	(295)	(185)	(273)	(38)	(32)	(337)	(304)	(3,116)	(1,914)
Operating income	**8,296**	**8,471**	**1,472**	**796**	**1,422**	**1,321**	**(249)**	**612**	**727**	**778**	**(670)**	**(452)**	**10,998**	**11,526**
Income from associated companies	(3)	(16)			4	3	2	7			525	810	528	804
Interest expense													(751)	(692)
Other financial income and expense													(2)	64
Income before taxes													**10,773**	**11,702**
Taxes													(1,528)	(1,733)
Group net income													**9,245**	**9,969**
Attributable to:														
Shareholders of Novartis AG													*9,113*	*9,794*
Non-controlling interests													*132*	*175*
Included in net income are:														
Interest income													62	103
Depreciation of property, plant & equipment	(870)	(726)	(306)	(127)	(303)	(285)	(115)	(100)	(50)	(46)	(84)	(79)	(1,728)	(1,363)
Amortization of intangible assets	(423)	(457)	(1,928)	(65)	(383)	(293)	(231)	(259)	(59)	(61)	(4)		(3,028)	(1,135)
Impairment charges on property, plant & equipment	(403)	4	(5)		(1)		(2)	(14)	(2)				(413)	(10)
Impairment charges on intangible assets	(552)	(894)	(20)		(25)	(11)	(8)		(14)	(6)			(619)	(911)
Impairment charges on financial assets	(30)	(41)	(4)				(135)	(98)			(23)	(19)	(192)	(158)
Additions to restructuring provisions	(265)	(133)	(74)			(66)		(62)	(7)				(346)	(261)
Equity-based compensation of Novartis and Alcon equity plans	(648)	(559)	(113)	(30)	(33)	(23)	(38)	(34)	(61)	(53)	(122)	(142)	(1,015)	(841)
Total assets	**24,111**	**24,681**	**46,065**	**47,775**	**17,965**	**18,552**	**5,764**	**5,631**	**2,684**	**2,708**	**20,907**	**23,971**	**117,496**	**123,318**
Total liabilities	(10,415)	(9,469)	(2,273)	(1,522)	(2,742)	(2,976)	(697)	(827)	(960)	(879)	(34,469)	(37,876)	(51,556)	(53,549)
Total equity	**13,696**	**15,212**	**43,792**	**46,253**	**15,223**	**15,576**	**5,067**	**4,804**	**1,724**	**1,829**	**(13,562)**	**(13,905)**	**65,940**	**69,769**
Net debt											15,154	14,853	15,154	14,853
Net operating assets	**13,696**	**15,212**	**43,792**	**46,253**	**15,223**	**15,576**	**5,067**	**4,804**	**1,724**	**1,829**	**1,592**	**948**	**81,094**	**84,622**
Included in total assets and total liabilities are:														
Total property, plant & equipment	8,071	8,360	2,056	2,060	2,824	2,925	1,535	1,453	431	415	710	627	15,627	15,840
Additions to property, plant & equipment[3]	1,041	777	354	193	335	307	192	159	74	64	190	153	2,186	1,653
Total goodwill and intangible assets	6,244	6,696	40,542	42,410	11,356	11,886	2,883	2,973	867	938	20	20	61,912	64,923
Additions to goodwill and intangible assets[3]	219	414	80	20	24	32	6	9	4	14	3	6	336	495
Total investment in associated companies	3	2	18	17	18	16	4	8			8,579	8,342	8,622	8,385
Additions to investment in associated companies	5		3								24	23	32	23
Cash, marketable securities and derivative financial instruments											5,075	8,134	5,075	8,134
Financial debts and derivative financial instruments											20,229	22,987	20,229	22,987
Current income tax and deferred tax liabilities											8,467	9,399	8,467	9,399

(1) All 2010 segment information has been restated to reflect new segment allocation introduced during 2011. For additional information, see "Item 5. Operating and Financial Review and Prospects—Item 5.A, Operating Results—Segment Reporting".
(2) Consolidated results of Alcon, Inc., only included for the period from acquiring control on August 25, 2010 to December 31, 2010. These results include CIBA Vision and certain ophthalmic products but exclude Falcon.
(3) Excluding impact of business combination.

3. Segmentation[1] of Key Figures 2010 and 2009 (Continued)

In $ m	Pharmaceuticals		Alcon		Sandoz		Vaccines and Diagnostics		Consumer Health		Corporate (including eliminations)		Total Group	
	2010	2009	2010[2]	2009[2]	2010	2009	2010	2009	2010	2009	2010	2009	2010	2009
Net sales to third parties	**30,306**	**28,287**	**4,446**	**1,965**	**8,592**	**7,493**	**2,918**	**2,424**	**4,362**	**4,098**			**50,624**	**44,267**
Sales to other Divisions	157	175	14	14	267	264	60	46	35	30	(533)	(529)		
Net sales of Divisions	**30,463**	**28,462**	**4,460**	**1,979**	**8,859**	**7,757**	**2,978**	**2,470**	**4,397**	**4,128**	**(533)**	**(529)**	**50,624**	**44,267**
Other revenues	422	377	34	27	16	10	433	390	34	32	(2)		937	836
Cost of Goods Sold	(5,272)	(4,864)	(1,760)	(669)	(4,878)	(4,201)	(1,551)	(1,415)	(1,560)	(1,533)	533	503	(14,488)	(12,179)
Gross profit	**25,613**	**23,975**	**2,734**	**1,337**	**3,997**	**3,566**	**1,860**	**1,445**	**2,871**	**2,627**	**(2)**	**(26)**	**37,073**	**32,924**
Marketing & Sales	(8,663)	(8,332)	(1,299)	(657)	(1,450)	(1,330)	(338)	(297)	(1,569)	(1,434)	3		(13,316)	(12,050)
Research & Development	(7,276)	(6,037)	(352)	(94)	(658)	(613)	(523)	(508)	(261)	(252)		35	(9,070)	(7,469)
General & Administration	(919)	(870)	(255)	(104)	(350)	(385)	(149)	(176)	(269)	(255)	(539)	(491)	(2,481)	(2,281)
Other income	687	414	7	19	77	105	35	27	38	53	390	164	1,234	782
Other expense	(971)	(1,078)	(39)	(28)	(295)	(272)	(273)	(119)	(32)	(56)	(304)	(371)	(1,914)	(1,924)
Operating income	**8,471**	**8,072**	**796**	**473**	**1,321**	**1,071**	**612**	**372**	**778**	**683**	**(452)**	**(689)**	**11,526**	**9,982**
Income from associated companies	(16)	(14)			3	7	7				810	300	804	293
Interest expense													(692)	(551)
Other financial income and expense													64	198
Income before taxes													**11,702**	**9,922**
Taxes													(1,733)	(1,468)
Group net income													**9,969**	**8,454**
Attributable to:														
Shareholders of Novartis AG													*9,794*	*8,400*
Non-controlling interests													*175*	*54*
Included in net income are:														
Interest income													103	156
Depreciation of property, plant & equipment	(726)	(659)	(127)	(55)	(285)	(276)	(100)	(98)	(46)	(44)	(79)	(109)	(1,363)	(1,241)
Amortization of intangible assets	(457)	(369)	(65)	(31)	(293)	(260)	(259)	(312)	(61)	(53)			(1,135)	(1,025)
Impairment charges on property, plant & equipment	4	(4)					(14)			(5)			(10)	(9)
Impairment charges on intangible assets	(894)	11			(11)	(6)		(18)	(6)	(13)			(911)	(26)
Impairment charges on financial assets	(41)	(37)					(98)				(19)	(3)	(158)	(40)
Additions to restructuring provisions	(133)	(19)			(66)	(40)	(62)						(261)	(59)
Equity-based compensation of Novartis equity plans	(559)	(535)	(30)	(10)	(23)	(28)	(34)	(30)	(53)	(43)	(142)	(131)	(841)	(777)
Total assets	**24,681**	**24,013**	**47,775**	**1,754**	**18,552**	**17,685**	**5,631**	**6,704**	**2,708**	**2,754**	**23,971**	**42,595**	**123,318**	**95,505**
Total liabilities	(9,469)	(9,494)	(1,522)	(416)	(2,976)	(2,534)	(827)	(1,121)	(879)	(924)	(37,876)	(23,554)	(53,549)	(38,043)
Total equity	**15,212**	**14,519**	**46,253**	**1,338**	**15,576**	**15,151**	**4,804**	**5,583**	**1,829**	**1,830**	**(13,905)**	**19,041**	**69,769**	**57,462**
Net debt/(liquidity)											14,853	(3,461)	14,853	(3,461)
Net operating assets	**15,212**	**14,519**	**46,253**	**1,338**	**15,576**	**15,151**	**4,804**	**5,583**	**1,829**	**1,830**	**948**	**15,580**	**84,622**	**54,001**
Included in total assets and total liabilities are:														
Total property, plant & equipment	8,360	7,947	2,060	535	2,925	3,080	1,453	1,471	415	391	627	651	15,840	14,075
Additions to property, plant & equipment[3]	777	922	193	106	307	282	159	437	64	58	153	78	1,653	1,883
Total goodwill and intangible assets	6,696	6,930	42,410	559	11,886	10,683	2,973	3,163	938	1,018	20	17	64,923	22,370
Additions to goodwill and intangible assets[3]	414	809	20	57	32	35	9	12	14	44	6	10	495	967
Total investment in associated companies	2	19	17		16	18	8	2			8,342	17,752	8,385	17,791
Additions to investment in associated companies		22									23	29	23	51
Cash, marketable securities and derivative financial instruments											8,134	17,449	8,134	17,449
Financial debts and derivative financial instruments											22,987	13,988	22,987	13,988
Current income tax and deferred tax liabilities											9,399	6,223	9,399	6,223

(1) All 2010 and 2009 segment information has been restated to reflect new segment allocation introduced during 2011. For additional information, see "Item 5. Operating and Financial Review and Prospects—Item 5.A Operating Results—Segment Reporting".
(2) Consolidated results of Alcon, Inc., only included for the period from acquiring control on August 25, 2010 to December 31, 2010. These results include CIBA Vision and certain ophthalmic products but exclude Falcon.
(3) Excluding impact of business combination.

3. Segmentation of Key Figures 2011, 2010 and 2009 (Continued)

The following countries accounted for more than 5% of at least one of the respective Group totals for the years ended December 31, 2011, 2010 and 2009:

	Net sales[1]						Total of selected non-current assets[2]					
Country	**2011**	**%**	**2010**	**%**	**2009**	**%**	**2011**	**%**	**2010**	**%**	**2009**	**%**
	$ m		**$ m**		**$ m**		**$ m**		**$ m**		**$ m**	
Switzerland	726	1	608	1	604	2	38,827	45	40,246	45	23,341[3]	43
United States	19,225	33	16,893	33	14,254	32	30,061	35	30,377	34	11,717	22
Germany	4,362	7	3,999	8	4,035	9	4,214	5	4,267	5	4,649	8
Japan	5,281	9	4,288	8	3,545	8	204		153		142	
France	2,848	5	2,460	5	2,355	5	299		317		349	1
Other	26,124	45	22,376	45	19,474	44	12,556	15	13,788	16	14,038	26
Group	**58,566**	**100**	**50,624**	**100**	**44,267**	**100**	**86,161**	**100**	**89,148**	**100**	**54,236**	**100**
Europe	21,507	37	19,169	38	18,362	42	51,101	59	53,461	60	37,772[3]	70
Americas	24,705	42	21,545	43	17,820	40	33,211	39	33,868	38	15,193	28
Asia / Africa / Australasia	12,354	21	9,910	19	8,085	18	1,849	2	1,819	2	1,271	2
Group	**58,566**	**100**	**50,624**	**100**	**44,267**	**100**	**86,161**	**100**	**89,148**	**100**	**54,236**	**100**

(1) Net sales from operations by location of third party customer

(2) Total of property, plant and equipment, goodwill, intangible assets and investment in associated companies

(3) Includes the investment in Alcon, Inc. accounted for using the equity method

The Group's largest customer accounts for approximately 9% of net sales, and the second and third largest customer account for 7% each of net sales (2010: 8%, 8% and 7%; 2009: 8%, 7% and 6% respectively). No other customer accounts for 2% or more of net sales.

The highest amounts of trade receivables outstanding were for these three customers. They amounted to 10%, 6% and 6% respectively, of the Group's trade receivables at December 31, 2011 (2010: 9%, 5% and 6%; 2009: 9%, 6% and 6% respectively).

3. Segmentation of Key Figures 2011, 2010 and 2009 (Continued)

Pharmaceuticals division therapeutic area net sales

Therapeutic areas	2011	2010	Change (2010 to 2011)	2009	Change (2009 to 2010)
	$ m	$ m	$ %	$ m	$ %
Cardiovascular and Metabolism					
Hypertension medicines					
Diovan	5,665	6,053	(6)	6,013	1
Exforge	1,209	904	34	671	35
Subtotal Valsartan Group	6,874	6,957	(1)	6,684	4
Tekturna/Rasilez	557	438	27	290	51
Subtotal Hypertension	**7,431**	**7,395**	**0**	**6,974**	**6**
Galvus	677	391	73	181	116
Total strategic franchise products	**8,108**	**7,786**	**4**	**7,155**	**9**
Established medicines	1,027	1,369	(25)	1,641	(17)
Total Cardiovascular and Metabolism products	**9,135**	**9,155**	**0**	**8,796**	**4**
Oncology					
Gleevec/Glivec	4,659	4,265	9	3,944	8
Tasigna	716	399	79	212	88
Subtotal Bcr-Abl franchise	5,375	4,664	15	4,156	12
Zometa	1,487	1,511	(2)	1,469	3
Sandostatin	1,443	1,291	12	1,155	12
Femara	911	1,376	(34)	1,266	9
Exjade	850	762	12	652	17
Afinitor	443	243	82	70	nm
Other	163	181	(10)	231	(22)
Total Oncology products	**10,672**	**10,028**	**6**	**8,999**	**11**
Neuroscience and Ophthalmics					
Lucentis	2,050	1,533	34	1,232	24
Exelon/Exelon Patch	1,067	1,003	6	954	5
Comtan/Stalevo	614	600	2	554	8
Gilenya	494	15	nm		
Extavia	154	124	24	49	nm
Other (including *Fanapt*)	159	190	(16)	208	(9)
Total strategic franchise products	**4,538**	**3,465**	**31**	**2,997**	**16**
Established medicines	547	567	(4)	575	(1)
Total Neuroscience and Ophthalmics products	**5,085**	**4,032**	**26**	**3,572**	**13**

nm—not meaningful

3. Segmentation of Key Figures 2011, 2010 and 2009 (Continued)

Therapeutic areas	2011	2010	Change (2010 to 2011)	2009	Change (2009 to 2010)
	$ m	$ m	$ %	$ m	$ %
Respiratory					
Xolair	478	369	30	338	9
TOBI	296	279	6	300	(7)
Onbrez Breezhaler	103	33	nm	1	nm
Total strategic franchise products	**877**	**681**	**29**	**639**	**7**
Established medicines	172	174	(1)	190	(8)
Total Respiratory products	**1,049**	**855**	**23**	**829**	**3**
Integrated Hospital Care (IHC)*					
Neoral/Sandimmun	903	871	4	919	(5)
Myfortic	518	444	17	353	26
Zortress/Certican	187	144	30	118	22
Ilaris	48	26	85	3	nm
Other	363	293	24	235	25
Total strategic franchise products	**2,019**	**1,778**	**14**	**1,628**	**9**
Established medicines	1,453	1,469	(1)	1,413	4
Total IHC products	**3,472**	**3,247**	**7**	**3,041**	**7**
Additional products					
Voltaren (excl. OTC)	794	791	0	797	(1)
Ritalin/Focalin	550	464	19	449	3
Tegretol	364	355	3	375	(5)
Foradil	312	353	(12)	357	(1)
Trileptal	263	253	4	295	(14)
Everolimus stent drug	256	240	7	215	12
Other	556	533	4	562	(5)
Total additional products	**3,095**	**2,989**	**4**	**3,050**	**(2)**
Total strategic franchise products	**26,214**	**23,738**	**10**	**21,418**	**11**
Total established medicines and additional products	6,294	6,568	(4)	6,869	(4)
Total Division net sales	**32,508**	**30,306**	**7**	**28,287**	**7**

nm—not meaningful

* includes Transplantation

The product portfolio of other segments is widely spread and none of the products or product ranges exceed 5% of the net sales of the Group in 2011, 2010 and 2009.

4. Associated Companies

Novartis has the following significant investments in associated companies which are accounted for using the equity method:

	Balance sheet value		Net income statement effect		
	2011	2010	2011	2010	2009
	$ m	$ m	$ m	$ m	$ m
Roche Holding AG, Switzerland	8,362	8,173	499	380	321
Alcon Inc., Switzerland				433	(28)
Others	260	212	29	(9)	
Total	**8,622**	**8,385**	**528**	**804**	**293**

The results of the Group's associated companies are adjusted to be in accordance with IFRS as applied by Novartis in cases where IFRS is not already used.

Since up-to-date financial data are not available when Novartis produces its consolidated financial results, a survey of analyst estimates is used to estimate the Group's share of net income in Roche Holding. Any differences between these estimates and actual results are adjusted in the Group's 2012 consolidated financial statements when available.

The following table shows summarized financial information of Roche for the year ended December 31, 2010 since 2011 data is not yet available:

	Asset	Liabilities	Revenue	Net income
	billions	billions	billions	billions
Roche (CHF)	61.0	49.4	49.2	8.9

Roche Holding AG

The Group's holding in Roche voting shares was 33.3% at December 31, 2011 and 2010. This investment represents approximately 6.3% of Roche's total outstanding voting and non-voting equity instruments. The purchase price allocation was performed on the basis of publicly available information at the time of acquisition.

The December 31, 2011 balance sheet value allocation is as follows:

	$ m
Novartis share of Roche's estimated net assets	2,828
Novartis share of re-appraised intangible assets	1,882
Implicit Novartis goodwill	3,030
Current value of share in net identifiable assets and goodwill	**7,740**
Accumulated equity accounting adjustments and translation effects less dividends received	622
December 31, 2011 balance sheet value	**8,362**

4. Associated Companies (Continued)

The identified intangible assets principally relate to the value of currently marketed products and are amortized on a straight-line basis over their estimated average useful life of 20 years.

The income statement effects from applying Novartis accounting principles for this investment in 2011, 2010 and 2009 are as follows:

	2011	2010	2009
	$ m	$ m	$ m
Novartis share of Roche's estimated current-year consolidated net income	702	559	496
Prior-year adjustment	(41)	(43)	(40)
Amortization of fair value adjustments relating to intangible assets, net of taxes of $47 million (2010: $41 million, 2009: $41 million)	(162)	(136)	(135)
Net income effect	**499**	**380**	**321**

The publicly quoted market value of the Novartis interest in Roche (Reuters symbol: RO.S) at December 31, 2011, was $9.5 billion (2010: $8.2 billion).

Alcon, Inc.

The Group's initial holding in Alcon voting shares was acquired on July 7, 2008. In 2010, the Group completed its purchase of an additional 52% of Alcon resulting in approximately 77% ownership. As from August 25, 2010 Alcon is fully consolidated and no longer accounted for as an associated company. The impact on the Group's consolidated income statement for the period from January 1, 2010 to August 25, 2010 and for the year ended December 31, 2009 is as follows:

	2010	2009
	$ m	$ m
Novartis share of Alcon's current-year consolidated net income	385	493
Prior-year adjustment	2	5
Revaluation of initial 25% interest to fair value	378	
Recycling of losses accumulated in comprehensive income from July 7, 2008 to August 25, 2010	(43)	
Amortization of fair value adjustments relating to intangible assets, net of taxes of $61 million (2009: $115 million)	(289)	(526)
Net income effect	**433**	**(28)**

5. Interest Expense and Other financial income/expense

	2011	2010	2009
	$ m	$ m	$ m
Interest expense	(699)	(615)	(442)
Expense due to discounting long-term liabilities	(52)	(77)	(109)
Total interest expense	**(751)**	**(692)**	**(551)**
Interest income	62	103	156
Dividend income	1	3	3
Net capital losses on available-for-sale securities	(122)		110
Impairment of available-for-sale securities	(3)	(4)	(20)
Income on options and forward contracts	192	66	97
Expenses on options and forward contracts	(67)	(38)	(85)
Other financial expense	(38)	(39)	(23)
Currency result, net	(27)	(27)	(40)
Total other financial income/(expense)	**(2)**	**64**	**198**

During 2011, a significant portion of the income on options and forward contracts represented an economic hedge for the capital losses on available-for-sale securities. This could not be recognized as a hedge for accounting purposes.

6. Taxes

Income before taxes

	2011	2010	2009
	$ m	$ m	$ m
Switzerland	2,993	4,679	4,281
Foreign	7,780	7,023	5,641
Total income before taxes	**10,773**	**11,702**	**9,922**

Current and deferred income tax expense

	2011	2010	2009
	$ m	$ m	$ m
Switzerland	(488)	(425)	(413)
Foreign	(2,182)	(1,749)	(1,593)
Total current income tax expense	**(2,670)**	**(2,174)**	**(2,006)**
Switzerland	161	(94)	188
Foreign	981	535	350
Total deferred tax income	**1,142**	**441**	**538**
Total income tax expense	**(1,528)**	**(1,733)**	**(1,468)**

6. Taxes (Continued)

Analysis of Tax Rate

The main elements contributing to the difference between the Group's overall expected tax rate (which can change each year since it is calculated as the weighted average tax rate based on pre-tax income of each subsidiary) and the effective tax rate are:

	2011	2010	2009
	%	%	%
Expected tax rate	15.5	15.8	15.8
Effect of disallowed expenditures	2.5	3.0	3.0
Effect of utilization of tax losses brought forward from prior periods	(0.1)	(0.1)	(0.4)
Effect of income taxed at reduced rates			(0.1)
Effect of tax credits and allowances	(2.4)	(2.1)	(1.4)
Effect of tax benefits expiring in 2017	(0.7)	(0.4)	
Effect of write-down of investments in subsidiaries	(0.5)	(0.7)	(1.7)
Prior year and other items	(0.1)	(0.7)	(0.4)
Effective tax rate	**14.2**	**14.8**	**14.8**

The utilization of tax-loss carry-forwards lowered the tax charge by $6 million, $17 million and $45 million in 2011, 2010 and 2009 respectively.

7. Earnings per Share

Basic earnings per share (EPS) is calculated by dividing net income attributable to shareholders of Novartis AG by the weighted average number of shares outstanding in a reporting period. This calculation excludes the average number of issued shares purchased by the Group and held as treasury shares.

	2011	2010	2009
Basic earnings per share			
Weighted average number of shares outstanding (in millions)	2,382	2,286	2,268
Net income attributable to shareholders of Novartis AG ($ m)	**9,113**	**9,794**	**8,400**
Basic earnings per share ($)	**3.83**	**4.28**	**3.70**

For diluted EPS, the weighted average number of shares outstanding is adjusted to assume the vesting of all restricted shares and the conversion of all potentially dilutive shares arising from options on Novartis shares that have been issued.

	2011	2010	2009
Diluted earnings per share			
Weighted average number of shares outstanding (in millions)	2,382	2,286	2,268
Adjustment for vesting of restricted shares and dilutive shares from options (in millions)	31	15	9
Weighted average number of shares for diluted earnings per share (in millions)	2,413	2,301	2,277
Net income attributable to shareholders of Novartis AG ($ m)	**9,113**	**9,794**	**8,400**
Diluted earnings per share ($)	**3.78**	**4.26**	**3.69**

7. Earnings per Share (Continued)

Options equivalent to 78.0 million shares (2010: 82.9 million, 2009: 109.3 million) were excluded from the calculation of diluted EPS since they were not dilutive.

8. Changes in Consolidated Statements of Comprehensive income

The consolidated statements of comprehensive income includes the Group's net income for the year as well as all other valuation adjustments recorded in the Group's consolidated balance sheet but which under IFRS are not recorded in the consolidated income statement. These include fair value adjustments to financial instruments, actuarial losses or gains on defined benefit pension and other post-employment plans, revaluation of previously held equity interests (up to December 31, 2009 when the applicable standard changed) and currency translation effects, net of tax. These amounts are subject to significant volatility outside of the control of management due to such factors as share price, foreign currency and interest rate movements.

The following table summarizes these value adjustments and currency translation effects attributable to Novartis shareholders:

	Fair value adjustments to marketable securities	Fair value adjustments of deferred cash flow hedges	Actuarial gains/losses from defined benefit plans	Revaluation of previously held equity interests	Cumulative currency translation effects	Total adjustments
	$ m	$ m	$ m	$ m	$ m	$ m
Fair value adjustments at January 1, 2009	**142**	**(227)**	**(3,509)**	**685**	**2,354**	**(555)**
Fair value adjustments on financial instruments	89	4				93
Net actuarial gains from defined benefit plans			949			949
Currency translation effects					781	781
Total fair value adjustments in 2009	**89**	**4**	**949**		**781**	**1,823**
Fair value adjustments at December 31, 2009	**231**	**(223)**	**(2,560)**	**685**	**3,135**	**1,268**
Fair value adjustments on financial instruments	(73)	41				(32)
Net actuarial losses from defined benefit plans			(678)			(678)
Currency translation effects					534	534
Total fair value adjustments in 2010	**(73)**	**41**	**(678)**		**534**	**(176)**
Fair value adjustments at December 31, 2010	**158**	**(182)**	**(3,238)**	**685**	**3,669**	**1,092**
Fair value adjustments on financial instruments	(21)	41				20
Net actuarial losses from defined benefit plans			(1,429)			(1,429)
Currency translation effects					(534)	(534)
Total fair value adjustments in 2011	**(21)**	**41**	**(1,429)**		**(534)**	**(1,943)**
Fair value adjustments at December 31, 2011	**137**	**(141)**	**(4,667)**	**685**	**3,135**	**(851)**

8. Changes in Consolidated Statements of Comprehensive income (Continued)

8.1) The 2011, 2010 and 2009 changes in the fair value of financial instruments consist of the following:

	Fair value adjustments to marketable securities	Fair value adjustments of deferred cash flow hedges	Total
	$ m	$ m	$ m
Fair value adjustments at January 1, 2011	**157**	**(182)**	**(25)**
Changes in fair value:			
—Available-for-sale marketable securities	(32)		(32)
—Available-for-sale financial investments	(141)		(141)
—Associated companies' movements in comprehensive income	(8)		(8)
Realized net gains transferred to the consolidated income statement:			
—Marketable securities sold	(13)		(13)
—Other financial assets sold	(13)		(13)
Amortized net losses on cash flow hedges transferred to the consolidated income statement		44	44
Impaired marketable securities and other financial assets transferred to the consolidated income statement	192		192
Deferred tax on above items	(5)	(3)	(8)
Fair value adjustments during the year	**(20)**	**41**	**21**
Attributable to:			
Shareholders of Novartis AG	*(21)*	*41*	*20*
Non-controlling interests	*1*		*1*
Fair value adjustments at December 31, 2011	**137**	**(141)**	**(4)**

8. Changes in Consolidated Statements of Comprehensive income (Continued)

	Fair value adjustments to marketable securities	Fair value adjustments of deferred cash flow hedges	Total
	$ m	$ m	$ m
Fair value adjustments at January 1, 2010	**231**	**(223)**	**8**
Changes in fair value:			
—Available-for-sale marketable securities	19		19
—Available-for-sale financial investments	(226)		(226)
—Associated companies' movements in comprehensive income	(5)		(5)
Realized net gains transferred to the consolidated income statement:			
—Marketable securities sold	(39)		(39)
—Other financial assets sold	(15)		(15)
Amortized net losses on cash flow hedges transferred to the consolidated income statement		44	44
Impaired marketable securities and other financial assets transferred to the consolidated income statement	164		164
Deferred tax on above items	28	(3)	25
Fair value adjustments during the year	**(74)**	**41**	**(33)**
Attributable to:			
Shareholders of Novartis AG	*(73)*	*41*	*(32)*
Non-controlling interests	*(1)*		*(1)*
Fair value adjustments at December 31, 2010	**157**	**(182)**	**(25)**

8. Changes in Consolidated Statements of Comprehensive income (Continued)

	Fair value adjustments to marketable securities	Fair value adjustments of deferred cash flow hedges	Total
	$ m	$ m	$ m
Fair value adjustments at January 1, 2009	**142**	**(227)**	**(85)**
Changes in fair value:			
—Available-for-sale marketable securities	57		57
—Other financial assets	(8)		(8)
—Associated companies' movements in comprehensive income	19		19
Realized net gains transferred to the consolidated income statement:			
—Marketable securities sold	(37)		(37)
—Derivative financial instruments		(36)	(36)
—Other financial assets sold	(8)		(8)
Amortized net losses on cash flow hedges transferred to the consolidated income statement		36	36
Impaired marketable securities and other financial assets	71		71
Deferred tax on above items	(5)	4	(1)
Fair value adjustments during the year	**89**	**4**	**93**
Attributable to:			
Shareholders of Novartis AG	*89*	*4*	*93*
Fair value adjustments at December 31, 2009	**231**	**(223)**	**8**

8.2) Actuarial (losses)/gains from defined benefit plans arise from:

	2011	2010	2009
	$ m	$ m	$ m
Defined benefit pension plans before tax	(1,876)	(832)	1,256
Other post-employment benefit plans before tax	(55)	(24)	(19)
Taxation on above items	510	171	(288)
Total after tax	**(1,421)**	**(685)**	**949**
Attributable to:			
Shareholders of Novartis AG	*(1,429)*	*(678)*	*949*
Non-controlling interests	*8*	*(7)*	

8.3) The Group has investments in associated companies, principally Roche Holding AG. The Group's share in movements in these companies' other comprehensive income are recognized directly in the respective categories of the Novartis consolidated statement of comprehensive income, net of tax. The currency translation effects and fair value adjustments of associated companies are included in the corresponding Group amounts. All other movements in these companies' statements of comprehensive income are recognized directly in the consolidated statement of comprehensive income under "Novartis share of other items recorded in comprehensive income recognized by associated companies, net of taxes". These amounted to income of $1 million in 2011 (2010: loss of $94 million, 2009: loss of $43 million).

8. Changes in Consolidated Statements of Comprehensive income (Continued)

Alcon, Inc. was accounted for as an associated company until August 25, 2010, when Novartis acquired an approximate 77% majority ownership and, as a result, Alcon has been fully consolidated from that date. $43 million of losses accumulated in the consolidated statement of comprehensive income since accounting as an associated company using the equity method began in July 2008, have been recycled into the consolidated income statement as of the date of obtaining majority ownership.

9. Changes in consolidated equity

9.1) At the 2011 Annual General meeting, a dividend of CHF 2.20 per share was approved that amounted to $5.4 billion, and was paid in 2011 (2010: CHF 2.10 per share dividend payment that amounted to $4.5 billion, 2009: CHF 2.00 per share dividend payment that amounted to $3.9 billion). The amount available for distribution as a dividend to shareholders is based on the available distributable retained earnings of Novartis AG determined in accordance with the legal provisions of the Swiss Code of Obligation.

9.2) In 2011 a total of 54.7 million shares net were purchased for $3.5 billion (2010: sale of 8.4 million for $342 million, 2009: sale of 1.0 million for $225 million), out of which 39.4 million shares were acquired under the share repurchase program.

9.3) Equity-settled share-based compensation is expensed in the consolidated income statement in accordance with the vesting or service period of the share-based compensation plans. In 2011 7.2 million shares (2010: 6.7 million shares, 2009: 8.5 million shares) were transferred to associates as part of equity-based compensation. The value for the shares and options expensed in 2011, including associated tax, amounted to $806 million (2010: $599 million, 2009: $635 million) and is credited to consolidated equity.

9.4) In 2010 a reduction in consolidated equity attributable to Novartis of $74 million arose from a dilution of the Novartis interest in Alcon, Inc. since obtaining majority control on August 25, 2010. This was due to an increase in Alcon's outstanding shares, principally due to the issuance of new shares and the use of Alcon treasury shares to satisfy conversion of Alcon's equity-based instruments held by associates.

9.5) As required by IAS 27 the excess of the consideration exchanged by Novartis to acquire the additional non-controlling interests in Alcon, Inc. over the value of the related outstanding non-controlling interests of Alcon, Inc. is recognized against consolidated equity. In 2011 this led to a $5.7 billion reduction in equity (2010: $96 million, mainly due to the acquisition of additional shares in Alcon, Inc.). Also deducted are $59 million of merger related transaction costs.

9.6) Changes in non-controlling interests are mainly due to the acquisition of the remaining non-controlling interests in Alcon, Inc. leading to a reduction of $6.6 billion (2010: increase of $6.3 billion due to full consolidation of Alcon, Inc. from August 25, 2010, 2009: decrease of $136 million).

9.7) A total of 164.7 million Novartis shares with a fair value of $9.2 billion were exchanged on April 8, 2011 to obtain the outstanding non-controlling interest in Alcon, Inc. These shares consisted of 108 million newly issued shares and 56.7 million treasury shares.

9.8) No shares were cancelled in 2011 and 2010. In 2009 a total of 6 million shares were cancelled.

10. Property, plant & equipment movements

2011	Land	Buildings	Construction in progress	Machinery & other equipment	Total
	$ m	$ m	$ m	$ m	$ m
Cost					
January 1	**827**	**10,674**	**2,327**	**15,129**	**28,957**
Acquisition and divestment of consolidated business	12	20		9	41
Reclassifications[1]		888	(1,688)	800	
Additions	2	105	1,616	463	2,186
Disposals and derecognitions[2]	(3)	(148)	(21)	(638)	(810)
Currency translation effects	(7)	(110)	(70)	(252)	(439)
December 31	**831**	**11,429**	**2,164**	**15,511**	**29,935**
Accumulated depreciation					
January 1	**(19)**	**(4,318)**	**(6)**	**(8,774)**	**(13,117)**
Depreciation on divested consolidated business		3		6	9
Reclassifications[1]		(3)		3	
Depreciation charge	(3)	(438)		(1,287)	(1,728)
Depreciation on disposals and derecognitions[2]		117		575	692
Impairment charge		(55)	(4)	(354)	(413)
Currency translation effects		48		201	249
December 31	**(22)**	**(4,646)**	**(10)**	**(9,630)**	**(14,308)**
Net book value at December 31	**809**	**6,783**	**2,154**	**5,881**	**15,627**
Net book value of property, plant & equipment under finance lease contracts					**4**
Commitments for purchases of property, plant & equipment					**583**

(1) Reclassifications between various asset categories due to completion of plant and other equipment under construction.

(2) Derecognition of tangible assets which are no longer used and are not considered to have a significant disposal value or other alternative use.

The Group was awarded government grants in the United States for the construction of a manufacturing facility to produce flu vaccines. The contracts included a maximum of $294 million cost reimbursement for construction activities and equipment, of which $223 million was received by December 31, 2011 (2010: $185 million). These grants were deducted in arriving at the carrying value of the assets since the receipt of the respective government grant is reasonably assured. There are no onerous contracts or unfulfilled conditions in connection with this grant.

Borrowing costs on new additions to property, plant and equipment have been capitalized and amounted to $1 million in 2011 (2010: $1 million, 2009: $1 million).

10. Property, plant & equipment movements (Continued)

The impairment charge for property, plant and equipment in 2011 amounted to $413 million (2010: $10 million).

2010	Land	Buildings	Construction in progress	Machinery & other equipment	Total
	$ m	$ m	$ m	$ m	$ m
Cost					
January 1	**709**	**9,380**	**2,176**	**13,635**	**25,900**
Impact of business combinations	95	474	244	606	1,419
Reclassifications[1]	12	616	(1,407)	779	
Additions	3	62	1,260	328	1,653
Disposals and derecognitions[2]	(2)	(49)	(28)	(295)	(374)
Currency translation effects	10	191	82	76	359
December 31	**827**	**10,674**	**2,327**	**15,129**	**28,957**
Accumulated depreciation					
January 1	**(13)**	**(3,869)**	**(8)**	**(7,935)**	**(11,825)**
Reclassifications[1]		5		(5)	
Depreciation charge	(4)	(343)		(1,016)	(1,363)
Depreciation on disposals and derecognitions[2]		29		264	293
Impairment charge		(3)	2	(9)	(10)
Currency translation effects	(2)	(137)		(73)	(212)
December 31	**(19)**	**(4,318)**	**(6)**	**(8,774)**	**(13,117)**
Net book value at December 31	**808**	**6,356**	**2,321**	**6,355**	**15,840**
Net book value of property, plant & equipment under finance lease contracts					**4**
Commitments for purchases of property, plant & equipment					**597**

(1) Reclassifications between various asset categories due to completion of plant and other equipment under construction.

(2) Derecognition of tangible assets which are no longer used and are not considered to have a significant disposal value or other alternative use.

11. Goodwill and intangible asset movements

2011	Goodwill	Acquired research & development	Alcon brand name	Technologies	Currently marketed products	Marketing know-how	Other intangible assets	Total of intangible assets other than goodwill
	$ m	$ m	$ m	$ m	$ m	$ m	$ m	$ m
Cost								
January 1	**30,261**	**4,627**	**2,980**	**6,699**	**22,740**	**5,960**	**1,135**	**44,141**
Impact of business combinations	303	7		3	101		1	112
Reclassifications[1]		(255)			260		(5)	
Additions[2]	69	122			43		102	267
Disposals and derecognitions[3]	(48)	(1,420)			(19)		(4)	(1,443)
Currency translation effects	(134)	10		(21)	(85)		(7)	(103)
December 31	**30,451**	**3,091**	**2,980**	**6,681**	**23,040**	**5,960**	**1,222**	**42,974**
Accumulated amortization								
January 1	**(569)**	**(1,565)**		**(370)**	**(6,254)**		**(721)**	**(8,910)**
Amortization charge				(589)	(2,090)	(238)	(111)	(3,028)
Amortization on disposals and derecognitions[3]	48	1,420			19		4	1,443
Impairment charge		(338)			(287)		(2)	(627)
Reversal of impairment charge					8			8
Currency translation effects	13	22		9	69		9	109
December 31	**(508)**	**(461)**		**(950)**	**(8,535)**	**(238)**	**(821)**	**(11,005)**
Net book value at December 31	**29,943**	**2,630**	**2,980**	**5,731**	**14,505**	**5,722**	**401**	**31,969**

(1) Reclassifications between various asset categories as a result of product launches of acquired In-Process Research & Development.

(2) Additions to goodwill relates to finalization of Alcon Inc. acquisition accounting.

(3) Derecognitions of intangible assets which are no longer used or being developed and are not considered to have a significant disposal value or other alternative use.

11. Goodwill and intangible asset movements (Continued)

2010	Goodwill	Acquired research & development	Alcon brand name	Technologies	Currently marketed products	Marketing know-how	Other intangible assets	Total of intangible assets other than goodwill
	$ m	$ m	$ m	$ m	$ m	$ m	$ m	$ m
Cost								
January 1	**12,624**	**3,216**		**1,271**	**11,737**		**954**	**17,178**
Impact of business combinations	17,986	1,418	2,980	5,460	10,561	5,960	44	26,423
Reclassifications[1]		(474)			474			
Additions		344			62		89	495
Disposals and derecognitions[2]		(24)			(184)		(13)	(221)
Currency translation effects	(349)	147		(32)	90		61	266
December 31	**30,261**	**4,627**	**2,980**	**6,699**	**22,740**	**5,960**	**1,135**	**44,141**
Accumulated amortization								
January 1	**(585)**	**(547)**		**(273)**	**(5,395)**		**(632)**	**(6,847)**
Reclassifications[1]				(16)			16	
Amortization charge				(91)	(970)		(74)	(1,135)
Amortization on disposals and derecognitions[2]		22			95		12	129
Impairment charge		(991)			(14)		(13)	(1,018)
Reversal of impairment charge		2			105			107
Currency translation effects	16	(51)		10	(75)		(30)	(146)
December 31	**(569)**	**(1,565)**		**(370)**	**(6,254)**		**(721)**	**(8,910)**
Net book value at December 31	**29,692**	**3,062**	**2,980**	**6,329**	**16,486**	**5,960**	**414**	**35,231**

(1) Reclassifications between various asset categories as a result of product launches of acquired In-Process Research & Development.

(2) Derecognitions of intangible assets which are no longer used or being developed and are not considered to have a significant disposal value or other alternative use.

Segmentation of goodwill and intangible assets

The net book values at December 31, 2011 of goodwill and intangible assets are allocated to the Group's segments as summarized below:

	Goodwill	Acquired research & development	Alcon brand name	Technologies	Currently marketed products	Marketing know-how	Other intangible assets	Total of intangible assets other than goodwill
	$ m	$ m	$ m	$ m	$ m	$ m	$ m	$ m
Pharmaceuticals	3,077	1,309		2	1,639		217	3,167
Alcon	17,740	598	2,980	4,836	8,639	5,722	27	22,802
Sandoz	7,697	592		678	2,378		11	3,659
Vaccines and Diagnostics	1,197	128		215	1,210		133	1,686
Consumer Health	226				639		2	641
Corporate	6	3					11	14
Total	**29,943**	**2,630**	**2,980**	**5,731**	**14,505**	**5,722**	**401**	**31,969**
Potential impairment charge, if any, if discounted cash flows fell by 5%		3			5			
Potential impairment charge, if any, if discounted cash flows fell by 10%		7			21			

11. Goodwill and intangible asset movements (Continued)

The recoverable amount of a cash-generating unit and related goodwill is based on the higher of "fair value less costs to sell" or "value in use". The following assumptions are used in the calculations:

	Pharmaceuticals	Alcon	Sandoz	Vaccines and Diagnostics	Consumer Health
	%	%	%	%	%
Sales growth rate assumptions after forecast period	0.4	3	0 to 2	0.5	0 to 2
Discount rate (post-tax)	7	7	7	7	7

In 2011, intangible asset impairment charges of $627 million were recorded. $552 million of these arose in the Pharmaceuticals Division, principally due to the expected reduction in demand for *Tekturna*/*Rasilez* (aliskiren) and discontinuation of PRT128 (elinogrel), SMC021 (oral calcitonin), PTK796 (omadacycline) and AGO178 (agomelatine) development programs. $75 million of impairment charges arose in all other Divisions.

In 2010, Novartis recorded impairment charges totaling $1.0 billion. These relate to impairment charges of $356 million for *Mycograb*, $250 million for PTZ601, $228 million for albinterferon alfa-2b and $120 million for ASA404 as Novartis decided to discontinue the related development projects. Additonally, $40 million were recorded for various other impairment charges in the Pharmaceuticals Division. Novartis also recorded various impairment charges of $24 million in Sandoz and Consumer Health.

In 2009, impairment charges of $132 million were recorded, mainly for terminated development projects or for where the anticipated cash flows from future sales no longer supported the carrying value of the intangible assets. These related to various impairment charges of $88 million, mainly for upfront and milestone payments in the Pharmaceuticals Division and $44 million in the Vaccines and Diagnostics, Sandoz and Consumer Health Divisions.

Reversal of prior year impairment charges amounted to $8 million (2010: $107 million, 2009: $106 million).

12. Deferred tax assets and liabilities

	Property, plant & equipment	Intangible assets	Pensions and other benefit obligations of associates	Inventories	Tax loss carryforwards	Other assets, provisions and accruals	Valuation allowance	Total
	$ m	$ m	$ m	$ m	$ m	$ m	$ m	$ m
Gross deferred tax assets at January 1, 2011	**131**	**251**	**1,086**	**1,792**	**241**	**2,007**	**(19)**	**5,489**
Gross deferred tax liabilities at January 1, 2011	**(951)**	**(5,689)**	**(409)**	**(253)**	**(10)**	**(626)**		**(7,938)**
Net deferred tax balance at January 1, 2011	**(820)**	**(5,438)**	**677**	**1,539**	**231**	**1,381**	**(19)**	**(2,449)**
At January 1, 2011	**(820)**	**(5,438)**	**677**	**1,539**	**231**	**1,381**	**(19)**	**(2,449)**
(Charged)/credited to income	68	350	28	418	(28)	322	(16)	1,142
(Charged)/credited to equity						22		22
(Charged)/credited to comprehensive income			510			(32)		478
Impact of business combinations						(9)		(9)
Other movements	(38)	154	(12)	(162)	(15)	(18)	3	(88)
Net deferred tax balance at December 31, 2011	**(790)**	**(4,934)**	**1,203**	**1,795**	**188**	**1,666**	**(32)**	**(904)**
Gross deferred tax assets at December 31, 2011	**157**	**234**	**1,576**	**2,020**	**201**	**2,221**	**(32)**	**6,377**
Gross deferred tax liabilities at December 31, 2011	**(947)**	**(5,168)**	**(373)**	**(225)**	**(13)**	**(555)**		**(7,281)**
Net deferred tax balance at December 31, 2011	**(790)**	**(4,934)**	**1,203**	**1,795**	**188**	**1,666**	**(32)**	**(904)**
Deferred tax assets and liabilities after offsetting amounts of $520 millions recorded in companies within the same tax jurisdiction								
Deferred tax assets at December 31, 2011								**5,857**
Deferred tax liabilities at December 31, 2011								**(6,761)**
Net deferred tax balance at December 31, 2011								**(904)**
Gross deferred tax assets at January 1, 2010	**72**	**281**	**931**	**1,429**	**232**	**1,687**	**(17)**	**4,615**
Gross deferred tax liabilities at January 1, 2010	**(829)**	**(2,024)**	**(526)**	**(275)**		**(753)**		**(4,407)**
Net deferred tax balance at January 1, 2010	**(757)**	**(1,743)**	**405**	**1,154**	**232**	**934**	**(17)**	**208**
At January 1, 2010	**(757)**	**(1,743)**	**405**	**1,154**	**232**	**934**	**(17)**	**208**
(Charged)/credited to income	(11)	431	(127)	165	(49)	32		441
(Charged)/credited to equity						(4)		(4)
(Charged)/credited to comprehensive income			171			41		212
Impact of business combinations	(54)	(4,163)	203	237	60	357	(2)	(3,362)
Other movements	2	37	25	(17)	(12)	21		56
Net deferred tax balance at December 31, 2010	**(820)**	**(5,438)**	**677**	**1,539**	**231**	**1,381**	**(19)**	**(2,449)**
Gross deferred tax assets at December 31, 2010	**131**	**251**	**1,086**	**1,792**	**241**	**2,007**	**(19)**	**5,489**
Gross deferred tax liabilities at December 31, 2010	**(951)**	**(5,689)**	**(409)**	**(253)**	**(10)**	**(626)**		**(7,938)**
Net deferred tax balance at December 31, 2010	**(820)**	**(5,438)**	**677**	**1,539**	**231**	**1,381**	**(19)**	**(2,449)**
Deferred tax assets and liabilities after offsetting amounts of $249 millions recorded in companies within the same tax jurisdiction								
Deferred tax assets at December 31, 2010								**5,240**
Deferred tax liabilities at December 31, 2010								**(7,689)**
Net deferred tax balance at December 31, 2010								**(2,449)**

A reversal of valuation allowance could occur when circumstances make the realization of deferred taxes probable. This would result in a decrease in the Group's effective tax rate.

12. Deferred tax assets and liabilities (Continued)

Deferred tax assets of $2.3 billion (2010: $2.3 billion) and deferred tax liabilities of $6.5 billion (2010: $7.1 billion) are expected to have an impact on current taxes payable after more than twelve months.

At December 31, 2011, unremitted earnings of $51 billion (2010: $45 billion) have been retained by subsidiary companies for reinvestment. No provision is made for income taxes that would be payable upon the distribution of these earnings. If these earnings were remitted, an income tax charge could result based on the tax statutes currently in effect.

	2011	2010
	$ m	$ m
Temporary differences on which no deferred tax has been provided as they are permanent in nature related to:		
– Investments in subsidiaries	4,782	7,137
– Goodwill from acquisitions	(25,089)	(24,711)

The gross value of tax-loss carry-forwards that have, or have not, been capitalized as deferred tax assets, with their expiry dates is as follows:

	Not capitalized	Capitalized	2011 total
	$ m	$ m	$ m
One year	81	2	83
Two years	171	4	175
Three years	175	38	213
Four years	72	29	101
Five years	63	100	163
More than five years	419	443	862
Total	**981**	**616**	**1,597**

	Not capitalized	Capitalized	2010 total
	$ m	$ m	$ m
One year	155	1	156
Two years	67	4	71
Three years	159	8	167
Four years	159	18	177
Five years	58	158	216
More than five years	446	503	949
Total	**1,044**	**692**	**1,736**

Deferred tax assets related to taxable losses of relevant Group entities are recognized to the extent it is considered probable that future taxable profits will be available against which such losses can be utilized in the foreseeable future.

In 2011, $155 million (2010: $11 million, 2009: $19 million) of tax-loss carry-forwards expired.

13. Financial assets

	2011	2010
	$ m	$ m
Financial investments, long-term loans and other investments	938	857
Loans to associated companies		1
Prepaid post-employment benefit plans	38	982
Total financial assets	**976**	**1,840**

Available-for-sale financial investments at December 31, 2011, totaling $604 million (2010: $712 million) are valued at fair value, while long-term loans and other investments of $334 million (2010: $145 million) are valued at amortized cost or at cost.

In 2011, impairments on available-for-sale financial investments amounted to $189 million (2010: $160 million, 2009: $51 million). In 2011 no reversal of impairments occurred (2010: $2 million). These amounts were recorded in the consolidated income statement under "Other expense" or "Other income" respectively.

14. Inventories

	2011	2010
	$ m	$ m
Raw material, consumables	930	931
Finished products	5,000	5,162
Total inventories	**5,930**	**6,093**

The following summarizes movements in inventory write-downs deducted from inventory categories. Reversals of inventory provisions mainly result from the reassessment of inventory values manufactured prior to regulatory approval but for which approval was subsequently received:

	2011	2010	2009
	$ m	$ m	$ m
January 1	**(879)**	**(653)**	**(637)**
Impact of business combinations		(101)	(3)
Inventory write-downs charged to the consolidated income statement	(1,554)	(1,106)	(506)
Utilization of inventory provisions	921	593	298
Reversal of inventory provisions	738	396	230
Currency translation effects	33	(8)	(35)
December 31	**(741)**	**(879)**	**(653)**

15. Trade receivables

	2011	2010
	$ m	$ m
Total gross trade receivables	10,542	10,094
Provisions for doubtful trade receivables	(219)	(221)
Total trade receivables, net	**10,323**	**9,873**

The following table summarizes the movement in the provision for doubtful trade receivables:

	2011	2010	2009
	$ m	$ m	$ m
January 1	**(221)**	**(143)**	**(182)**
Impact of business combinations	(9)	(56)	(3)
Provisions for doubtful trade receivables charged to the consolidated income statement	(116)	(76)	(63)
Utilization or reversal of provisions for doubtful trade receivables	121	56	111
Currency translation effects	6	(2)	(6)
December 31	**(219)**	**(221)**	**(143)**

The following sets forth details of the age of trade receivables that are not overdue as specified in the payment terms and conditions established with Novartis customers as well as an analysis of overdue amounts and related provisions for doubtful trade receivables:

	2011	2010
	$ m	$ m
Not overdue	8,967	8,684
Past due for not more than one month	498	366
Past due for more than one month but less than three months	295	320
Past due for more than three months but less than six months	249	217
Past due for more than six months but less than one year	228	208
Past due for more than one year	305	299
Provisions for doubtful trade receivables	(219)	(221)
Total trade receivables, net	**10,323**	**9,873**

Provisions for doubtful trade receivables are established based upon the difference between the receivable value and the estimated net collectible amount. Novartis establishes provisions for doubtful trade receivables based on historical loss experience. Significant financial difficulties of a customer, such as probability of bankruptcy or financial reorganization or default/delinquency in payments are considered indicators that recovery of trade receivables are doubtful.

Trade receivable balances include sales to government-supported healthcare systems. Novartis continues to monitor sovereign debt issues and economic conditions in Greece, Italy, Spain, Portugal and other countries in Europe and evaluates accounts receivable in these countries for potential collection risks. Deteriorating credit

15. Trade receivables (Continued)

and economic conditions and other factors in these countries have resulted in, and may continue to result in an increase in the average length of time that it takes to collect these accounts receivable and may require Novartis to re-evaluate the collectability of these receivables in future periods.

Novartis does not expect to write off trade receivable amounts that are not past due nor unprovided for. The Group holds security amounting to $36 million as collateral for certain trade receivables.

Trade receivables include amounts denominated in the following major currencies:

Currency	2011	2010
	$ m	$ m
CHF	288	230
EUR	2,636	2,108
GBP	139	168
JPY	1,929	1,494
$	2,865	3,888
Other	2,466	1,985
Total trade receivables, net	**10,323**	**9,873**

During 2011, Novartis entered into several significant irrevocable factoring arrangements. As a result $538 million of trade receivables have been sold and derecognized.

16. Cash, marketable securities and derivative financial instruments

The following tables show the contract or underlying principal amounts and fair values of derivative financial instruments analyzed by type of contract at December 31, 2011 and 2010. Contract or underlying principal amounts indicate the volume of business outstanding at the consolidated balance sheet date and do not represent amounts at risk. The fair values are determined by reference to market prices or standard pricing models that used observable market inputs at December 31, 2011 and 2010.

Derivative financial instruments

	Contract or underlying principal amount		Positive fair values		Negative fair values	
	2011	2010	2011	2010	2011	2010
	$ m	$ m	$ m	$ m	$ m	$ m
Currency related instruments						
Forward foreign exchange rate contracts	6,456	4,814	105	38	(12)	(44)
Over-the-Counter currency options	2,102	4,000	13	3	(18)	
Total of currency related instruments	**8,558**	**8,814**	**118**	**41**	**(30)**	**(44)**
Interest rate related instruments						
Interest rate swaps		61		1		
Total of interest rate related instruments		**61**		**1**		
Total derivative financial instruments included in marketable securities and in current financial debts	**8,558**	**8,875**	**118**	**42**	**(30)**	**(44)**

16. Cash, marketable securities and derivative financial instruments (Continued)

The following table shows by currency contract or underlying principal amount the derivative financial instruments at December 31, 2011 and 2010:

December 31, 2011	EUR	$	JPY	Other	Total
	$ m	$ m	$ m	$ m	$ m
Currency related instruments					
Forward foreign exchange rate contracts	3,706	1,746	255	749	6,456
Over-the-Counter currency options		2,000		102	2,102
Total of currency related instruments	**3,706**	**3,746**	**255**	**851**	**8,558**
Total derivative financial instruments	**3,706**	**3,746**	**255**	**851**	**8,558**

December 31, 2010	EUR	$	JPY	Other	Total
	$ m	$ m	$ m	$ m	$ m
Currency related instruments					
Forward foreign exchange rate contracts	2,039	1,776	286	713	4,814
Over-the-Counter currency options		4,000			4,000
Total of currency related instruments	**2,039**	**5,776**	**286**	**713**	**8,814**
Interest rate related instruments					
Interest rate swaps			61		61
Total of interest rate related instruments			**61**		**61**
Total derivative financial instruments	**2,039**	**5,776**	**347**	**713**	**8,875**

Derivative financial instruments effective for hedge accounting purposes

At the end of 2011 and 2010 there were no open hedging instruments for anticipated transactions.

Marketable securities, time deposits and derivative financial instruments

	2011	2010
	$ m	$ m
Available-for-sale marketable securities		
Debt securities	1,131	2,596
Equity securities	73	106
Fund investments	32	55
Total available-for-sale marketable securities	**1,236**	**2,757**
Derivative financial instruments	118	42
Accrued interest on debt securities	12	16
Total marketable securities, time deposits and derivative financial instruments	**1,366**	**2,815**

Debt securities and time deposits are denominated in $ except for debt securities of $694 million in CHF (2010: $580 million) and $26 million in EUR (2010: $176 million) respectively.

16. Cash, marketable securities and derivative financial instruments (Continued)

Fair value by hierarchy

As required by IFRS, financial assets and liabilities recorded at fair value in the consolidated financial statements are categorized based upon the level of judgment associated with the inputs used to measure their fair value. The IFRS hierarchical levels, based on an increasing amount of subjectivity associated with the inputs to derive fair valuation for these assets and liabilities, are as follows:

Level 1 — Inputs are unadjusted and use quoted prices in active markets for identical assets or liabilities at the measurement date.

The types of assets carried at level 1 fair value are equity and debt securities listed in active markets.

Level 2 — Inputs other than quoted prices included within level 1 that are observable for the asset or liability, either directly or indirectly. These inputs are derived principally from, or corroborated by, observable market data by correlation or other means at the measurement date and for the duration of the instruments' anticipated life.

The assets generally included in this fair value hierarchy are time deposits, foreign exchange and interest rate derivatives and certain investment funds. Foreign exchange derivatives and interest rate derivatives are valued using corroborated market data. The liabilities generally included in this fair value hierarchy consist of foreign exchange derivatives and options on equity securities.

Level 3 — Inputs that are unobservable for the asset or liability. These inputs reflect the Group's best estimate of what market participants would use in pricing the asset or liability at the measurement date. Consideration is given to the risk inherent in the valuation techniques and the risk inherent in the inputs to the models.

16. Cash, marketable securities and derivative financial instruments (Continued)

The assets generally included in this fair value hierarchy are various investments in hedge funds and unquoted equity security investments of the Novartis Venture Funds investment activities. There were no liabilities carried at fair value in this category.

2011	Level 1	Level 2	Level 3	Valued at amortized cost	Total
	$ m	$ m	$ m	$ m	$ m
Available-for-sale marketable securities					
Debt securities	1,103	28			1,131
Equity securities	53		20		73
Fund investments			32		32
Total available-for-sale marketable securities	**1,156**	**28**	**52**		**1,236**
Derivative financial instruments		118			118
Accrued interest on debt securities				12	12
Total marketable securities, time deposits and derivative financial instruments	**1,156**	**146**	**52**	**12**	**1,366**
Financial investments and long-term loans					
Available-for-sale financial investments	261		331		592
Fund investments			12		12
Long-term loans and receivables, advances, security deposits				334	334
Total financial investments and long-term loans	**261**		**343**	**334**	**938**
Financial liabilities					
Derivative financial instruments		(30)			(30)
Total financial liabilities at fair value		**(30)**			**(30)**

16. Cash, marketable securities and derivative financial instruments (Continued)

2010	Level 1	Level 2	Level 3	Valued at amortized cost	Total
	$ m	$ m	$ m	$ m	$ m
Available-for-sale marketable securities					
Debt securities	1,285	1311			2,596
Equity securities	86		20		106
Fund investments			55		55
Total available-for-sale marketable securities	**1,371**	**1311**	**75**		**2,757**
Derivative financial instruments		42			42
Accrued interest on debt securities				16	16
Total marketable securities, time deposits and derivative financial instruments	**1,371**	**1,353**	**75**	**16**	**2,815**
Financial investments and long-term loans					
Available-for-sale financial investments	352		348		700
Fund investments			12		12
Loans to associated companies				1	1
Long-term loans and receivables, advances, security deposits				145	145
Total financial investments and long-term loans	**352**		**360**	**146**	**858**
Financial liabilities					
Derivative financial instruments		(44)			(44)
Total financial liabilities at fair value		**(44)**			**(44)**

The analysis above includes all financial instruments including those measured at amortized cost or at cost.

The change in carrying values associated with level 3 financial instruments using significant unobservable inputs during the year ended December 31 are set forth below:

2011	Equity securities	Fund investments	Available-for-sale financial investments	Total
	$ m	$ m	$ m	$ m
January 1	**20**	**67**	**348**	**435**
Gains recognized in the consolidated income statement		1	23	24
Impairments and amortizations		(3)	(24)	(27)
Gains (losses) recognized in the consolidated statement of comprehensive income	1	2	(7)	(4)
Purchases			74	74
Redemptions		(24)		(24)
Proceeds from sales	(1)		(82)	(83)
Currency translation effects		1	(1)	
December 31	**20**	**44**	**331**	**395**
Total of gains and impairments, net recognized in the consolidated income statement for assets held at December 31, 2011		(2)	(1)	(3)

16. Cash, marketable securities and derivative financial instruments (Continued)

2010	Equity securities	Fund investments	Available-for-sale financial investments	Total
	$ m	$ m	$ m	$ m
January 1	**55**	**107**	**347**	**509**
Impact of business combinations		6		6
Gains recognized in the consolidated income statement	1	7	4	12
Impairments and amortizations		(4)	(42)	(46)
Losses recognized in the consolidated statement of comprehensive income		(5)		(5)
Purchases			70	70
Redemptions		(48)		(48)
Proceeds on sales	(36)		(36)	(72)
Currency translation effects		4	5	9
December 31	**20**	**67**	**348**	**435**
Total of gains and impairments, net recognized in the consolidated income statement for assets held at December 31, 2010		3	(36)	(33)

If the pricing parameters for the level 3 input were to change for equity securities and fund investments by 5% and for available-for-sale financial investments by 10% positively or negatively, respectively, this would change the amounts recorded in the consolidated statement of comprehensive income by $3 million or $33 million, respectively (2010: $4 million and $35 million).

Market risk

Novartis is exposed to market risk, primarily related to foreign currency exchange rates, interest rates and the market value of the investments of liquid funds. The Group actively monitors these exposures. To manage the volatility relating to these exposures, the Group enters into a variety of derivative financial instruments. The Group's objective is to reduce, where it deems appropriate to do so, fluctuations in earnings and cash flows associated with changes in interest rates, foreign currency exchange rates and market rates of investments of liquid funds and of the currency exposure of certain net investments in foreign subsidiaries. It is the Group's policy and practice to use derivative financial instruments to manage exposures and to enhance the yield on the investment of liquid funds. It does not enter any financial transactions containing a risk that cannot be quantified at the time the transaction is concluded. In addition, it does not sell short assets it does not have, or does not know it will have, in the future. The Group only sells existing assets or enters into transactions and future transactions (in the case of anticipatory hedges) that it confidently expects it will have in the future, based on past experience. In the case of liquid funds, the Group writes call options on assets it has or it writes put options on positions it wants to acquire and has the liquidity to acquire. The Group expects that any loss in value for these instruments generally would be offset by increases in the value of the underlying transactions.

Foreign currency exchange rate risk

The Group uses the $ as its reporting currency. As a result, the Group is exposed to foreign currency exchange movements, primarily in European, Japanese and other Asian and Latin American currencies. Consequently, it enters into various contracts that reflect the changes in the value of foreign currency exchange rates to preserve the value of assets, commitments and anticipated transactions. Novartis also uses forward contracts and foreign currency option contracts to hedge certain anticipated net revenues in foreign currencies.

Net investments in subsidiaries in foreign countries are long-term investments. Their fair value changes through movements of foreign currency exchange rates. In the very long term, however, the difference in the

16. Cash, marketable securities and derivative financial instruments (Continued)

inflation rate should match the foreign currency exchange rate movement, so that the market value of the foreign non-monetary assets will compensate for the change due to foreign currency movements. For this reason, the Group only hedges the net investments in foreign subsidiaries in exceptional cases.

Commodity price risk

The Group has only a very limited exposure to price risk related to anticipated purchases of certain commodities used as raw materials by the Group's businesses. A change in those prices may alter the gross margin of a specific business, but generally by not more than 10% of the margin and thus below the Group's risk management tolerance levels. Accordingly, the Group does not enter into significant commodity futures, forward and option contracts to manage fluctuations in prices of anticipated purchases.

Interest rate risk

The Group addresses its net exposure to interest rate risk mainly through the ratio of its fixed rate financial debt to variable rate financial debt contained in its total financial debt portfolio. To manage this mix, Novartis may enter into interest rate swap agreements, in which it exchanges periodic payments based on a notional amount and agreed upon fixed and variable interest rates.

Equity risk

The Group purchases equities as investments of its liquid funds. As a policy, it limits its holdings in an unrelated company to less than 5% of its liquid funds. Potential investments are thoroughly analyzed in respect to their past financial track record (mainly cash flow and return on investment), their market potential, their management and their competitors. Call options are written on equities that the Group owns, and put options are written on equities which the Group wants to buy and for which cash has been reserved.

Credit risk

Credit risks arise from the possibility that customers may not be able to settle their obligations as agreed. To manage this risk the Group periodically assesses the financial reliability of customers, taking into account their financial position, past experience and other factors. Individual risk limits are set accordingly.

The largest customer accounts for approximately 9% of net sales and the second and third largest each accounts for 7% of net sales (2010: 8%, 8% and 7%, 2009: 8%, 7% and 6%, respectively). No other customer accounts for 2% or more of net sales.

The highest amounts of trade receivables outstanding were for these three customers. They amounted to 10%, 6% and 6%, respectively, of the Group's trade receivables at December 31, 2011 (2010: 9%, 5% and 6%, 2009: 9%, 6% and 6%, respectively). There is no other significant concentration of credit risk.

Counterparty risk

Counterparty risk encompasses issuer risk on marketable securities, settlement risk on derivative and money market contracts and credit risk on cash and time deposits. Issuer risk is reduced by only buying securities which are at least AA- rated. Settlement and credit risk is reduced by the policy of entering into transactions with counterparties that are usually at least AA- rated banks or financial institutions. Exposure to these risks is closely monitored and kept within predetermined parameters. Novartis has policies that limit the amount of credit exposure to any financial institution. The limits are regularly assessed and determined based upon credit analysis including financial statement and capital adequacy ratio reviews. In addition, net settlement agreements are contracted with significant counterparties.

The Group's cash and cash equivalents are held with major regulated financial institutions, the three largest ones hold approximately 31.8%, 12.5% and 12.1%, respectively (2010: 14%, 9% and 8%, respectively).

The Group does not expect any losses from non-performance by these counterparties and does not have any significant grouping of exposures to financial sector or country risk.

16. Cash, marketable securities and derivative financial instruments (Continued)

Liquidity Risk

Liquidity risk is defined as the risk that the Group could not be able to settle or meet its obligations on time or at a reasonable price. Group Treasury is responsible for liquidity, funding as well as settlement management. In addition, liquidity and funding risks, related processes and policies are overseen by management. Novartis manages its liquidity risk on a consolidated basis based on business needs, tax, capital or regulatory considerations, if applicable, through numerous sources of finance in order to maintain flexibility. Management monitors the Group's net debt or liquidity position through rolling forecasts on the basis of expected cash flows.

Our liquidity needs may change if overall economic conditions worsen and/or liquidity and credit within the financial markets remains tight for an extended period of time, and such conditions impact the collectability of our customer accounts receivable, or impact credit terms with our vendors, or disrupt the supply of raw materials and services.

The following table sets forth how management monitors net debt or liquidity based on details of the remaining contractual maturities of financial assets and liabilities excluding trade receivables and payables at December 31, 2011 and 2010:

December 31, 2011	Due or due within one month	Due later than one month but less than three months	Due later than three months but less than one year	Due later than one year but less than five years	Due after five years	Total
	$ m	$ m	$ m	$ m	$ m	$ m
Current assets						
Marketable securities			36	638	562	1,236
Derivative financial instruments and accrued interest on derivative financial instruments	61	15	54			130
Cash and cash equivalents	3,709					3,709
Total current financial assets	**3,770**	**15**	**90**	**638**	**562**	**5,075**
Non-current liabilities						
Financial debts				9,874	3,981	13,855
Total non-current financial debt				**9,874**	**3,981**	**13,855**
Current liabilities						
Financial debts	4,039	1,100	1,205			6,344
Derivative financial instruments	7	7	16			30
Total current financial debt	**4,046**	**1,107**	**1,221**			**6,374**
Net debt	**(276)**	**(1,092)**	**(1,131)**	**(9,236)**	**(3,419)**	**(15,154)**

16. Cash, marketable securities and derivative financial instruments (Continued)

December 31, 2010	Due or due within one month	Due later than one month but less than three months	Due later than three months but less than one year	Due later than one year but less than five years	Due after five years	Total
	$ m	$ m	$ m	$ m	$ m	$ m
Current assets						
Marketable securities	1		593	1,441	722	2,757
Derivative financial instruments and accrued interest on derivative financial instruments	14	33	11			58
Cash and cash equivalents	5,319					5,319
Total current assets	**5,334**	**33**	**604**	**1,441**	**722**	**8,134**
Non-current liabilities						
Financial debts				8,399	5,961	14,360
Total non-current liabilities				**8,399**	**5,961**	**14,360**
Current liabilities						
Financial debts	5,480	2,093	1,010			8,583
Derivative financial instruments	23	5	16			44
Total current liabilities	**5,503**	**2,098**	**1,026**			**8,627**
Net debt	**(169)**	**(2,065)**	**(422)**	**(6,958)**	**(5,239)**	**(14,853)**

The consolidated balance sheet amounts of financial liabilities included in the above analysis are not materially different to the contractual amounts due on maturity. The positive and negative fair values on derivative financial instruments represent the net contractual amounts to be exchanged at maturity.

Cash and cash equivalents at December 31, 2011 totaled $3.7 billion (2010: $5.3 billion) and include current accounts of $1.9 billion (2010: $2.0 billion) and deposits and short-term investments with an initial maturity of less than three months and Euro-commercial papers of $1.8 billion (2010: $3.3 billion). This amount contains $74 million (2010: nil) which covers a guarantee and so it is restricted in use.

The Group's contractual undiscounted potential cash flows from derivative financial instruments to be settled on a gross basis are as follows:

December 31, 2011	Due or due within one month	Due later than one month but less than three months	Due later than three months but less than one year	Total
	$ m	$ m	$ m	$ m
Derivative financial instruments and accrued interest on derivative financial instruments				
Potential outflows in various currencies	(4,315)	(738)	(1,208)	(6,261)
Potential inflows in various currencies	4,366	738	1,241	6,345

16. Cash, marketable securities and derivative financial instruments (Continued)

December 31, 2010	Due or due within one month	Due later than one month but less than three months	Due later than three months but less than one year	Total
	$ m	$ m	$ m	$ m
Derivative financial instruments and accrued interest on derivative financial instruments				
Potential outflows in various currencies	(1,842)	(467)	(935)	(3,244)
Potential inflows in various currencies	1,830	485	928	3,243

Other contractual liabilities, which are not part of management's monitoring of the net debt or liquidity consist of the following items:

December 31, 2011	Due later than one month but less than three months	Due later than three months but less than one year	Due later than one year but less than five years	Due after five years	Total
	$ m	$ m	$ m	$ m	$ m
Contractual interest on non-current liabilities	(236)	(247)	(1,410)	(637)	(2,530)
Trade payables	(4,989)				(4,989)

December 31, 2010	Due later than one month but less than three months	Due later than three months but less than one year	Due later than one year but less than five years	Due after five years	Total
	$ m	$ m	$ m	$ m	$ m
Contractual interest on non-current liabilities	(236)	(261)	(1,694)	(835)	(3,026)
Trade payables	(4,788)				(4,788)

Capital risk management

Novartis strives to maintain strong debt ratings. In managing its capital, Novartis focuses on a sound debt/equity ratio. Credit agencies in 2011 maintained their ratings for Novartis. Moody's rated the Group as Aa2 for long-term maturities and P-1 for short-term maturities and Standard & Poor's had a rating of AA- for long-term and A-1+ for short-term maturities. Fitch had a long-term rating of AA and a short-term rating of F1+.

The 2011 year-end debt/equity ratio decreased to 0.31:1 from 0.33:1 in 2010 principally due to less current financial debt being outstanding under the commercial paper financing program.

16. Cash, marketable securities and derivative financial instruments (Continued)

Value at risk

The Group uses a value at risk (VAR) computation to estimate the potential ten-day loss in the fair value of its financial instruments.

A 10-day period is used because of an assumption that not all positions could be undone in one day given the size of the positions. The VAR computation includes the Group's financial debt, short-term and long-term investments, foreign currency forwards, swaps and options as well as anticipated transactions. Foreign currency trade payables and receivables as well as net investments in foreign subsidiaries are included in the computation.

The VAR estimates are made assuming normal market conditions, using a 95% confidence interval. The Group uses a "Delta Normal" model to determine the observed inter-relationships between movements in interest rates, stock markets and various currencies. These inter-relationships are determined by observing interest rate, stock market movements and forward foreign currency rate movements over a 60 day period for the calculation of VAR amounts.

The estimated potential 10-day loss in pre-tax income from the Group's foreign currency instruments, the estimated potential 10-day loss of its equity holdings, and the estimated potential 10-day loss in fair value of its interest rate sensitive instruments (primarily financial debt and investments of liquid funds under normal market conditions) as calculated in the VAR model are the following:

	Dec 31, 2011	Dec 31, 2010
	$ m	$ m
All financial instruments	235	311
Analyzed by components:		
Instruments sensitive to foreign currency exchange rates	145	193
Instruments sensitive to equity market movements	56	27
Instruments sensitive to interest rates	102	219

The average, high, and low VAR amounts are as follows:

2011	Average	High	Low
	$ m	$ m	$ m
All financial instruments	214	281	180
Analyzed by components:			
Instruments sensitive to foreign currency exchange rates	98	219	50
Instruments sensitive to equity market movements	49	74	28
Instruments sensitive to interest rates	154	190	96

2010	Average	High	Low
	$ m	$ m	$ m
All financial instruments	267	319	139
Analyzed by components:			
Instruments sensitive to foreign currency exchange rates	192	271	98
Instruments sensitive to equity market movements	49	76	27
Instruments sensitive to interest rates	164	219	70

16. Cash, marketable securities and derivative financial instruments (Continued)

The VAR computation is a risk analysis tool designed to statistically estimate the maximum potential ten day loss from adverse movements in foreign currency exchange rates, equity prices and interest rates under normal market conditions. The computation does not purport to represent actual losses in fair value on earnings to be incurred by the Group, nor does it consider the effect of favorable changes in market rates. The Group cannot predict actual future movements in such market rates and it does not claim that these VAR results are indicative of future movements in such market rates or to be representative of any actual impact that future changes in market rates may have on the Group's future results of operations or financial position.

In addition to these VAR analyses, the Group uses stress testing techniques that aim to reflect a worst case scenario on the financial assets monitored by Group Treasury. For these calculations, the Group uses the worst movements during a period of six months over the past 20 years in each category. For 2011 and 2010, the worst case loss scenario was configured as follows:

	Dec 31, 2011	Dec 31, 2010
	$ m	$ m
All financial instruments	406	406
Analyzed by components:		
Instruments sensitive to foreign currency exchange rates	328	286
Instruments sensitive to equity market movements	31	59
Instruments sensitive to interest rates	47	62

In the Group's risk analysis, Novartis considered this worst case scenario acceptable as it could reduce income, but would not endanger the solvency or the investment grade credit standing of the Group. While it is highly unlikely that all worst case fluctuations would happen simultaneously, as shown in the model, the actual market can of course produce bigger movements in the future than it has historically. Additionally, in such a worst case environment, management actions could further mitigate the Group's exposure.

17. Other current assets

	2011	2010
	$ m	$ m
Withholding tax recoverable	173	103
Prepaid expenses—Third parties	694	735
—Associated companies	12	7
Other receivables—Third parties	1,864	1,735
—Associated companies	13	5
Total other current assets	**2,756**	**2,585**

18. Details of shares and share capital movements

	Number of shares[1]				
	Dec 31, 2009	Movement in year	Dec 31, 2010	Movement in year	Dec 31, 2011
Total Novartis shares	2,637,623,000		2,637,623,000	108,000,000	2,745,623,000
Total treasury shares	(363,269,649)	15,091,827	(348,177,822)	9,248,679	(338,929,143)
Total outstanding shares	**2,274,353,351**	**15,091,827**	**2,289,445,178**	**117,248,679**	**2,406,693,857**
	$ million	$ million	$ million	$ million	$ million
Share capital	957		957	59	1,016
Treasury shares	(132)	7	(125)	4	(121)
Outstanding share capital	**825**	**7**	**832**	**63**	**895**

(1) All shares are registered, authorized, issued and fully paid. All are voting shares and, except for 146 273 240 treasury shares at December 31, 2011 (2010: 159 381 837) are dividend bearing.

In 2011 an amount of 54.7 million shares net were purchased (2010: sales of 8.4 million shares). Out of these, 39.4 million shares (2010: nil) were acquired under the 2nd line buy-back program with the intention of cancellation, 20.4 million shares (2010: 0.4 million shares) were purchased on the 1st trading line on the Swiss stock exchange with the intention of retaining in Group Treasury and 5.1 million shares (2010: 8.8 million shares) were sold. Further, 7.2 million shares (2010: 6.7 million shares) were transferred to associates as part of the equity-based compensation and 56.7 million shares were used for the acquisition of the outstanding Alcon, Inc non-controlling interests. Accordingly, the net reduction in treasury shares amounted to 9.2 million.

Following the Extraordinary General Meeting of Novartis AG on April 8, 2011, 108 million new Novartis shares were issued and these, together with the 56.7 million treasury shares, were exchanged for the outstanding interests in Alcon, Inc., which was then merged into Novartis AG on the same day.

At December 31, 2011 there are outstanding written call options on Novartis shares of 35 million originally issued as part of the share-based compensation of associates. The market maker has acquired these options but they have not yet been exercised. The weighted average exercise price of these options is $51.35 and they have contractual lives of up to 10 years.

19. Non-current financial debts

	2011	2010
	$ m	$ m
Straight bonds	13,483	13,512
Liabilities to banks and other financial institutions[1]	1,146	942
Finance lease obligations	4	4
Total (including current portion of non-current financial debt)	**14,633**	**14,458**
Less current portion of non-current financial debt	(778)	(98)
Total non-current financial debts	**13,855**	**14,360**
Straight bonds		
3.625% CHF 800 million bond 2008/2015 of Novartis AG, Basel, Switzerland, issued at 100.35%	844	842
3.5% CHF 700 million bond 2008/2012 of Novartis Securities Investment Ltd., Hamilton, Bermuda, issued at 100.32%	744	743
5.125% $3,000 million bond 2009/2019 of Novartis Securities Investment Ltd., Hamilton, Bermuda, issued at 99.822%	2,986	2,984
4.125% $2,000 million bond 2009/2014 of Novartis Capital Corporation, New York, United States, issued at 99.897%	1,996	1,994
4.25% EUR 1,500 million bond 2009/2016 of Novartis Finance S.A., Luxembourg, Luxembourg, issued at 99.757%	1,935	1,978
1.9% $2,000 million bond 2010/2013 of Novartis Capital Corporation, New York, United States, issued at 99.867%	1,998	1,996
2.9% $2,000 million bond 2010/2015 of Novartis Capital Corporation, New York, United States, issued at 99.522%	1,990	1,986
4.4% $1,000 million bond 2010/2020 of Novartis Capital Corporation., New York, United States, issued at 99.237%	990	989
Total straight bonds	**13,483**	**13,512**

[1] Average interest rate 0.9% (2010: 1.6%)

	2011	2010
	$ m	$ m
Breakdown by maturity		
2011		98
2012	778	785
2013	2,029	2,023
2014	2,789	2,750
2015	3,108	2,841
2016	1,948	1,983
After 2016	3,981	3,978
Total	**14,633**	**14,458**

19. Non-current financial debts (Continued)

	2011	2010
Breakdown by currency		
$	9,962	9,953
EUR	2,042	2,104
JPY	1,031	798
CHF	1,589	1,584
Others	9	19
Total	**14,633**	**14,458**

Fair value comparison	**2011 Balance sheet**	**2011 Fair values**	**2010 Balance sheet**	**2010 Fair values**
	$ m	**$ m**	**$ m**	**$ m**
Straight bonds	13,483	14,794	13,512	14,350
Others	1,150	1,150	946	946
Total	**14,633**	**15,944**	**14,458**	**15,296**

Collateralized non-current financial debt and pledged assets	**2011**	**2010**
	$ m	**$ m**
Total amount of collateralized non-current financial debts	7	30
Total net book value of property, plant & equipment pledged as collateral for non-current financial debts	100	108

The Group's collateralized non-current financial debt consists of loan facilities at usual market conditions.

The percentage of fixed rate financial debt to total financial debt was 72% at December 31, 2011, and 63% at the end of 2010.

Financial debts, including current financial debts, contain only general default covenants. The Group is in compliance with these covenants.

The average interest rate on total financial debt in 2011 was 2.7% (2010: 3.1%, 2009: 3.6%).

20. Provisions and other non-current liabilities

	2011	2010
	$ m	$ m
Accrued liability for employee benefits:		
—Defined benefit pension plans	2,991	2,317
—Other long-term employee benefits and deferred compensation	600	461
—Other post-employment benefits	1,098	1,057
Environmental provisions	1,059	1,066
Provisions for product liabilities and other legal matters	777	693
Contingent consideration	482	586
Other non-current liabilities	785	662
Total	**7,792**	**6,842**

Product liability provisions

For the Group's pharmaceutical products, sufficient product liability insurance is not available. In connection with potential product liability exposures for these products the Group establishes provisions for estimated obligations for claims and related legal defense costs. The provisions are based on management's judgment, advice from legal counsel and actuarially determined estimates. Actual liabilities, however, could substantially exceed the provisions that Novartis has put in place. Novartis believes that its insurance coverage and provisions are reasonable and its provisions are the best estimate in light of its business and the risk to which it is subject.

The largest portion of product liability risk provisions has been determined taking into consideration factors such as past experience, number and amount of claims reported, estimates of claims incurred but not reported, the cost of defending claims and other assumptions. As actual experience becomes known the Group refines and adjusts its product liability estimates. If any of the assumptions used in these calculations turn out to be incorrect or require material adjustment, there could be a material difference between the amount of provisions that have been recorded and the actual liability. At December 31, 2011, the discount rates used to calculate the provision are based on government bond rates and vary by payment duration and geography (US and non-US) between 0.9% and 1.8% (2010: between 2.2% and 2.5%). The consolidated income statement effect of a 1% increase or decrease in the discount rate is $25 million (2010: $26 million) income and $26 million expense (2010: $28 million), respectively.

Environmental provisions

The material components of the environmental provisions consist of costs to sufficiently clean and refurbish contaminated sites to the extent necessary and to treat and where necessary continue surveillance at sites where the environmental exposure is less significant. The provision recorded at December 31, 2011 totals $1.1 billion (2010: $1.1 billion) of which $59 million (2010: $60 million) is included in current liabilities. $861 million (2010: $875 million) is provided for remediation at third party sites and $257 million (2010: $251 million) for remediation at owned facilities.

A substantial portion of the environmental provision relates to the remediation of Basel regional landfills in the adjacent border areas in Switzerland, Germany and France following the internal and external investigations completed during 2007 and the subsequent creation of an environmental remediation provision.

In the US, Novartis has been named under federal legislation (the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended) as a potentially responsible party (PRP) in respect of certain sites. Novartis actively participates in, or monitors, the clean-up activities at the sites in which it is a PRP. The provision takes into consideration the number of other PRPs at each site and the identity and financial position of such parties in light of the joint and several nature of the liability.

20. Provisions and other non-current liabilities (Continued)

The requirement in the future for Novartis ultimately to take action to correct the effects on the environment of prior disposal or release of chemical substances by Novartis or other parties, and its costs, pursuant to environmental laws and regulations, is inherently difficult to estimate. The Novartis future remediation expenses are affected by a number of uncertainties which include, but are not limited to, the method and extent of remediation, the percentage of material attributable to Novartis at the remediation sites relative to that attributable to other parties, the financial capabilities of the other potentially responsible parties and the timing of expected expenditures. Novartis believes that its total provisions for environmental matters are adequate based upon currently available information. However, given the inherent difficulties in estimating liabilities in this area, Novartis may incur additional costs beyond the amounts provided. Management believes that such additional amounts, if any, would not be material to the Group's financial condition but could be material to the results of operations or cash flows in a given period.

The following table shows the movements in the environmental liability provisions during 2011, 2010 and 2009:

	2011	2010	2009
	$ m	$ m	$ m
January 1	**1,126**	**1,010**	**966**
Cash payments	(29)	(20)	(11)
Releases	(8)	(2)	(53)
Interest expense arising from discounting provisions	29	39	66
Currency translation effects		99	19
December 31	**1,118**	**1,126**	**1,010**
Less current liability	(59)	(60)	(58)
Non-current environmental liability provisions at December 31	**1,059**	**1,066**	**952**

The expected timing of the related cash outflows as of December 31, 2011 is currently projected as follows:

	Expected cash outflows
	$ m
Due within two years	167
Due later than two years, but less than five years	330
Due later than five years but less than ten years	506
Due after ten years	115
Total environmental liability provisions	**1,118**

Legal matters

A number of Novartis subsidiaries are, and will likely continue to be, subject to various legal proceedings that arise from time to time, including proceedings regarding product liability, commercial disputes, employment and wrongful discharge, antitrust, securities, sales and marketing practices, health and safety, environmental, tax, privacy, and intellectual property matters. As a result, the Group may become subject to substantial liabilities that may not be covered by insurance and could affect our business and reputation. While Novartis does not believe that any of these legal proceedings will have a material adverse effect on its financial position, litigation is inherently unpredictable and large verdicts sometimes occur. As a consequence, Novartis may in the future incur

20. Provisions and other non-current liabilities (Continued)

judgments or enter into settlements of claims that could have a material adverse effect on its results of operations or cash flows.

Governments and regulatory authorities have been stepping up their compliance and law enforcement activities in recent years in key areas, including corruption, marketing practices, insider trading, antitrust and trade restrictions. Responding to such investigations is costly and a significant diversion of management's attention from our business. In addition, such investigations may affect our reputation and create a risk of potential exclusion from government reimbursement programs in the US and other countries. These factors have contributed to decisions by us and other companies in our industry to enter into settlement agreements with governmental authorities around the world. Those settlements have involved and may continue to involve large cash payments, including the potential repayment of amounts allegedly obtained improperly and penalties up to treble damages. In addition, settlements of healthcare fraud cases typically involve corporate integrity agreements which are intended to regulate company behavior for a period of years. Also, matters underlying governmental investigations and settlements may be the subject of separate private litigation.

Below is a summary of significant legal proceedings to which Novartis or its subsidiaries are a party or were a party and which were concluded in 2011.

Governmental investigations

SDNY investigation

In the fourth quarter of 2011, Novartis Pharmaceuticals Corporation (NPC) received a subpoena from the US Attorney's Office (USAO) for the Southern District of New York (SDNY) requesting the production of documents relating to marketing practices, including the remuneration of healthcare providers in connection with three NPC products (*Lotrel, Starlix and Valturna*). NPC is cooperating with the investigation which is civil and criminal in nature.

Alcon investigation

In the third quarter of 2011, Alcon Laboratories Inc. (Alcon) received a subpoena from the US Department of Health & Human Services relating to an investigation into allegations of healthcare fraud. The subpoena requests the production of documents relating to marketing practices, including the remuneration of healthcare providers in connection with certain Alcon products (*Vigamox*, *Nevanac*, *Omnipred*, *Econopred*; surgical equipment). Alcon is cooperating with the investigation which is civil in nature.

WDNY investigation

In 2010, NPC became aware of an investigation by the USAO for the Western District of New York (WDNY) into informed consent issues relating to clinical trials in China and into marketing practices, including the remuneration of healthcare providers in connection with a number of Novartis products. NPC is cooperating with the investigation which is civil in nature.

EC dawn raid at Sandoz France

In 2009, the European Commission (EC), together with the French competition authority, searched the offices of Sandoz S.A.S. in France (Sandoz France), alleging that Sandoz France entered into anti-competitive price coordination practices with other generic pharmaceutical companies and via the French trade association for generic pharmaceutical companies. Sandoz France is cooperating with the EC and the French authorities. No follow-up requests have been received from the EC so far.

EC dawn raid at Sandoz Netherlands and Sandoz Germany

In 2008, the EC conducted a dawn raid at Sandoz' offices in Holzkirchen, Germany, which was part of the EC sector inquiry. On July 6, 2010, the EC, together with the Dutch and German competition authorities, conducted a follow-up dawn raid at the Dutch and German offices of Sandoz. The EC's investigation focuses on

20. Provisions and other non-current liabilities (Continued)

allegations that Sandoz and/or its affiliates may have engaged in anti-competitive practices with respect to *Fentanyl* or other products in coordination with other pharmaceutical companies since 2005. On October 7, 2011, the EC informed Sandoz that it will formally initiate proceedings removing the national competition authorities' competence to investigate this case. The EC's decision was made public in the fourth quarter of 2011. Sandoz is cooperating with the EC.

Product liability matters

Zometa/Aredia product liability litigation

NPC together with other Novartis subsidiaries are defendants in more than 720 cases brought in US courts in which plaintiffs claim to have experienced osteonecrosis of the jaw after treatment with *Zometa* or *Aredia*, which are used to treat patients whose cancer has spread to the bones. There were four jury trials so far. The first trial began in Montana state court in October 2009 and resulted in a plaintiff's verdict which NPC appealed to the Montana Supreme Court. On December 30, 2010, the Montana Supreme Court affirmed the trial court's verdict. On March 30, 2011, NPC filed a petition for review with the US Supreme Court. On May 31, 2011, NPC was informed that the US Supreme Court decided not to take this case. The second trial took place in September and October 2010 in a New Jersey state court and resulted in a defense verdict in favor of NPC. This verdict is currently on appeal. The third trial took place in November 2010 in the US District Court for the Middle District of North Carolina and resulted in a plaintiffs' verdict. NPC filed an appeal against this verdict which is pending. The fourth trial took place in May 2011 in the US District Court for the Eastern District of New York and resulted in a defense verdict in favor of NPC. This verdict is also currently on appeal. Multiple trials are currently scheduled throughout the first half of 2012. The first trial of 2012 began in the US District Court for the Western District of Kentucky on January 9, 2012. The second trial began in the US District Court for the Eastern District of Missouri on January 23, 2012.

Hormone Replacement Therapy product liability litigation

NPC and other Novartis subsidiaries are defendants, along with various other pharmaceutical companies, in more than 60 cases brought in US courts in which plaintiffs claim to have been injured by hormone replacement therapy products.

Elidel® product liability litigation

NPC and other Novartis subsidiaries are defendants in more than 20 cases brought in US courts in which plaintiffs claim to have experienced injuries, mainly various types of cancer, after having been treated with *Elidel®* a medicine for atopic dermatitis.

Other matters

Average Wholesale Price litigation

Claims have been brought against various pharmaceutical companies, including certain Sandoz entities and NPC, alleging that they fraudulently overstated the Average Wholesale Price (AWP) and "best price", respectively, which are, or have been, used by the US federal and state governments in the calculation of Medicare reimbursements and Medicaid rebates.

In the third quarter of 2011, the US Department of Justice (DoJ) approved an agreement to settle the litigation brought by the State of Texas and the relator Ven-A-Care of the Florida Keys (VAC) as well as claims of the federal government relating to Texas against several Sandoz entities. The settlement amount of $66 million, which had already been fully provisioned during 2011, was paid in the third quarter of 2011 and the case has been dismissed.

In the second quarter of 2011, Sandoz Inc. (Sandoz) reached an agreement in principle to settle with the relator VAC the pending AWP action brought on behalf of the US Government as well as the AWP cases brought by the States of California and Florida for a total amount of $150 million. On November 3, 2011, the written

20. Provisions and other non-current liabilities (Continued)

settlement agreement was executed by all parties and the payment of the settlement amount, which had been fully provisioned for during 2011, was made in the fourth quarter of 2011.

A bench trial against Sandoz in Mississippi chancery court ended on April 15, 2011. On September 2, 2011, the court rendered judgment in favor of Sandoz on the false claims provisions but against Sandoz on the other causes of action and awarded plaintiff a total of $38.2 million ($23.7 million in compensatory damages, $2.7 million in civil penalties and $11.8 million in punitive damages). On October 4, 2011, the court granted Sandoz' post-judgment motion to strike the punitive damage award. An evidentiary hearing will now take place in order to determine whether punitive damages are appropriate and, if so, in what amount punitive damages should be awarded.

Further, Sandoz was a defendant in a trial in Alabama in 2009. The jury rendered a verdict against it and awarded compensatory damages of $28 million and punitive damages of $50 million. Sandoz appealed the verdict to the Supreme Court of Alabama in January 2010. A decision is still outstanding.

A further trial involving Sandoz took place in Kentucky in June 2009. The jury rendered a verdict against Sandoz and imposed $16 million in compensatory damages, and the Court awarded $13.6 million in penalties, which were subsequently reduced to $11.2 million. Sandoz appealed this verdict in March 2010. A decision is still outstanding.

On October 12, 2011, plaintiffs offered to settle the New York City, New York Counties, Erie, Oswego, Schenectady and Iowa cases for $25 million. Sandoz has agreed in principle and the terms of the settlement are currently being negotiated with plaintiffs. The settlement amount was fully provisioned for in the fourth quarter of 2011.

Wage and Hour litigation

Certain pharmaceutical sales representatives filed suit in a state court in California and in the US District Court for the SDNY against NPC alleging that NPC violated wage and hour laws by misclassifying the pharmaceutical sales representatives as "exempt" employees, and by failing to pay overtime compensation. These actions are part of a number of lawsuits pending against pharmaceutical companies that challenge the industry's long-term practice of treating pharmaceutical sales representatives as salaried employees. After the California state court action had been removed to the US District Court for the Central District of California, these collective and class action lawsuits were consolidated in the US District Court for the SDNY for coordinated pre-trial proceedings. A class was certified. In January 2009, after the case had been bifurcated into a liability and a damages phase, the US District Court for the SDNY granted NPC's summary judgment motion holding that NPC's pharmaceutical sales representatives were not entitled to overtime pay under the federal Fair Labor Standards Act and corresponding state wage and hour laws. Plaintiffs appealed that judgment to the US Court of Appeals for the Second Circuit (Second Circuit). Amicus briefs supporting plaintiffs' position were filed by the National Employment Lawyers Association and by the US Department of Labor, and the US Chamber of Commerce filed a brief in support of NPC. On July 6, 2010, the Second Circuit vacated the judgment of the lower court. On October 4, 2010, NPC filed its petition for a writ of certiorari with the US Supreme Court. Amicus briefs in support of NPC's certiorari petition were filed on November 5, 2010, by the US Chamber of Commerce and Pharmaceutical Research and Manufacturers of America (PhRMA). On February 28, 2011, NPC was informed that the US Supreme Court decided not to take this case. The case has been remanded to the US District Court for the SDNY for pre-trial proceedings relating to damages. NPC has agreed with the plaintiffs to end the ongoing proceedings and provide a payment of up to $99 million for eligible class members. This settlement resolves the wage and hour claims brought in 2006, as well as additional wage and hour claims covering a more recent time period. The agreement is subject to certain conditions, including final court approval.

Lucentis patent litigation

Novartis has been sued by and has sued MedImmune in several European countries, including the United Kingdom, Germany, Switzerland, France and the Netherlands. MedImmune alleges that the sale of *Lucentis* in these countries infringes its patents and its rights under its Supplementary Protection Certificates (SPC). In the

20. Provisions and other non-current liabilities (Continued)

UK, a trial took place in May 2011. On July 5, 2011, the UK court issued its decision and held that Novartis did not infringe MedImmune's patents and that MedImmune's patents were invalid. MedImmune has filed an appeal against this decision. In Germany, the infringement trial took place on October 18, 2011. On November 10, 2011, the German court ruled that the import and sale of *Lucentis* infringes MedImmune's patent and rights under its SPC in Germany. This decision is being appealed.

Concluded legal matters

Trileptal/Five products investigation

On September 30, 2010, NPC reached a global settlement in order to bring to a close the USAO for the Eastern District of Pennsylvania's (EDPA) investigations into marketing practices and payments made to healthcare providers in connection with *Trileptal* and in connection with five other products, i.e. *Diovan*, *Exforge*, *Sandostatin*, *Tekturna* and *Zelnorm* (Five Products). As part of the settlement, NPC agreed to plead guilty to one misdemeanor violation of misbranding under the US Food, Drug and Cosmetic Act and to pay a fine of $185 million for *Trileptal*. NPC also resolved civil allegations under the False Claims Act relating to *Trileptal* and the Five Products and agreed to pay $237.5 million. As the fine was formally imposed on NPC at the sentencing hearing in the US District Court for the EDPA on January 28, 2011, and payment of the total overall settlement amount of $422.5 million, which had been fully provisioned for in 2010, has been completed in the first quarter of 2011, these investigations are closed now.

Alcon minority shareholder litigation

Beginning on January 7, 2010, shareholder class action complaints relating to the Alcon transactions announced on January 4, 2010, were filed against Novartis AG and others by minority shareholders of Alcon, Inc. These actions were filed in the US Federal District Courts for the SDNY, Eastern District of New York (EDNY) and the Northern District of Texas (NDTX) and in several Texas state courts. The case in the EDNY was voluntarily dismissed without prejudice by the plaintiffs on March 18, 2010. The case in the NDTX was transferred to the SDNY and formally consolidated with the actions pending there on June 25, 2010. In the SDNY, Novartis AG's motion to dismiss all cases pending there based on the doctrine of forum non conveniens (FNC) was granted on May 24, 2010, and the case was formally dismissed on July 2, 2010. On July 14, 2010, plaintiffs appealed this decision to the Second Circuit. On January 5, 2011, plaintiffs moved to dismiss this appeal. On January 6, 2011, the Second Circuit granted plaintiffs' motion and dismissed this appeal. The actions pending in Texas state courts were consolidated for pre-trial proceedings in a Multi District Litigation on April 16, 2010. Novartis AG's motion to dismiss the consolidated Texas state court actions based on FNC was filed on June 30, 2010. On November 17, 2010, Novartis AG's motion was granted and all Texas state court class actions were dismissed. On December 17, 2010, plaintiffs appealed this decision to the Texas Fifth District Court of Appeals. On March 21, 2011, upon a motion made by plaintiffs, the Texas Fifth District Court of Appeals dismissed the appeal. The dismissals of both the federal and Texas state class actions based on FNC are final after plaintiffs dismissed their appeals. The case, therefore, is concluded.

Zelnorm product liability litigation

NPC together with other Novartis subsidiaries are currently defending against product liability lawsuits brought in US courts in which plaintiffs claim to have experienced cardiovascular injuries after having been treated with *Zelnorm*, a medicine for irritable bowel syndrome and chronic constipation. In the third quarter of 2011, NPC finalized the previously disclosed group settlement agreement with 122 plaintiffs. The finalization of this group settlement alongside other settlements and dismissals in the fourth quarter of 2011 brought the current caseload in the US down from 154 to 2 active cases.

20. Provisions and other non-current liabilities (Continued)

The following table shows the movements in the legal and product liability provisions during 2011, 2010 and 2009:

	2011	2010	2009
	$ m	$ m	$ m
January 1	**1,384**	**1,542**	**1,142**
Impact of business combinations		15	
Cash payments	(772)	(669)	(285)
Releases of provisions	(16)	(53)	(152)
Additions to provisions	584	541	833
Currency translation effects	2	8	4
December 31	**1,182**	**1,384**	**1,542**
Less current liability	(405)	(691)	(871)
Non-current legal and product liability provisions at December 31	**777**	**693**	**671**

Novartis believes that its total provisions for legal and product liability matters are adequate based upon currently available information. However, given the inherent difficulties in estimating liabilities, it cannot be guaranteed that additional costs will not be incurred beyond the amounts provided.

21. Current financial debt

	2011	2010
	$ m	$ m
Interest bearing accounts of associates	1,357	1,321
Other bank and financial debt	2,053	2,195
Commercial paper	2,156	4,969
Current portion of non-current financial debt	778	98
Fair value of derivative financial instruments	30	44
Total current financial debt	**6,374**	**8,627**

The consolidated balance sheet values of current financial debt, other than the current portion of non-current financial debt, approximate the estimated fair value due to the short-term nature of these instruments.

The weighted average interest rate on the bank and other current financial debt (including employee deposits from the compensation of associates employed by Swiss entities) was 1.7% in 2011 and 2.0% in 2010.

22. Provisions and other current liabilities

	2011	2010
	$ m	$ m
Taxes other than income taxes	578	556
Restructuring provisions	349	241
Accrued expenses for goods and services received but not invoiced	678	731
Provisions for royalties	443	327
Provisions for revenue deductions	3,742	3,097
Provisions for compensation and benefits including social security	2,116	2,058
Environmental liabilities	59	60
Deferred income relating to government grants	70	79
Provision for legal matters	405	691
Accrued share-based payments	217	200
Other payables	1,422	1,493
Total provisions and other current liabilities	**10,079**	**9,533**

Provisions are based upon management's best estimate and adjusted for actual experience. Such adjustments to the historic estimates have not been material.

Provision for deductions from revenue

Deductions from revenue are reported as a reduction of revenue. They include rebates, discounts, incentives to retail customers, government agencies, wholesalers, health insurance companies and managed care organizations. These deductions represent estimates of the related obligations, requiring the use of judgment when estimating the effect of these sales deductions. The following table shows the movement of the provision for deductions from revenue:

	2011	2010	2009
	$ m	$ m	$ m
January 1	**3,097**	**2,094**	**1,665**
Impact of business combinations		379	
Additions	11,713	8,752	6,245
Payments/utilizations	(10,749)	(8,172)	(5,582)
Changes in offset against gross trade receivables	(227)	68	(321)
Currency translation effects	(92)	(24)	87
December 31	**3,742**	**3,097**	**2,094**

Restructuring provisions

In 2011, there were additions to provisions of $151 million in the Pharmaceuticals Division in conjunction with the transfer, outsourcing, closure of selected research operations, as well as simplifying and streamlining of certain development and support functions. The charges comprised termination costs of associates of $139 million and other third party costs of $12 million. In total, approximately 1,000 associates were affected by this restructuring plan, though none of them had left the Group as of December 31, 2011. It is anticipated that most or all of these associates will leave the Group within the next twelve months.

22. Provisions and other current liabilities (Continued)

Also in 2011, additions to provisions were made in conjunction with the integration of Alcon. The charges comprised termination costs of associates of $47 million and other third party costs of $15 million. In total, approximately 300 associates were affected by the various restructuring plans. Approximately 100 associates had left the Group as of December 31, 2011. It is anticipated that the remainder of these associates will leave the Group within the next twelve months.

The Group-wide review of its manufacturing sites led to additions in restructuring provisions of $79 million in 2011 related to the restructuring of the manufacturing and chemical operations, mainly in Switzerland, United Kingdom, US, Italy and Puerto Rico. The charges comprised termination costs of associates of $77 million and other third party costs of $2 million. As of December 31, 2011, 200 of the approximately 1,000 associates affected by the restructuring plans have left the Group and the remaining associates will leave the Group when their respective activity is transferred to other sites.

Various Group initiatives to further simplify the organization led to restructuring charges of $54 million, mainly in Italy and Switzerland. The charges comprised termination costs of associates of $36 million and other third party costs of $18 million. In total, approximately 300 associates were affected by the various restructuring plans, of which 100 had left the Group as of December 31, 2011. It is anticipated that the remainder of these associates will leave the Group within the next twelve months.

In 2010, additions to provisions of $89 million were incurred in conjunction with the adjustment of the field force structures to better support the portfolio of the primary care and neuroscience medicines business within the Pharmaceuticals Division in the United States. The charges comprised termination costs of associates of $78 million and other third party costs of $11 million. In total, approximately 1,400 associates were affected by the various restructuring plans, all of whom had left the Group as of December 31, 2011.

Also in 2010, additions to provisions of $44 million were incurred in conjunction with the consolidation of regional units of the primary care medicines business and the integration of a research entity within the Pharmaceuticals Division in the United States. The charges comprised termination costs of associates of $44 million. In total, 383 associates were affected by the various restructuring plans, all of whom had left the Group as of December 31, 2010.

Additions to provisions of $62 million were incurred in 2010 in conjunction with the restructuring of the technical and commercial operations of the Vaccines and Diagnostics Division in England, France, Germany, Italy and the United States. The charges comprised termination costs of associates of $46 million and other third party costs of $16 million. As of December 31, 2011, it is anticipated that all associates will have left the Group in the first quarter 2012.

In 2010 and 2009, additions to provisions of $66 million and $40 million respectively were incurred in conjunction with the restructuring of the commercial operations of the Sandoz Division in Germany. The charges comprised termination costs of associates of $57 million and $37 million, respectively and other third party costs of $9 million and $3 million, respectively. As of December 31, 2011, it is anticipated that all associates will have left the Group in the first quarter 2012.

Also in 2009, additions to provisions of $19 million were incurred in conjunction with the restructuring of the technical operations of the Pharmaceuticals Division in Switzerland. The charges comprised termination costs of associates of $19 million. In total, approximately 105 associates were affected by the various restructuring plans, all of whom have left the Group as of December 31, 2009.

The releases to income in 2011, 2010 and 2009 of $37 million, $18 million and $42 million, respectively, were mainly due to settlement of liabilities at lower amounts than originally anticipated, which were principally due to

22. Provisions and other current liabilities (Continued)

provisions made in relation with prior years restructuring initiatives. Other third party costs are mainly associated with lease and other obligations due to the abandonment of certain facilities.

	Termination costs of associates	Other third party costs	Total
	$ m	$ m	$ m
January 1, 2009	**157**	**47**	**204**
Additions	56	3	59
Cash payments	(114)	(12)	(126)
Releases	(10)	(32)	(42)
Currency translation effects	2		2
December 31, 2009	**91**	**6**	**97**
Additions	225	36	261
Cash payments	(81)	(12)	(93)
Releases	(9)	(9)	(18)
Currency translation effects	(5)	(1)	(6)
December 31, 2010	**221**	**20**	**241**
Additions	299	47	346
Cash payments	(189)	(14)	(203)
Releases	(33)	(4)	(37)
Currency translation effects	2		2
December 31, 2011	**300**	**49**	**349**

23. Details to the consolidated cash flow statements

23.1) Reversal of non-cash items

	2011	2010	2009
	$ m	$ m	$ m
Taxes	1,528	1,733	1,468
Depreciation, amortization and impairments on			
Property, plant & equipment	2,141	1,373	1,250
Intangible assets	3,647	2,046	1,051
Financial assets	192	158	40
Income from associated companies	(528)	(804)	(293)
Gains on disposal of property, plant & equipment, intangible, financial and other non-current assets, net	(518)	(429)	(94)
Equity-settled compensation expense	790	655	642
Change in provisions and other non-current liabilities	1,295	802	1,031
Net financial income	753	628	353
Total reversal of non-cash items	**9,300**	**6,162**	**5,448**

23. Details to the consolidated cash flow statements (Continued)

23.2) Cash flows from changes in working capital and other operating items included in operating cash flow

	2011	2010	2009
	$ m	$ m	$ m
Change in inventories	45	965	237
Change in trade receivables	(732)	26	(934)
Change in trade payables	195	490	512
Change in other net current assets and other operating cash flow items	379	281	873
Total	**(113)**	**1,762**	**688**

23.3) Cash flow arising from acquisitions and divestments of businesses

The following is a summary of the cash flow impact of acquisitions and divestments of businesses:

	2011 Acquisitions	2011 Divestments	2010 Acquisitions	2009 Acquisitions	2009 Divestments
	$ m	$ m	$ m	$ m	$ m
Property, plant & equipment	(66)	16	(1,419)	(64)	
Currently marketed products	(101)		(10,561)	(241)	
Marketing know-how			(5,960)		
Alcon brand name			(2,980)		
Acquired research & development	(7)		(1,418)	(161)	
Technologies	(3)		(5,460)	(427)	
Software and other intangible assets	(1)		(44)		
Financial and other assets including deferred tax assets	(7)		(904)	(58)	
Inventories	(15)	8	(1,112)	(80)	
Trade accounts receivables and other current assets	(52)	5	(1,696)	(122)	
Marketable securities and cash	(186)	1	(3,130)	(55)	
Long-term and short-term financial debts			384	47	
Trade payables and other liabilities including deferred tax liabilities	66	(7)	6,626	467	
Net identifiable assets acquired or divested	**(372)**	**23**	**(27,674)**	**(694)**	
Acquired/divested liquidity	63	(1)	2,176	55	(63)
Non-controlling interest	19		6,338		
Fair value of previously held equity interests			10,320		
Sub-total	**(290)**	**22**	**(8,840)**	**(639)**	**(63)**
Goodwill	(303)		(17,986)	(548)	
Deferred consideration	2		160	325	
Net cash flow	**(591)**	**22**	**(26,666)**	**(862)**	**(63)**

Note 2 provides further information regarding acquisitions and divestments of businesses. All acquisitions were for cash.

24. Acquisitions of businesses

Assets and liabilities arising from acquisitions

Fair value	2011	2010
	$ m	$ m
Property, plant & equipment	66	1,419
Currently marketed products	101	10,561
Marketing know-how		5,960
Alcon brand name		2,980
Acquired research & development	7	1,418
Technologies	3	5,460
Software and other intangible assets	1	44
Financial and other assets including deferred tax assets	7	904
Inventories	15	1,112
Trade accounts receivable and other current assets (net of provisions for doubtful trade receivables of $56 m in 2010)	52	1,696
Marketable securities and cash	186	3,130
Long-term and short-term financial debts		(384)
Trade payables and other liabilities including deferred tax liabilities	(66)	(6,626)
Net identifiable assets acquired	**372**	**27,674**
Acquired liquidity	(63)	(2,176)
Non-controlling interest	(19)	(6,338)
Goodwill	303	17,986
Net assets recognized as a result of business combinations	**593**	**37,146**

Note 2 provides details on all the significant acquisition of businesses. The 2011 and 2010 goodwill arising out of the acquisitions reflects mainly the value of expected synergies, future products and the acquired assembled workforce.

24. Acquisitions of businesses (Continued)

The following table provides a summary of the final acquisition accounting for Alcon, Inc. as at August 25, 2010:

	$ billions	$ billions
Purchase price for acquiring initial 25% of Alcon		10.4
Purchase price for additional 52% of Alcon		28.3
Total purchase price		**38.7**
Equity adjustments since acquiring the initial 25% interest		(0.4)
Revaluation gain on initial 25% interest		0.4
Investment value on date of change of majority ownership		**38.7**
Net assets reported by Alcon (excluding its goodwill but including any US GAAP/ IFRS differences)	5.9	
Estimated fair value adjustments		
—property, plant and equipment	0.1	
—intangible assets	24.5	
—inventory	0.5	
—other liabilities	(0.1)	
—deferred tax liabilities	(3.8)	
Fair value of net assets acquired at December 31, 2010		27.1
Less value attributed to 23% non-controlling interest		(6.3)
Goodwill at December 31, 2010		**17.9**
Increase in goodwill due to reduction in fair value of net assets after final adjustment to acquisition accounting in 2011		0.1
Final goodwill at December 31, 2011		**18.0**

25. Post-employment benefits of associates

Defined Benefit Plans

Apart from the legally required social security schemes, the Group has numerous independent pension and other post-employment benefit plans. In most cases these plans are externally funded in vehicles which are legally separate from the Group. For certain Group companies, however, no independent plan assets exist for the pension and other long-term benefit obligations of associates. In these cases the related unfunded liability is included in the balance sheet.

Defined benefit pension plans cover a significant number of the Group's associates. The defined benefit obligations and related plan assets of all major plans are reappraised annually by independent actuaries. Plan assets are recorded at fair value and their actual return in 2011 was a loss of $129 million (2010: gain of $614 million) for pension plans. The defined benefit obligation of unfunded pension plans was $938 million at December 31, 2011 (2010: $870 million), for unfunded other post-employment plans $870 million (2010: $907 million).

25. Post-employment benefits of associates (Continued)

The following table is a summary of the status of the main funded and unfunded pension and other post-employment benefit plans of associates at December 31, 2011 and 2010:

	Pension plans		Other post-employment benefit plans	
	2011	**2010**	**2011**	**2010**
	$ m	**$ m**	**$ m**	**$ m**
Benefit obligation at January 1	**20,568**	**18,009**	**1,247**	**817**
Service cost	423	350	60	58
Interest cost	732	667	60	45
Actuarial losses	822	668	37	29
Plan amendments	18	(290)	(46)	
Currency translation effects	(92)	1,193	(3)	3
Benefit payments	(1,231)	(1,078)	(47)	(57)
Contributions of associates	187	133	3	3
Effect of acquisitions, divestments or transfers	303	916	(70)	349
Benefit obligation at December 31	**21,730**	**20,568**	**1,241**	**1,247**
Fair value of plan assets at January 1	**19,265**	**17,611**	**228**	**8**
Expected return on plan assets	909	778	15	5
Actuarial (losses)/gains	(1,038)	(164)	(18)	5
Currency translation effects	(2)	1,340		
Novartis Group contributions	367	381	50	70
Contributions of associates	187	133	3	3
Plan amendments	(2)	(21)		
Benefit payments	(1,231)	(1,078)	(47)	(57)
Effect of acquisitions, divestments or transfers	371	285	(9)	194
Fair value of plan assets at December 31	**18,826**	**19,265**	**222**	**228**
Funded status	**(2,904)**	**(1,303)**	**(1,019)**	**(1,019)**
Unrecognized past service cost	2	3	(79)	(38)
Limitation on recognition of fund surplus	(51)	(35)		
Net liability in the balance sheet at December 31	**(2,953)**	**(1,335)**	**(1,098)**	**(1,057)**
Amounts recognized in the consolidated balance sheet				
Prepaid benefit cost	38	982		
Accrued benefit liability	(2,991)	(2,317)	(1,098)	(1,057)

25. Post-employment benefits of associates (Continued)

The net periodic benefit cost recorded in the consolidated income statement consists of the following components:

	Pension plans			Other post-employment benefit plans		
	2011	**2010**	**2009**	**2011**	**2010**	**2009**
	$ m	**$ m**	**$ m**	**$ m**	**$ m**	**$ m**
Components of net periodic benefit cost						
Service cost	423	350	411	60	58	48
Interest cost	732	667	705	60	45	41
Expected return on plan assets	(909)	(778)	(698)	(15)	(5)	
Recognized past service cost	3	2		(5)	(5)	(3)
Curtailment and settlement losses/(gains)	18	(270)	(1)			(19)
Net periodic benefit cost/(income)	**267**	**(29)**	**417**	**100**	**93**	**67**

The following table shows the principal actuarial weighted average assumptions used for calculating defined benefit plans and other post-employment benefits of associates:

	Pension plans			Other post-employment benefit plans		
	2011	**2010**	**2009**	**2011**	**2010**	**2009**
	%	**%**	**%**	**%**	**%**	**%**
Weighted average assumptions used to determine benefit obligations at December 31						
Discount rate	3.2%	3.5%	3.9%	4.3%	5.3%	5.7%
Expected rate of salary increase	3.3%	3.5%	3.6%			
Current average life expectancy for a 65-year-old male/female	20/22 years	19/22 years	19/22 years	20/22 years	19/21 years	18/20 years
Weighted average expected return on assets for the period	4.6%	4.6%	4.6%			

The following table shows a five-year summary reflecting the funding of defined benefit pensions and the impact of historical deviations between expected and actual return on plan assets and experience adjustments on defined benefit pension obligations.

	2011	**2010**	**2009**	**2008**	**2007**
	$ m	**$ m**	**$ m**	**$ m**	**$ m**
Plan assets	18,826	19,265	17,611	16,065	18,355
Defined benefit obligations	(21,730)	(20,568)	(18,009)	(17,643)	(17,105)
(Deficit)/Surplus	**(2,904)**	**(1,303)**	**(398)**	**(1,578)**	**1,250**
Differences between expected and actual return on plan assets	(1,038)	(164)	981	(3,006)	4
Experience adjustments on defined benefit obligation	18	26	12	(72)	(279)

25. Post-employment benefits of associates (Continued)

The following table shows the weighted average asset allocation of funded defined benefit pension plans at December 31, 2011 and 2010:

	Pension plans		
	Long-term target	2011	2010
	%	%	%
Equity securities	15-40	25	31
Debt securities	45-70	49	43
Real estate	0-15	13	12
Cash and other investments	0-15	13	14
Total		**100**	**100**

Strategic pension plan asset allocations are determined with the objective of achieving an investment return which, together with the contributions paid, is sufficient to maintain reasonable control over the various funding risks of the plans. Based upon the market and economic environments, actual asset allocations may periodically be permitted to deviate from policy targets. Expected return assumptions are reviewed periodically and are based on each plan's strategic asset mix. Factors considered in the estimate of the expected return are the risk free interest rate together with risk premiums on the assets of each pension plan.

The expected future cash flows in respect of pension and other post-employment benefit plans at December 31, 2011 were as follows:

	Pension plans	Other post-employment benefit plans
	$ m	$ m
Novartis Group contributions		
2012 (estimated)	455	40
Expected future benefit payments		
2012	1,258	51
2013	1,264	53
2014	1,273	56
2015	1,285	59
2016	1,288	62
2017-2021	6,476	363

The healthcare cost trend rate assumptions for other post-employment benefits are as follows:

Healthcare cost trend rate assumptions used	2011	2010	2009
Healthcare cost trend rate assumed for next year	7.7%	7.9%	8.5%
Rate to which the cost trend rate is assumed to decline	5.0%	5.0%	5.0%
Year that the rate reaches the ultimate trend rate	2020	2019	2020

25. Post-employment benefits of associates (Continued)

A one percentage point change in the assumed healthcare cost trend rates compared to those used for 2011 would have had the following effects:

	1% point increase	1% point decrease
Effects on total of service and interest cost components	16	(13)
Effect on post-employment benefit obligations	196	(159)

The number of Novartis AG shares held by pension and similar benefit funds at December 31, 2011 was 19.8 million shares with a market value of $1.1 billion (2010: 19.8 million shares with a market value of $1.2 billion).

Defined Contribution Plans

In many Group companies associates are covered by defined contribution plans and other long-term benefits. Contributions charged to the 2011 consolidated income statement for the defined contribution plans were $337 million (2010: $269 million, 2009: $195 million).

26. Equity-based participation plans of associates

The expense recorded in the consolidated income statement spreads the cost of each grant equally over the vesting period. Assumptions are made concerning the forfeiture rate which is adjusted during the vesting period so that at the end of the vesting period there is only a charge for vested amounts. The expense related to all Novartis equity plans and Alcon, Inc., equity plans granted to associates prior to the merger in the 2011 consolidated income statement was $1 billion (2010: $841 million, 2009: $777 million) resulting in a total carrying amount for liabilities arising from share-based payment transactions of $217 million (2010: $200 million, 2009: $129 million).

Equity-based participation plans can be separated into the following plans.

Novartis Equity Plan "Select"

The equity plan "Select" is a global equity incentive plan under which all associates, including Executive Committee members, may annually be eligible for a grant, which is capped at 200% of target. The equity-based long-term incentive is subject to the achievement of predetermined business and individual performance objectives at grant. No awards are granted for performance ratings below a certain threshold.

The Equity Plan "Select" allows its participants to choose the form of their equity compensation in restricted shares (or, in some jurisdictions, restricted share units (RSUs), tradable share options, or a combination of both, with a vesting period of three years.

In some jurisdictions, RSUs are granted rather than shares. Each RSU is equivalent in value to one Novartis share and is converted into one share at the vesting date. RSUs do not carry any voting or dividend rights, except for the US where employees receive a dividend equivalent for the 2009 and 2010 grants during the vesting period. Each restricted share is entitled to voting rights and payment of dividends during the vesting period.

Tradable share options expire on their 10th anniversary from grant date. Each tradable share option granted to associates entitles the holder to purchase after vesting (and before the 10th anniversary from grant date) one Novartis share at a stated exercise price that equals the closing market price of the underlying share at the grant date (January 19, 2011).

26. Equity-based participation plans of associates (Continued)

If a participant leaves Novartis, for reasons other than retirement, disability or death, unvested shares, RSUs and share options are forfeited, unless determined otherwise by the Compensation Committee (for example, in connection with a reorganization or divestment).

Novartis Equity Plan "Select" outside North America

Directors, executives and other selected associates of Group companies (collectively, the "Participants") may receive equity awards. The vesting period for the plan is three years except Switzerland which had until 2010 a vesting period of two years that will be increased to three years as of the 2011 performance onwards.

The expense recorded in the 2011 consolidated income statement relating to both shares and share options under this plan amounted to $158 million (2010: $149 million, 2009: $151 million). Participants in this plan were granted a total of 2.2 million units at CHF 54.70 (2010: 2.3 million units at CHF 55.85).

The following table shows the assumptions on which the valuation of share options granted during the period was based:

	Novartis Equity Plan "Select" outside North America	
	2011	**2010**
Valuation date	January 19, 2011	January 19, 2010
Expiration date	January 19, 2021	January 17, 2020
Closing share price on grant date	CHF 54.70	CHF 55.85
Exercise price	CHF 54.70	CHF 55.85
Implied bid volatility	14.90%	16.00%
Expected dividend yield	4.82%	4.74%
Interest rate	2.06%	2.29%
Market value of option at grant date	CHF 5.06	CHF 6.13

The following table shows the activity associated with the share options during the period. The weighted average prices in the table below are translated from Swiss Francs into $ at historical rates for the granted, sold, and forfeited or expired figures. The year-end prices are translated using the corresponding year-end rates.

	2011		2010	
	Options	**Weighted average exercise price**	**Options**	**Weighted average exercise price**
	(millions)	**($)**	**(millions)**	**($)**
Options outstanding at January 1	**34.7**	**52.3**	**32.9**	**51.6**
Granted	5.7	57.0	9.9	54.5
Sold or exercised	(3.9)	46.4	(6.0)	52.4
Forfeited or expired	(1.0)	56.6	(2.1)	51.4
Outstanding at December 31	**35.5**	**53.5**	**34.7**	**52.3**
Exercisable at December 31	**22.2**	**52.4**	**18.2**	**53.6**

26. Equity-based participation plans of associates (Continued)

All share options were granted at an exercise price which was equal to the market price of the Group's shares at the grant date and between 2000 and 2003 was greater than the market price of the Group's shares at the grant date. The weighted average exercise price during the period the options were sold or exercised in 2011 was $46.4. The weighted average share price at the dates of exercise was $49.0.

The following table summarizes information about share options outstanding at December 31, 2011:

	Options outstanding		
Range of exercise prices ($)	**Number outstanding**	**Average remaining contractual life**	**Weighted average exercise price**
	(millions)	**(years)**	**($)**
30-34	0.6	0.2	34.8
35-39			
40-44			
45-49	9.3	5.6	46.9
50-54	11.2	7.0	54.4
55-59	14.4	6.7	57.9
Total	**35.5**	**6.4**	**53.5**

Novartis Equity Plan "Select" for North America

The plan provides for equity awards to North American based Directors, executives and other selected associates. The terms and conditions of the Novartis Equity Plan "Select" for North America are substantially equivalent to the Novartis Equity Plan "Select" outside North America. Share options in this plan have only been tradable since 2004.

The expense recorded in the 2011 consolidated income statement relating to both shares and share options under this plan amounted to $263 million (2010: $237 million, 2009: $237 million). Participants in this plan were granted a total of 4.1 million units at $57.07 (2010: 3.5 million units at $53.70).

The following table shows the assumptions on which the valuation of share options granted during the period was based:

	Novartis Equity Plan "Select" for North America	
	2011	**2010**
Valuation date	January 19, 2011	January 19, 2010
Expiration date	January 19, 2021	January 17, 2020
Closing ADS price on grant date	$57.07	$53.70
Exercise price	$57.07	$53.70
Implied bid volatility	13.80%	14.60%
Expected dividend yield	4.83%	4.96%
Interest rate	3.50%	3.90%
Market value of option at grant date	$5.94	$6.47

26. Equity-based participation plans of associates (Continued)

The following table shows the activity associated with the options during the period:

	2011		2010	
	ADS options	Weighted average exercise price	ADS options	Weighted average exercise price
	(millions)	($)	(millions)	($)
Options outstanding at January 1	**60.0**	**51.1**	**59.3**	**50.2**
Granted	11.8	57.1	15.7	53.7
Sold or exercised	(10.2)	52.2	(10.3)	49.5
Forfeited or expired	(3.1)	51.6	(4.7)	51.7
Outstanding at December 31	**58.5**	**52.1**	**60.0**	**51.1**
Exercisable at December 31	**19.6**	**52.6**	**20.2**	**50.1**

All share options were granted at an exercise price which was equal to the market price of the American Depositary Shares (ADSs) at the grant date. The weighted average exercise price during the period the share options were sold or exercised in 2011 was $52.2. The weighted average share price at the dates of exercise was $59.4.

The following table summarizes information about ADS options outstanding at December 31, 2011:

	ADS options outstanding		
Range of exercise prices ($)	Number outstanding	Average remaining contractual life	Weighted average exercise price
	(millions)	(years)	($)
35-39	2.5	0.9	36.5
40-44	—	—	—
45-49	19.1	6.2	46.6
50-54	15.4	7.4	53.9
55-59	21.5	7.3	57.6
Total	**58.5**	**6.7**	**52.1**

Long-Term Performance Plan

The Long-Term Performance Plan (LTPP) is an equity plan for key executives designed to foster long-term commitment by aligning the incentives of key executives to the performance of Novartis. The LTPP is offered to selected executives, who are in key positions and have a significant impact on the long-term success of Novartis and is capped at 200% of target. The rewards are based on pre-determined rolling three year global performance objectives focused on the Novartis Economic Value Added (NVA) measured annually. The NVA is calculated based on Group operating income adjusted for interest, taxes and cost of capital charge. The performance realization of a plan cycle is obtained right after the end of the third plan year by adding together the annual NVA realizations of all plan years of the plan cycle. The performance ratio for a plan cycle is obtained by dividing the

26. Equity-based participation plans of associates (Continued)

performance realization for the plan cycle with the performance target for the plan cycle, expressing the result as a percentage. The LTPP only allows a payout when the actual NVA exceeds predetermined target thresholds.

At the beginning of the performance period, plan participants are allocated RSUs, which will be converted into Novartis shares after the performance period.

At the end of the three-year performance period, the Compensation Committee adjusts the number of RSUs earned based on actual performance. RSUs are converted into unrestricted Novartis shares without an additional vesting period. In the United States, awards may also be delivered in cash under the US deferred compensation plan.

The expense recorded in the 2011 income statement related to this plan amounted to $40 million (2010: $32 million, 2009: $35 million). On January 19, 2011 a total of 0.4 million performance share units (2010: 0.4 million performance share units) were granted to 127 key executives participating in this plan.

Special Share Awards

Selected associates may exceptionally receive special awards of restricted shares or RSUs. These special Share Awards provide an opportunity to reward outstanding achievements or exceptional performance and aim at retaining key contributors. They are based on a formal internal selection process, in which the individual performance of each candidate is thoroughly assessed at several management levels. In addition, Special Share Awards may also be granted to attract special expertise and new talents into the organization. These grants are consistent with the Novartis' philosophy to attract, retain and motivate best in class talents around the world.

Restricted special awards generally have a five-year vesting period. If an associate leaves Novartis for reasons other than retirement, disability or death, unvested shares or RSUs are generally forfeited. Worldwide 597 associates at different levels in the organization were awarded restricted shares in 2011. The expense recorded for such special share awards in the 2011 income statement amounted to $27 million (2010: $33 million, 2009: $18 million). During 2011, a total of 1.5 million restricted shares or RSUs (2010: 1.1 million restricted shares or RSUs) were granted to executives and selected associates.

Leveraged Share Savings Plans

A number of associates in certain countries and certain key executives worldwide are encouraged to invest their Annual Incentive in a share savings plan, which is capped at 200% of target. Under the share savings plan, they will receive their annual incentive awards fully or partially in Novartis shares in lieu of cash. As a reward for their participation in the share savings plan, Novartis matches their investments in shares after a holding period of 3 or 5 years. As a rule, no shares are matched under these plans if an associate leaves Novartis prior to expiration of the holding period for reasons other than retirement, disability or death.

Novartis currently has three share savings plans:

– In Switzerland, the Employee Share Ownership Plan (ESOP) was available to 11,997 associates. Participants within this plan may choose to receive the incentive (i) 100% in shares, (ii) 50% in shares and 50% in cash or (iii) 100% in cash. After expiration of a three-year holding period of Novartis shares invested under ESOP, each participant will receive one free matching share for every two Novartis shares granted. A total of 5,454 associates chose to receive shares under the ESOP for their performance in 2010.

– In the United Kingdom, 2,790 associates can invest up to 5% of their monthly salary in shares (up to a maximum of GBP 125) and also may be invited to invest all or part of their net annual incentive in shares. Two invested shares are matched with one share with a holding period of three years. During 2011, 1,870 associates elected to participate in this plan.

– Worldwide 26 key executives were invited to participate in a Leveraged Share Savings Plan based on their performance in 2010. Instead of cash, their annual incentive was awarded in shares and subject to a holding period of five years. At the end of the holding period, Novartis will match the invested shares at a ratio of 1:1 (i.e. one share awarded for each invested share).

26. Equity-based participation plans of associates (Continued)

Associates may only participate in one of these plans in any given year.

The expense recorded in the 2011 income statement related to these plans amounted to $429 million (2010: $366 million, 2009: $335 million). During 2011, a total of 5.4 million shares (2010: 5.8 million shares) were granted to participants of these plans.

Summary of non-vested share movements

The table below provides a summary of non-vested share movements (restricted shares, RSUs and ADSs) for all plans:

	2011		2010	
	Number of shares in millions	Fair value in $ m	Number of shares in millions	Fair value in $ m
Non-vested shares at January 1	**17.7**	**1,015.7**	**15.7**	**938.7**
Granted	14.3	823.9	13.9	766.1
Vested	(10.0)	(590.1)	(10.3)	(594.6)
Forfeited	(1.2)	(69.4)	(1.6)	(94.5)
Non-vested shares at December 31	**20.8**	**1,180.1**	**17.7**	**1,015.7**

Alcon, Inc., Equity Plans granted to associates prior to the merger

The expense recorded in the 2011 consolidated income statement relating to equity-based compensation awards granted to Alcon, Inc., associates prior to the merger on April 8, 2011 amounted to $98 million (August 25 to December 31, 2010: $22 million). Participants in those plans were granted 1.9 million restricted share units (RSUs) during 2011 (from August 25 to December 31, 2010: 0.7 million converted Novartis RSUs).

Change of control provisions

Upon the change of majority ownership in Alcon, Inc., from Nestlé to Novartis, Alcon equity-based compensation awards granted to associates prior to January 1, 2009 vested immediately. However, the vesting of similar awards granted after January 1, 2009 accelerates only if the respective participant's employment with Novartis subsidiaries is terminated without cause, or by the participant under certain circumstances, within six months preceding or during the two years following a change of control. At the completion of the merger of Alcon, Inc., into Novartis, all awards outstanding under the Alcon equity plans were converted to awards based upon Novartis shares as defined in the Merger Agreement.

Share options and share settled appreciation rights

Share options entitle the recipient to purchase Novartis shares at the closing market price of the former Alcon, Inc., share on the day of grant divided by the conversion factor of 3.0727.

Share-settled appreciation rights (SSAR) entitle the participant to receive, in the form of Novartis shares, the difference between the values of the former Alcon, Inc., share at the date of grant, converted into Novartis shares using the conversion factor of 3.0727, and the Novartis share price at the date of exercise. Share options and SSARs are exercisable upon satisfaction of the conditions set forth in the respective award agreement, generally three years following the date of grant.

The compensation expense for equity awards was calculated on a straight-line basis over the three-year vesting period of the applicable equity awards, with acceleration of the expense for individuals meeting the requirements for retirement and under the change of control provisions, as described above. There were no grants of share options or SSARs under these plans in 2011 and 2010.

26. Equity-based participation plans of associates (Continued)

The following table shows the activity associated with the converted Novartis share options and SSARs during 2011 and from August 25 to December 31, 2010:

	Number of options	Weighted average exercise price	Number of SSARs	Weighted average exercise price
	(millions)	($)	(millions)	($)
Outstanding at August 25, 2010	**13.6**	**22.3**	**14.7**	**37.5**
Sold or exercised	(3.9)	22.9	(3.0)	42.8
Outstanding at December 31, 2010	**9.7**	**22.0**	**11.7**	**36.3**
Exercisable at December 31, 2010	**9.1**	**21.6**	**6.2**	**43.3**
Outstanding at January 1, 2011	**9.7**	**22.0**	**11.7**	**36.3**
Sold or exercised	(5.2)	20.7	(3.3)	41.8
Outstanding at December 31, 2011	**4.5**	**23.5**	**8.4**	**34.2**
Exercisable at December 31, 2011	**4.0**	**22.9**	**3.3**	**43.4**

Restricted share units

Restricted Share Units (RSUs) entitle the recipient to receive a specified number of Novartis shares on the date of vesting. RSUs will vest and become transferable upon satisfaction of the conditions set forth in the restricted share unit award agreements, generally three years following the grant date. Holders of RSUs have no voting rights and receive dividend equivalents prior to vesting.

The fair value of each RSU was estimated at the closing market price on the day of grant. At the date of the merger on April 8, 2011, the awards were converted into Novartis RSUs at a conversion factor of 3.0727. The compensation expense is recognized over the required service period, generally three years following the day of grant.

Until the merger on April 8, 2011, participants were granted 1.9 million converted Novartis RSUs (from August 25 to December 31, 2010: 0.7 million converted Novartis RSUs). The fair value of those instruments amounted to $108 million. At December 31, 2011, there were 5.0 million Novartis RSUs outstanding with a fair value of $261 million.

27. Related parties

GENENTECH/ROCHE

Novartis has two agreements with Genentech, Inc., USA, a subsidiary of Roche Holdings AG which is indirectly included in the consolidated financial statements using equity accounting since Novartis holds 33.3% of the outstanding voting shares of Roche.

LUCENTIS

Novartis has licensed the exclusive rights to develop and market *Lucentis* outside the US for indications related to diseases of the eye. As part of this agreement, Novartis paid Genentech/Roche an initial milestone and shared the cost for the subsequent development by making additional milestone payments upon the achievement of certain clinical development points and product approval. Novartis also pays royalties on the net sales of *Lucentis* products outside the US. *Lucentis* sales of $2.0 billion (2010: $1.5 billion, 2009: $1.2 billion) have been recognized by Novartis.

27. Related parties (Continued)

XOLAIR

In February 2004, Novartis Pharma AG, Genentech, Inc., and Tanox, Inc. finalized a three-party collaboration to govern the development and commercialization of certain anti-IgE antibodies including *Xolair* and TNX-901. Under this agreement, all three parties co-developed *Xolair*. On August 2, 2007, Genentech, Inc. completed the acquisition of Tanox, Inc. and has taken over its rights and obligations. Novartis and Genentech/Roche are co-promoting *Xolair* in the US where Genentech/Roche records all sales. Novartis records sales outside of the US.

Novartis markets *Xolair* and records all sales and related costs in Europe as well as co-promotion costs in the US. Genentech/Roche and Novartis share the resulting profits from sales in the US, Europe and other countries, according to agreed profit-sharing percentages. Novartis recognized total sales of *Xolair* of $478 million (2010: $369 million, 2009: $338 million) including sales to Genentech/Roche for the US market.

The net expense for royalties, cost sharing and profit sharing arising out of the *Lucentis* and *Xolair* agreements with Genentech/Roche totaled $396 million (2010: $300 million, 2009: $200 million).

Furthermore, Novartis has several patent license, supply and distribution agreements with Roche and several Novartis entities hold Roche bonds totaling $20 million (2010: $17 million, 2009: $1 billion).

IDENIX

Novartis Pharma AG entered into a collaboration agreement with Idenix in May 2003 relating to the worldwide development and commercialization of drug candidates and purchased approximately 54% of the common stock of Idenix. As Novartis had the ability to exercise control, Idenix was fully consolidated. In August 2009, Novartis opted not to purchase shares that were issued pursuant to an underwritten offering and waived and amended certain rights under the development and commercialization agreement. As a result of this, the Novartis shareholding was diluted from the pre-offering level of 53% to 47% and since September 1, 2009 Idenix has been accounted for according to the equity method. Novartis has a license agreement with Idenix for *Tyzeka*/*Sebivo* and may pay additional license fees and development expenses for drug candidates that Novartis may elect to license from Idenix. The sales of *Tyzeka*/*Sebivo* totaled $114 million in 2011 (2010: $95 million, 2009: $84 million).

Executive Officer and non-executive Director Compensation

During 2011, there were 12 Executive Committee members and Permanent Attendees (“Executive Officers”), including those who stepped down (14 members in 2010 also including those who stepped down, 14 members in 2009).

The total compensation for members of the Executive Committee and the 11 Non-Executive Directors (12 in 2010, 11 in 2009) using IFRS 2 rules for accounting for equity-based compensation was as follows:

	Executive Officers			Non-Executive Directors			Total		
	2011	2010	2009	2011	2010	2009	2011	2010	2009
	$ m	$ m	$ m	$ m	$ m	$ m	$ m	$ m	$ m
Short-term benefits	13.7	14.8	16.1	23.9	17.7	6.0	37.6	32.5	22.1
Post-employment benefits	1.9	1.3	1.8	0.2	0.2		2.1	1.5	1.8
Termination benefits	5.1	7.9					5.1	7.9	
Equity-based compensation	53.3	63.6	98.6	16.0			69.3	63.6	98.6
Total	**74.0**	**87.6**	**116.5**	**40.1**	**17.9**	**6.0**	**114.1**	**105.5**	**122.5**

The annual incentive award, which is fully included in equity-based compensation even if eventually paid out in cash, is granted in January in the year following the reporting period.

27. Related parties (Continued)

The above table excludes amounts for any grants made to any of the current Executive Officers and non-Executive Directors by Alcon, Inc., prior to its merger into Novartis AG on April 8, 2011, since these were granted by this company's independent Compensation Committee.

A non-executive director has options to acquire minor Group assets at fair market values.

During 2009, an Executive Officer acquired real estate for CHF 3.7 million from a consolidated entity. The transaction price was based on independent external valuation reports.

28. Commitments and contingencies

Leasing commitments

The Group has entered into various fixed term operational leases, mainly for cars and real estate. As of December 31, 2011 the Group's commitments with respect to these leases were as follows:

	2011
	$ m
2012	355
2013	270
2014	175
2015	124
2016	109
Thereafter	2,003
Total	**3,036**
Expense of current year	**412**

Research & Development Commitments

The Group has entered into long-term research agreements with various institutions which provide for potential milestone payments and other payments by Novartis that may be capitalized. As of December 31, 2011 the Group's commitments to make payments under those agreements were as follows:

	Unconditional commitments 2011	Potential milestone payments 2011	Total 2011
	$ m	$ m	$ m
2012	105	282	387
2013	73	288	361
2014	53	377	430
2015	42	388	430
2016	39	172	211
Thereafter	31	1,146	1,177
Total	**343**	**2,653**	**2,996**

28. Commitments and contingencies (Continued)

Other Commitments

The Novartis Group entered into various purchase commitments for services and materials as well as for equipment in the ordinary course of business. These commitments are generally entered into at current market prices and reflect normal business operations.

Contingencies

Group companies have to observe the laws, government orders and regulations of the country in which they operate.

The Group's potential environmental liability is assessed based on a risk assessment and investigation of the various sites identified by the Group as at risk for environmental exposure. The Group's future remediation expenses are affected by a number of uncertainties. These uncertainties include, but are not limited to, the method and extent of remediation, the percentage of material attributable to the Group at the remediation sites relative to that attributable to other parties, and the financial capabilities of the other potentially responsible parties.

A number of Group companies are currently involved in administrative proceedings, litigations and investigations arising out of the normal conduct of their business. These litigations include certain legal and product liability claims. Whilst provisions have been made for probable losses that management deems to be reasonable or appropriate there are uncertainties connected with these estimates. Note 20 contains a more extensive discussion of these matters.

In the opinion of management, however, the outcome of these actions will not materially affect the Group's financial position but could be material to the results of operations or cash flow in a given period.

29. Principal currency translation rates

			2011	2010	2009
			$	$	$
Year-end exchange rates used for consolidated balance sheets:	1	CHF	1.064	1.063	0.965
	1	EUR	1.294	1.324	1.436
	1	GBP	1.543	1.552	1.591
	100	JPY	1.289	1.227	1.086

			2011	2010	2009
			$	$	$
Average of monthly exchange rates during the year used for consolidated income, other comprehensive income and cash flow statements:	1	CHF	1.130	0.961	0.923
	1	EUR	1.392	1.327	1.393
	1	GBP	1.603	1.546	1.564
	100	JPY	1.255	1.141	1.070

30. Events subsequent to the December 31, 2011 Balance Sheet Date

Dividend proposal for 2011 and approval of the Group's 2011 consolidated financial statements

On January 24, 2012, the Novartis AG Board of Directors proposed the acceptance of the 2011 consolidated financial statements of the Novartis Group for the approval by the Annual General Meeting on February 23, 2012. Furthermore, on January 19, 2012, the Board proposed a dividend of CHF 2.25 per share to be approved at the Annual General Meeting on February 23, 2012. If approved, total dividend payments would amount to approximately $5.8 billion.

30. Events subsequent to the December 31, 2011 Balance Sheet Date (Continued)

US restructuring

On January 13, 2012, Novartis announced a plan to restructure Novartis Pharmaceuticals (NPC) in the US. This will result in the reduction of approximately 1,960 positions and result in an exceptional charge of approximately $160 million to be recorded in the first quarter of 2012.

31. Principal Group subsidiaries and associated companies

As at December 31, 2011	Share/paid-in capital[1]		Equity interest %	Activities			
Argentina							
Novartis Argentina S.A., Buenos Aires	ARS	231.3 m	100		◆		▲
Alcon Laboratorios Argentina S.A., Buenos Aires	ARS	83.9 m	100		◆		
Sandoz S.A., Buenos Aires	ARS	131.8 m	100		◆	▼	
Australia							
Novartis Australia Pty Ltd., North Ryde, NSW	AUD	11.0 m	100	■			
Novartis Pharmaceuticals Australia Pty Ltd., North Ryde, NSW	AUD	3.8 m	100		◆		▲
Alcon Laboratories (Australia) Pty Ltd., Frenchs Forest	AUD	2.6 m	100		◆		
Sandoz Pty Ltd., North Ryde, NSW	AUD	11.6 m	100		◆		
Novartis Consumer Health Australasia Pty Ltd., Melbourne, Victoria	AUD	7.6 m	100		◆	▼	
Novartis Animal Health Australasia Pty Ltd., North Ryde, NSW	AUD	3.0 m	100		◆		▲
Austria							
Novartis Austria GmbH, Vienna	EUR	1.0 m	100	■			
Novartis Pharma GmbH, Vienna	EUR	1.1 m	100		◆		
Sandoz GmbH, Kundl	EUR	32.7 m	100	■	◆	▼	▲
EBEWE Pharma Ges.m.b.H Nfg., Unterach am Attersee	EUR	1.0 m	100		◆	▼	▲
Novartis Animal Health GmbH, Kundl	EUR	37 000	100		◆		
Bangladesh							
Novartis (Bangladesh) Limited, Dhaka	BDT	162.5 m	60		◆	▼	
Belgium							
N.V. Novartis Pharma S.A., Vilvoorde	EUR	7.1 m	100		◆		
S.A. Alcon-Couvreur N.V., Puurs	EUR	362.1 m	100		◆	▼	
N.V. CIBA Vision Benelux S.A., Mechelen	EUR	62 000	100		◆		
N.V. Sandoz S.A., Vilvoorde	EUR	19.2 m	100		◆		
N.V. Novartis Consumer Health S.A., Vilvoorde	EUR	4.3 m	100		◆		
Bermuda							
Triangle International Reinsurance Ltd., Hamilton	CHF	1.0 m	100	■			
Novartis Securities Investment Ltd., Hamilton	CHF	30 000	100	■			
Novartis International Pharmaceutical Ltd., Hamilton	CHF	20 000	100	■	◆	▼	▲
Trinity River International Investments (Bermuda), Ltd. Hamilton	$	12 000	100	■			
Trinity River Insurance Co.Ltd., Hamilton	$	370 000	100	■			
Brazil							
Novartis Biociências S.A., São Paulo	BRL	255.8 m	100		◆	▼	
Alcon Laboratorios do Brasil Ltda., São Paulo	BRL	7.7 m	100		◆	▼	
Sandoz do Brasil Indústria Farmacêutica Ltda., Cambé	BRL	190.0 m	100		◆	▼	▲
Novartis Saúde Animal Ltda., São Paulo	BRL	50.7 m	100		◆	▼	
Canada							
Novartis Pharmaceuticals Canada Inc., Dorval/ Montreal	CAD	0[2]	100		◆		▲
Alcon Canada Inc., Mississauga, Ontario	CAD	0[2]	100		◆		
CIBA Vision Canada Inc., Mississauga, Ontario	CAD	1	100		◆	▼	
Sandoz Canada Inc., Boucherville, Quebec	CAD	76.8 m	100		◆	▼	▲
Novartis Consumer Health Canada Inc., Mississauga, Ontario	CAD	2	100		◆		
Novartis Animal Health Canada Inc., Charlottetown, Prince Edward Island	CAD	2	100		◆		▲
Chile							
Novartis Chile S.A., Santiago de Chile	CLP	2.0 bn	100		◆		
Alcon Laboratorios Chile Limitada, Santiago de Chile	CLP	2.0 bn	100		◆		

31. Principal Group subsidiaries and associated companies (Continued)

As at December 31, 2011	Share/paid-in capital[1]		Equity interest %	Activities		
China						
Beijing Novartis Pharma Co., Ltd., Beijing	$	30.0 m	100	◆	▼	
Novartis Pharmaceuticals (HK) Limited, Hong Kong	HKD	200	100	◆		
China Novartis Institutes for BioMedical Research Co. Ltd., Shanghai	$	108.0 m	100			▲
Suzhou Novartis Pharma Technology Co. Ltd., Changshu	$	97.4 m	100		▼	
Shanghai Novartis Trading Ltd., Shanghai	$	2.45 m	100	◆		
Alcon (China) Ophthalmic Product Co., Ltd., Beijing	$	2.2 m	100	◆		
Sandoz (China) Pharmaceutical Co., Ltd., Zhongshan	$	22.0 m	100	◆	▼	
Novartis Vaccines and Diagnostics (HK) Ltd., Hong Kong	HKD	80.0 m	100	◆	▼	
Zhejiang Tianyuan Bio-Pharmaceutical Co., Ltd	CNY	46.8 m	85	◆	▼	
Shanghai Novartis Animal Health Co., Ltd., Shanghai	CHF	21.5 m	87	◆	▼	
Colombia						
Novartis de Colombia S.A., Santafé de Bogotá	COP	7.9 bn	100	◆	▼	
Laboratorios Alcon de Colombia S.A., Bogotá	COP	20.9 m	100	◆		
Croatia						
Sandoz d.o.o., Zagreb	HRK	25.6 m	100	◆		
Czech Republic						
Novartis s.r.o., Prague	CZK	51.5 m	100	◆		
Sandoz s.r.o., Prague	CZK	44.7 m	100	◆		
Denmark						
Novartis Healthcare A/S, Copenhagen	DKK	14.0 m	100	◆		
Sandoz A/S, Copenhagen	DKK	8.0 m	100	◆		
Ecuador						
Novartis Ecuador S.A., Quito	$	4.0 m	100	◆		
Egypt						
Novartis Pharma S.A.E., Cairo	EGP	33.8 m	99	◆	▼	
Finland						
Novartis Finland Oy, Espoo	EUR	459 000	100	◆		
France						
Novartis Groupe France S.A., Rueil-Malmaison	EUR	103.0 m	100	■		
Novartis Pharma S.A.S., Rueil-Malmaison	EUR	43.4 m	100	◆	▼	▲
Laboratoires Alcon S.A., Rueil-Malmaison	EUR	12.6 m	100	◆	▼	
CIBA Vision S.A.S., Blagnac	EUR	1.8 m	100	◆		
Sandoz S.A.S., Levallois-Perret	EUR	5.0 m	100	◆		
Novartis Vaccines and Diagnostics S.A.S., Suresnes	EUR	1.5 m	100	◆		
Novartis Santé Familiale S.A.S., Rueil-Malmaison	EUR	21.9 m	100	◆	▼	
Novartis Santé Animale S.A.S., Rueil-Malmaison	EUR	900 000	100	◆	▼	
Germany						
Novartis Deutschland GmbH, Wehr	EUR	155.5 m	100	■		
Novartis Pharma GmbH, Nuremberg	EUR	25.6 m	100	◆		▲
Novartis Pharma Produktions GmbH, Wehr	EUR	2.0 m	100		▼	
Alcon Pharma GmbH, Freiburg	EUR	511 292	100	◆		
WaveLight GmbH, Erlangen	EUR	6.6 m	100	◆		
CIBA Vision GmbH, Grosswallstadt	EUR	15.4 m	100	◆	▼	▲
CIBA Vision Vertriebs GmbH, Grossostheim	EUR	2.6 m	100	◆		
Sandoz International GmbH, Holzkirchen	EUR	100 000	100	■		
Sandoz Pharmaceuticals GmbH, Holzkirchen	EUR	5.1 m	100	◆		
Sandoz Industrial Products GmbH, Frankfurt a. M.	EUR	2.6 m	100	◆	▼	
1 A Pharma GmbH, Oberhaching	EUR	26 000	100	◆		
Salutas Pharma GmbH, Barleben	EUR	42.1 m	100	◆	▼	
Hexal AG, Holzkirchen	EUR	93.7 m	100	■	◆	▼ ▲
Novartis Vaccines and Diagnostics GmbH, Marburg	EUR	5.0 m	100	◆	▼	▲
Novartis Vaccines Vertriebs GmbH, Marburg	EUR	25 564	100	◆		
Novartis Consumer Health GmbH, Munich	EUR	14.6 m	100	◆	▼	▲
Novartis Tiergesundheit GmbH, Munich	EUR	256 000	100	◆		
LTS Lohmann Therapie-Systeme AG, Andernach	EUR	31.2 m	43	■		

31. Principal Group subsidiaries and associated companies (Continued)

As at December 31, 2011	Share/paid-in capital[1]		Equity interest %	Activities			
Gibraltar							
Novista Insurance Limited, Gibraltar	CHF	130.0 m	100	■			
Great Britain							
Novartis UK Limited, Frimley/Camberley	GBP	25.5 m	100	■			
Novartis Pharmaceuticals UK Limited, Frimley/Camberley	GBP	5.4 m	100		◆	▼	▲
Novartis Grimsby Limited, Frimley/Camberley	GBP	230 m	100			▼	
Alcon Laboratories (UK) Limited, Hemel Hempstead	GBP	9.1 m	100		◆		
CIBA Vision (UK) Limited, Southampton	GBP	550 000	100		◆		
Sandoz Limited, Bordon	GBP	2.0 m	100		◆		
Novartis Vaccines and Diagnostics Limited, Frimley/Camberley	GBP	100	100		◆	▼	
Novartis Consumer Health UK Limited, Horsham	GBP	25 000	100		◆	▼	
Novartis Animal Health UK Limited, Frimley/Camberley	GBP	100 000	100		◆		▲
Greece							
Novartis (Hellas) S.A.C.I., Metamorphosis/Athens	EUR	14.6 m	100		◆		
Alcon Laboratories Hellas Commercial & Industrial S.A., Maroussi/ Athens	EUR	4.7 m	100		◆		
Hungary							
Novartis Hungary Healthcare Limited Liability Company, Budapest	HUF	545.6 m	100		◆		
Sandoz Hungary Limited Liability Company, Budapest	HUF	883.0 m	100		◆		
India							
Novartis India Limited, Mumbai	INR	159.8 m	76		◆	▼	
Novartis Healthcare Private Limited, Mumbai	INR	60.0 m	100				▲
Alcon Laboratories (India) Private Limited, Bangalore	INR	1.1 bn	100		◆		
Sandoz Private Limited, Mumbai	INR	32.0 m	100		◆	▼	
Indonesia							
PT Novartis Indonesia, Jakarta	IDR	7.7 bn	100		◆	▼	
PT CIBA Vision Batam, Batam	IDR	11.9 bn	100			▼	
Ireland							
Novartis Ireland Limited, Dublin	EUR	25 000	100		◆		
Novartis Ringaskiddy Limited, Ringaskiddy, County Cork	EUR	2.0 m	100			▼	
Alcon Laboratories Ireland Limited, Cork	EUR	541 251	100			▼	
Italy							
Novartis Farma S.p.A., Origgio	EUR	18.2 m	100	■	◆	▼	▲
Alcon Italia S.p.A., Milan	EUR	1.3 m	100		◆		
CIBA Vision S.r.l., Marcon	EUR	2.4 m	100		◆		
Sandoz S.p.A., Origgio	EUR	679 900	100		◆		
Sandoz Industrial Products S.p.A., Rovereto	EUR	2.6 m	100			▼	
Novartis Vaccines and Diagnostics S.r.l., Siena	EUR	41.5 m	100		◆	▼	▲
Novartis Consumer Health S.p.A., Origgio	EUR	2.9 m	100		◆		
Japan							
Novartis Holding Japan K.K., Tokyo	JPY	10.0 m	100	■			
Novartis Pharma K.K., Tokyo	JPY	6.0 bn	100		◆		▲
Alcon Japan Ltd., Tokyo	JPY	500.0 m	100		◆		
CIBA Vision K.K., Tokyo	JPY	100.0 m	100		◆		
Sandoz K.K., Tokyo	JPY	100.0 m	100		◆	▼	▲
Novartis Animal Health K.K., Tokyo	JPY	50.0 m	100		◆		▲
Luxembourg							
Novartis Investments S.à r.l., Luxembourg-Ville	$	2.6 bn	100	■			
Novartis Finance S.A., Luxembourg-Ville	$	100 000	100	■			
Malaysia							
Novartis Corporation (Malaysia) Sdn. Bhd., Kuala Lumpur	MYR	3.3 m	100		◆		
CIBA Vision Johor Sdn. Bhd., Gelang Patah	MYR	5.0 m	100			▼	
Mexico							
Novartis Farmacéutica, S.A. de C.V., Mexico City	MXN	205.0 m	100		◆	▼	
Alcon Laboratorios, S.A. de C.V., Mexico City	MXN	5.9 m	100		◆	▼	
Sandoz S.A. de C.V., Mexico City	MXN	468.2 m	100		◆	▼	

31. Principal Group subsidiaries and associated companies (Continued)

As at December 31, 2011	Share/paid-in capital[1]		Equity interest %	Activities		
Netherlands						
Novartis Netherlands B.V., Arnhem	EUR	1.4 m	100	■		
Novartis Pharma B.V., Arnhem	EUR	4.5 m	100		◆	
Alcon Nederland B.V., Gorinchem	EUR	18 151	100		◆	
Sandoz B.V., Almere	EUR	907 570	100		◆	▼
Novartis Consumer Health B.V., Breda	EUR	23 830	100		◆	▼
New Zealand						
Novartis New Zealand Ltd., Auckland	NZD	820 000	100		◆	
Norway						
Novartis Norge AS, Oslo	NOK	1.5 m	100		◆	
Pakistan						
Novartis Pharma (Pakistan) Limited, Karachi	PKR	24.8 m	99		◆	▼
Panama						
Novartis Pharma (Logistics), Inc., Ciudad de Panama	$	10 000	100		◆	
Peru						
Novartis Biosciences Peru S.A., Lima	PEN	6.1 m	100		◆	
Philippines						
Novartis Healthcare Philippines, Inc., Makati/Manila	PHP	298.8 m	100		◆	
Poland						
Novartis Poland Sp. z o.o., Warszawa	PLN	44.2 m	100		◆	
Alcon Polska Sp. z o.o., Warszawa	PLN	750 000	100		◆	
Sandoz Polska Sp. z o.o., Warszawa	PLN	25.6 m	100		◆	
Lek S.A., Strykow	PLN	11.4 m	100		◆	▼
Portugal						
Novartis Portugal SGPS Lda., Sintra	EUR	500 000	100	■		
Novartis Farma—Produtos Farmacêuticos S.A., Sintra	EUR	2.4 m	100		◆	
Alcon Portugal-Produtos e Equipamentos Oftalmologicos Lda., Paco d'Arcos	EUR	4.1 m	100		◆	
Sandoz Farmaceutica Lda., Sintra	EUR	5.0 m	100		◆	
Novartis Consumer Health—Produtos Farmacêuticos e Nutrição Lda., Lisbon	EUR	100 000	100		◆	
Puerto Rico						
Ex-Lax, Inc., Humacao	$	10 000	100			▼
Alcon (Puerto Rico) Inc., Catano	$	100	100		◆	
CIBA Vision Puerto Rico, Inc., Cidra	$	1 000	100			▼
Romania						
Sandoz S.R.L., Targu-Mures	RON	105.2 m	100		◆	▼
Russian Federation						
Novartis Pharma LLC, Moscow	RUR	20.0 m	100		◆	
Alcon Farmacevtika LLC, Moscow	RUR	44.1 m	100		◆	
ZAO Sandoz, Moscow	RUR	57.4 m	100		◆	
Novartis Neva LLC, St. Petersburg	RUR	250.0 m	100			▼
Novartis Consumer Health LLC, Moscow	RUR	80.0 m	100		◆	
Saudi Arabia						
Saudi Pharmaceutical Distribution Co. Ltd., Riyadh	SAR	26.8 m	75		◆	
Singapore						
Novartis (Singapore) Pte Ltd., Singapore	SGD	100 000	100		◆	
Novartis Singapore Pharmaceutical Manufacturing Pte Ltd., Singapore	SGD	45.0 m	100			▼
Novartis Asia Pacific Pharmaceuticals Pte Ltd., Singapore	SGD	1.0 m	100		◆	
Novartis Institute for Tropical Diseases Pte Ltd., Singapore	SGD	2 004	100			▲
Alcon Singapore Manufacturing Pte Ltd., Singapore	SGD	101 000	100			▼
CIBA Vision (Singapore) Pte Ltd., Singapore	SGD	400 000	100		◆	
CIBA Vision Asian Manufacturing and Logistics Pte Ltd., Singapore	SGD	1.0 m	100			▼

31. Principal Group subsidiaries and associated companies (Continued)

As at December 31, 2011	Share/paid-in capital[1]		Equity interest %	Activities			
Slovakia							
Novartis Slovakia s.r.o., Bratislava	EUR	2.0 m	100		◆		
Slovenia							
Lek Pharmaceuticals d.d., Ljubljana	EUR	48.4 m	100	■	◆	▼	▲
Sandoz Pharmaceuticals d.d., Ljubljana	EUR	1.5 m	100		◆		
South Africa							
Novartis South Africa (Pty) Ltd., Kempton Park	ZAR	86.3 m	100		◆		
Alcon Laboratories (South Africa) (Pty) Ltd., Bryanston, Gauteng	ZAR	201 820	100		◆		
Sandoz South Africa (Pty) Ltd., Kempton Park	ZAR	3.0 m	100		◆	▼	
South Korea							
Novartis Korea Ltd., Seoul	KRW	24.5 bn	99		◆		
Alcon Korea Ltd., Seoul	KRW	33.8 bn	100		◆		
Spain							
Novartis Farmacéutica, S.A., Barcelona	EUR	63.0 m	100	■	◆	▼	
Alcon Cusi S.A., El Masnou	EUR	11.6 m	100		◆	▼	
CIBA Vision, S.A., Barcelona	EUR	1.4 m	100		◆		
Sandoz Farmacéutica, S.A., Madrid	EUR	270 450	100		◆		
Sandoz Industrial Products, S.A., Les Franqueses del Vallés/Barcelona	EUR	9.3 m	100		◆	▼	▲
Bexal Farmacéutica, S.A., Madrid	EUR	1.0 m	100		◆		
Novartis Vaccines and Diagnostics, S.L., Barcelona	EUR	675 450	100		◆		
Novartis Consumer Health, S.A., Barcelona	EUR	876 919	100		◆		
Sweden							
Novartis Sverige Participations AB, Täby/Stockholm	SEK	1.0 m	100	■			
Novartis Sverige AB, Täby/Stockholm	SEK	5.0 m	100		◆		
Alcon Sverige AB, Bromma	SEK	100 000	100		◆		
CIBA Vision Nordic AB, Askim/Göteborg	SEK	2.5 m	100		◆		
Switzerland							
Novartis International AG, Basel	CHF	10.0 m	100	■			
Novartis Holding AG, Basel	CHF	100.2 m	100	■			
Novartis Research Foundation, Basel	CHF	29.3 m	100	■			
Novartis Foundation for Management Development, Basel	CHF	100 000	100	■			
Novartis Foundation for Employee Participation, Basel	CHF	100 000	100	■			
Novartis Sanierungsstiftung, Basel	CHF	2.0 m	100	■			
Novartis Pharma AG, Basel	CHF	350.0 m	100	■	◆	▼	▲
Novartis Pharma Services AG, Basel	CHF	20.0 m	100		◆		
Novartis Pharma Schweizerhalle AG, Muttenz	CHF	18.9 m	100			▼	
Novartis Pharma Stein AG, Stein	CHF	251 000	100			▼	▲
Novartis Pharma Schweiz AG, Bern	CHF	5.0 m	100		◆		▲
Alcon Switzerland SA, Hünenberg	CHF	100 000	100		◆		
Alcon Pharmaceuticals Ltd., Fribourg	CHF	200 000	100	■	◆		
ESBATech, an Alcon Biomedical Research Unit GmbH, Schlieren	CHF	14.0 m	100				▲
CIBA Vision AG, Embrach	CHF	300 000	100	■	◆		
Sandoz AG, Basel	CHF	5.0 m	100	■	◆		▲
Sandoz Pharmaceuticals AG, Steinhausen	CHF	100 000	100		◆		
Novartis Vaccines and Diagnostics AG, Basel	CHF	800 000	100	■			▲
Novartis Vaccines and Diagnostics Services AG, Basel	CHF	100 000	100	■		▼	
Novartis Consumer Health S.A., Nyon	CHF	30.0 m	100	■	◆	▼	▲
Novartis Consumer Health Schweiz AG, Bern	CHF	250 000	100		◆		
Novartis Animal Health AG, Basel	CHF	101 000	100	■	◆	▼	▲
Novartis Centre de Recherche Santé Animale S.A., St. Aubin	CHF	250 000	100				▲
Roche Holding AG, Basel	CHF	160.0 m	33/6[3]	■			
Taiwan							
Novartis (Taiwan) Co., Ltd., Taipei	TWD	170.0 m	100		◆	▼	
Thailand							
Novartis (Thailand) Limited, Bangkok	THB	230.0 m	100		◆		
Alcon Laboratories (Thailand) Limited, Bangkok	THB	2.1 m	100		◆		

31. Principal Group subsidiaries and associated companies (Continued)

As at December 31, 2011		Share/paid-in capital[1]	Equity interest %	Activities
Turkey				
Novartis Saglik, Gida ve Tarim Ürünleri Sanayi ve Ticaret A.S., Istanbul	TRY	98.0 m	100	◆ ▼
Alcon Laboratuvarlari Ticaret A.S., Istanbul	TRY	25.2 m	100	◆
Sandoz Ilaç Sanayi ve Ticaret A.S., Istanbul	TRY	120.0 m	100	◆ ▼
USA				
Novartis Corporation, East Hanover, NJ	$	72.2 m	100	■
Novartis Finance Corporation, New York, NY	$	1.7 bn	100	■
Novartis Capital Corporation, New York, NY	$	1	100	■
Novartis Pharmaceuticals Corporation, East Hanover, NJ	$	5.2 m	100	◆ ▼ ▲
Novartis Institutes for BioMedical Research, Inc., Cambridge, MA	$	1	100	▲
Novartis Institute for Functional Genomics, Inc., San Diego, CA	$	21 000	100	▲
Genoptix, Inc., Carlsbad, CA	$	1	100	◆ ▲
Alcon Laboratories, Inc., Wilmington, DE	$	1 000	100	■ ◆ ▼
Alcon Refractive Horizons, LLC, Wilmington, DE	$	10	100	▼
Alcon Research, Ltd., Wilmington, DE	$	10	100	▼ ▲
Alcon LenSx, Inc., Wilmington, DE	$	100	100	▼
CIBA Vision Corporation, Duluth, GA	$	301.3 m	100	■ ◆ ▼ ▲
Sandoz Inc., Princeton, NJ	$	25 000	100	◆ ▼ ▲
Eon Labs, Inc., Princeton, NJ	$	1	100	◆ ▼
Falcon Pharmaceuticals, Ltd., Wilmington, DE	$	10	100	◆
Novartis Vaccines and Diagnostics, Inc., Cambridge, MA	$	3	100	■ ◆ ▼ ▲
Novartis Consumer Health, Inc., Parsippany, NJ	$	0[2]	100	◆ ▼ ▲
Novartis Animal Health US, Inc., Greensboro, NC	$	100	100	◆ ▼ ▲
Idenix Pharmaceuticals, Inc., Cambridge, MA	$	72 863	31	■
Venezuela				
Novartis de Venezuela, S.A., Caracas	VEF	1.4 m	100	◆
Alcon Pharmaceutical, C.A., Caracas	VEF	5.5 m	100	◆

(1) Share/paid-in capital may not reflect the taxable share/paid-in capital amount and does not include any paid-in surplus.

(2) shares without par value

(3) Approximately 33% of voting shares; approximately 6% of total net income and equity attributable to Novartis

m = million; bn = billion

The following describe the various types of entities within the Group:

■ **Holding/Finance:** This entity is a holding company and/or performs finance functions for the Group.

◆ **Sales:** This entity performs sales and marketing activities for the Group.

▼ **Production:** This entity performs manufacturing and/or production activities for the Group.

▲ **Research:** This entity performs research and development activities for the Group.

In addition, the Group is represented by subsidiaries, associated companies or joint ventures in the following countries: Algeria, Bosnia/Herzegovina, Bulgaria, Cayman Islands, Costa Rica, Dominican Republic, Guatemala, the former Yugoslav Republic of Macedonia, Morocco, Ukraine and Uruguay.

Equity interest %—above 50% and up to 100% of the voting rights—fully consolidated

—above 20% and up to 50% of the voting rights—investment in associated company—equity method accounting.

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