NOVARTIS AG
Form 20-F
January 28, 2009

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As filed with the Securities and Exchange Commission on January 28, 2009

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington D.C. 20549

FORM 20-F

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

OR

ý ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934 for the fiscal year ended December 31, 2008

OR

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

OR

o 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)

Thomas Werlen
Group General Counsel
Novartis AG
CH-4056 Basel
Switzerland
011-41-61-324-2745
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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:

2,264,852,842 shares

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

Yes ý No o

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 o No ý

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 ý No o

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 ý Accelerated filer o Non-accelerated filer o

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

o U.S. GAAP ý International Financial Reporting Standards as issued by the International Accounting Standards Board o 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 o Item 18 o

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 o No ý

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INTRODUCTION AND USE OF CERTAIN TERMS

Novartis AG and our 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 those for the year ended December 31, 2008 and are prepared in accordance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB). In this Form 20-F, references to "US dollars", "USD" or "$" are to the lawful currency of the United States of America; and references to "CHF" are to Swiss francs.

In this Form 20-F, 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 "ADS" or "ADSs" are to Novartis American Depositary Shares; references to "associates" are to employees of our affiliates; references to the "FDA" are to the US Food and Drug Administration. All product names appearing in italics are trademarks licensed to or owned by Group companies. Product names identified by a "®" or a " " are trademarks that are not licensed to or owned by the Group. 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 operating company in the Group is legally separate from all other companies in the Group 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 company by whom the executive is employed, or to that 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 the use of forward-looking terminology such as "will" or "expected", 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 potential future sales or earnings of the Novartis Group or any of its divisions or business units; 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 Company 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 existing products in any market, or that such products will achieve any particular revenue levels. Nor can there be any guarantee that the Novartis Group, or any of its divisions or business units, will achieve any particular financial results. In particular, management's expectations could be affected by, among other things, uncertainties involved in the development of new pharmaceutical products; unexpected clinical trial results, including additional analysis of existing clinical data or unexpected new clinical data; unexpected regulatory actions or delays or government regulation generally; the Group's ability to obtain or maintain patent or other proprietary intellectual property protection, including the uncertainties involved in the US litigation process; competition in general; government, industry, and general public pricing and other political pressures; and the impact that the foregoing factors could have on the values attributed to the Novartis Group's assets and liabilities as recorded in the Group's consolidated balance sheet. Some of these factors are discussed

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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.

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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, 2008, 2007 and 2006 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. See "Item 5. Operating and Financial Review and Prospects 5.A Operating Results Factors Affecting Comparability of Year-on-Year Results of Operations" and "Item 18. Financial Statements note 2" for more detailed discussion.

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.

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	Year Ended December 31,				
	2008	2007	2006	2005	2004[1]
	($ millions, except per share information)				
INCOME STATEMENT DATA					
Net sales from continuing operations	**41,459**	**38,072**	**34,393**	**29,446**	**25,685**
Operating income from continuing operations	**8,964**	**6,781**	**7,642**	**6,507**	**5,835**
Income from associated companies	441	412	264	193	68
Financial income	384	531	354	461	486
Interest expense	(290)	(237)	(266)	(294)	(261)
Income before taxes from continuing operations	**9,499**	**7,487**	**7,994**	**6,867**	**6,128**
Taxes	(1,336)	(947)	(1,169)	(986)	(962)
Net income from continuing operations	**8,163**	**6,540**	**6,825**	**5,881**	**5,166**
Net income from discontinued operations	70	5,428	377	260	214
Group net income	**8,233**	**11,968**	**7,202**	**6,141**	**5,380**
Attributable to:					
Shareholders of Novartis AG	8,195	11,946	7,175	6,130	5,365
Minority interests	38	22	27	11	15
Operating income from discontinued operations (including divestment gains)	70	6,152	532	398	317
Basic earnings per share ($):					
Continuing operations	3.59	2.81	2.90	2.52	2.19
Discontinued operations	0.03	2.34	0.16	0.11	0.09
Total	3.62	5.15	3.06	2.63	2.28
Diluted earnings per share ($):					
Continuing operations	3.56	2.80	2.88	2.51	2.18
Discontinued operations	0.03	2.33	0.16	0.11	0.09
Total	3.59	5.13	3.04	2.62	2.27
Cash dividends[2]	3,345	2,598	2,049	2,107	1,896
Cash dividends per share in CHF[3]	2.00	1.60	1.35	1.15	1.05
Operating income from continuing operations earnings per share ($):					
Basic	3.96	2.93	3.26	2.79	2.48
Diluted	3.92	2.91	3.24	2.78	2.46

(1) We adopted a number of new International Financial Reporting Standards from January 1, 2005, not all of which required retrospective application. Data for 2004 is therefore not comparable with 2008, 2007, 2006 and 2005.

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

(3) Cash dividends per share represent dividends proposed that relate to earnings of the current year. Dividends for 2008 will be proposed to the Annual General Meeting on February 24, 2009 for approval.

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	Year Ended December 31,				
	2008	2007	2006	2005	2004
			($ millions)		
BALANCE SHEET DATA					
Cash, cash equivalents and marketable securities & derivative financial instruments	6,117	13,201	7,955	10,933	13,892
Inventories	5,792	5,455	4,498	3,725	3,558
Other current assets	8,972	8,774	8,215	6,785	6,470
Non-current assets	57,418	48,022	46,604	36,289	28,568
Assets held for sale related to discontinued operations			736		
Total assets	**78,299**	**75,452**	**68,008**	**57,732**	**52,488**
Trade accounts payable	3,395	3,018	2,487	1,961	2,020
Other current liabilities	13,109	13,623	13,540	13,367	9,829
Non-current liabilities	11,358	9,415	10,480	9,240	9,324
Liabilities related to discontinued operations			207		
Total liabilities	**27,862**	**26,056**	**26,714**	**24,568**	**21,173**
Issued share capital and reserves attributable to shareholders of Novartis AG	50,288	49,223	41,111	32,990	31,177
Minority interests	149	173	183	174	138
Total equity	**50,437**	**49,396**	**41,294**	**33,164**	**31,315**
Total liabilities and equity	**78,299**	**75,452**	**68,008**	**57,732**	**52,488**
Net assets	50,437	49,396	41,294	33,164	31,315
Outstanding share capital	820	815	850	848	849
Total outstanding shares (millions)	2,265	2,264	2,348	2,336	2,338

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 (CHF)	Total Dividend per ADS ($)
2004	March 2005	1.05	0.93
2005	February 2006	1.15	0.87
2006	March 2007	1.35	1.11
2007	February 2008	1.60	1.41
2008[1]	February 2009	2.00	1.88[2]

(1) Dividend to be proposed at the Annual General Meeting on February 24, 2009 and to be distributed February 27, 2009.

(2)

Translated into US dollars at the 2008 period end rate of $0.94 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.

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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 21, 2009, as found on Reuters Market System, was CHF 1.00 = $0.87.

Year ended December 31, ($ per CHF)	Period End	Average[1]	Low	High
2004	0.88	0.81	0.76	0.88
2005	0.76	0.80	0.75	0.88
2006	0.82	0.80	0.76	0.84
2007	0.88	0.83	0.80	0.91
2008	0.94	0.93	0.82	1.02
Month end,				
August 2008			0.90	0.95
September 2008			0.88	0.92
October 2008			0.86	0.89
November 2008			0.82	0.87
December 2008			0.82	0.96
January 2009[2]			0.87	0.94

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

(2) Through January 21, 2009.

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 Pharmaceuticals Division faces and will continue to face important patent expirations and aggressive generic competition.

Our Pharmaceuticals Division's products 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 whether due to patent expiration, generic challenges or other reasons could have a material adverse effect on our

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results of operations. The introduction of a generic version of a branded medicine typically results in a significant and rapid reduction in net sales for the branded product because generic manufacturers typically offer their unbranded versions at sharply lower prices. The pharmaceuticals industry is confronted by a continuing high level of patent expirations, with products representing approximately $24 billion in combined annual sales facing patent expiry in 2009, similar to levels seen in 2007 and 2008, according to IMS Health. In addition, generic manufacturers are increasingly conducting so-called "launches at risk" of products that are still under legal challenge for patent infringement, before final resolution of legal proceedings.

In 2008, sales of four Novartis Pharmaceuticals Division products *Lotrel* (high blood pressure)*Lamisil* (fungal infections), *Trileptal* (epilepsy) and *Famvir* (viral infections) continued to lose sales following the start of generic competition in the US in 2007. As a result of generic competition, combined net sales for these products declined from $2.6 billion in 2006 to $1.6 billion in 2007 and $536 million in 2008. The sharp reduction in net sales of these products had an adverse effect on the results of operations of our Pharmaceuticals Division in 2007 and 2008.

Four of our five best-selling products, *Diovan* (high blood pressure), *Zometa*, *Femara* (both for cancers), and *Sandostatin* (acromegaly) potentially could face generic competition in the near future in various markets, either in the US or Europe, or both, whether due to patent challenges or the scheduled expiration of patents. In particular, the patent on our top-selling drug, *Diovan*, expires in the major countries of the EU in 2011 and in the US in 2012. In addition, sales of Diovan may begin to erode in 2009 in certain countries in the EU and in 2010 in the US when a competitor product, Cozaar®, goes off-patent. Similarly, zoledronic acid, the active ingredient in *Zometa*, as well as in *Reclast/Aclasta* (osteoporosis), is currently the subject of US patent litigation, with the possibility of an "at risk launch" by one or more generic competitors as early as the end of 2010. *Femara's* patent will expire in 2011 in the US and in major European markets. Patent litigation against a generic manufacturer who challenged the *Femara* patent has been settled. Finally, patents protecting the *Sandostatin LAR* formulation, the long-acting version of *Sandostatin* which represents a majority of our sales, expires in 2010 in major markets outside the US (and in 2014 and beyond in the US). Clearly, the loss of exclusivity of any one of these four products could have a material adverse effect on our business, financial condition and results of operations.

In addition to *Zometa* and *Reclast/Aclasta,* key products of our Pharmaceuticals Division that are the subject of ongoing US patent litigation include *Lescol* (high cholesterol), *Focalin/Ritalin LA* (ADHD) and *Comtan/Stalevo* (Parkinson's disease). The loss of exclusivity of some of these products could have a significant adverse effect on the results of operations of our Pharmaceuticals Division. In addition, *Neoral* (transplantation) and *Voltaren* (pain), which are still among our top ten-selling products with combined net sales of $1.8 billion in 2008, have already encountered generic competition in many markets. As a result, sales from these products may decline significantly in the future, which could have a material adverse effect on our business, financial condition and results of operations.

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."

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 inadequately cover any losses.

Our business is increasingly affected by pressures on drug pricing.

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. As a result, our businesses and the healthcare industry in general are operating in an ever more challenging

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environment with very significant pricing pressures. These ongoing pressures include government-imposed industry-wide price reductions, mandatory pricing systems, 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. We expect these efforts to continue 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.

These initiatives not only affect the results of our Pharmaceuticals Division, but also have an increasing impact on the prices we can charge for the generic drugs marketed by our Sandoz Division. This is particularly true in Europe and especially Germany, our second-largest market for generic products, where various measures have been introduced to require generic manufacturers to lower their prices. In addition, in the US, a combination of aggressive efforts by distributors to increase their profit margins on generic products that are considered commodities, intense and increasing competition between generic pharmaceutical manufacturers, and changes to government regulations, including state and federal regulations and regulations impacting Medicare and Medicaid, are increasing the downward pressure on our prices there. We expect these and other challenges to continue to put pressure on our revenues, and therefore they could have a material adverse effect on our business, financial condition and results of operations.

For more information on pricing controls and on our challenging business environment see "Item 4. Information on the Company Item 4.B Business Overview Pharmaceuticals Price Controls" and "Item 5. Operating and Financial Review and Prospects Item 5.A Operating Results Factors affecting results of operations Pressure to reduce drug prices and increase access to medicines."

Increasing regulatory scrutiny of drug safety and efficacy may adversely affect us.

We must comply with a broad range of regulatory requirements for the development and marketing of our products. These requirements not only affect our development costs, but also the time required to reach the market and the likelihood of successfully doing so. Stricter regulatory requirements also heighten the risk of withdrawal of existing products by regulators on the basis of post-approval concerns over product safety, which would reduce revenues and could result in product recalls and product liability lawsuits. Even in the absence of regulatory action, concerns about efficacy or safety, whether or not scientifically justified, may cause us to voluntarily cease marketing a product or face declining sales. The development of the post-approval adverse event profile for a product or product class also may have a material adverse effect on the marketing and sale of that product. For more detail on the governmental regulations that affect our business, 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."

Following widely publicized product recalls such as the Merck & Co., Inc. recall of its pain medicine Vioxx® in 2004, health regulators are increasingly focusing on product safety and efficacy as well as on the risk/benefit profile of developmental drugs. This has 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 analysis of the trials. As a result, obtaining regulatory approvals has become more challenging for pharmaceutical companies. In addition, maintaining regulatory approvals has become increasingly expensive since companies are being required to gather far more detailed safety and other clinical data on products after approval.

We have suffered setbacks in gaining regulatory approvals for new products, as well as being able to keep products on the market, primarily in the Pharmaceuticals Division. For example, in March 2007, we received a so-called "approvable" letter from the FDA regarding *Galvus* (diabetes), which required us to conduct major additional clinical trials in order to obtain US regulatory approval for the drug. Although

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Galvus was subsequently approved in the EU, a resubmission for US approval is not planned. Separately, in the second half of 2007, *Prexige* (osteoarthritic pain) was withdrawn from the market in Australia and some countries of the EU based on post-marketing reports of serious liver side-effects, including two deaths in Australia, allegedly associated with long-term uses of higher doses of the drug. This product was subsequently withdrawn from remaining markets during 2008.

Any additional adverse regulatory developments in the approval process for new products or in the continued marketing of significant existing products, or any increases in regulation or major changes in the healthcare landscape under the new US administration, could have a material adverse effect on our business, financial condition and results of operations.

Our research and development efforts may not succeed in bringing high-potential products to market.

Our ability to continue to grow our business and to replace any sales lost due to the end of exclusivity for our products whether through patent expiration, generic challenges, competition from new branded products or changes in regulatory status depends upon the success of our research and development activities in identifying and developing high-potential breakthrough products that address unmet needs, are accepted by patients and physicians, and are reimbursed by payors. To accomplish this, we commit substantial effort, funds and other resources to research and development, both through our own dedicated resources and through various collaborations with third parties. Developing new pharmaceutical products and bringing them to market, however, is a 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.

The pharmaceuticals industry has seen a dearth of regulatory approvals for new drugs in recent years. For example, the FDA approved only 18 entirely new drugs (new molecular entities) in 2007, one of the lowest single-year totals since 1983, when there were 14 new approvals. New product approvals for the industry are expected to remain low in the future following FDA approvals for 24 brand new medicines in 2008, according to IMS Health. These approval levels compare with the average annual approval rate of more than 30 new medicines per year in the period from 1996 to 2004, the year that Vioxx was withdrawn from the market. In addition, many of the new drugs approved in recent years have not been as financially successful as those approved in prior years. This relatively low level in research productivity comes at a time when the worldwide pharmaceuticals industry is estimated to be spending more than $40 billion each year on research and development activities.

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 to pass a highly complex, lengthy and expensive approval process. During each stage, there is a substantial risk that we will encounter serious obstacles which will further delay us, or that we will not achieve our goals and, accordingly, may abandon a product in which we have invested substantial amounts of time and money. Similar efforts are required to develop new products in our other divisions, as well, and the same risks apply.

If we are unable to maintain a continuous flow of successful new products and new indications or brand extensions for existing products sufficient to cover our substantial research and development costs and to replace sales lost as older products are displaced by competing products or therapies, this could have a material adverse effect on our business, financial condition or results of operations.

In addition, we invest a significant amount of effort and financial resources into research and development collaborations with third parties, organizations that we do not control. Many of these may be small companies that do not have the same resources and development expertise as Novartis. If these third parties fail to meet our expectations, we may lose our investment in the collaborations or fail to

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receive the expected benefits, which could have a material adverse effect on our business, financial condition or results of operations.

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

Many of the world's largest economies and financial institutions currently face extreme financial difficulty, including a decline in asset prices, liquidity problems and limited availability of credit. It is uncertain how long this crisis will last, but many countries are concerned that their economies may enter a deep and prolonged recession. Such difficult economic times may have a material adverse effect on our revenues, results of operations, financial condition and ability to raise capital. Some of our businesses, including the business units of our Consumer Health Division, may be particularly sensitive to declines in consumer spending. In addition, our Pharmaceuticals, Vaccines and Diagnostics and Sandoz Divisions may not be immune to consumer cutbacks. As reported by IMS Health, after ten years of growth, in the first eight months of 2008 the total number of prescriptions dispensed in the US declined, as compared with the same period in 2007. The current economic and financial crisis appears to be affecting all of the major markets in which we operate. 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 hard economic times.

In addition, the financial crisis may cause the value of our investments in our pension plans to decrease, requiring us to increase our funding of those pension plans. The financial crisis may also result in a lower return on our financial investments, and a lower value on some of our assets. For example, our investment in Alcon, Inc. has declined significantly in market value since we acquired it in July 2008. The financial crisis could also negatively impact the cost of financing or our ability to finance the second step of the Alcon acquisition on favorable terms. The impact of the current financial crisis on our future access to various kinds of capital, and the cost of that capital, is not currently predictable.

At the same time, significant changes and volatility in the consumer environment, the equity, credit and foreign exchange markets, and in the competitive 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, under current market conditions there is a significant risk that such guidance or outlook will turn out to be, or to have been, incorrect.

Legal proceedings may have a significant negative effect on our results of operations.

In recent years, the industries of which we are a part have become important targets of litigation around the world, especially in the US. A number of our subsidiaries are, and will likely continue to be, subject to various legal proceedings that arise from time to time, including product liability, commercial, employment and wrongful discharge, antitrust, securities, sales and marketing practices, health and safety, environmental and tax litigation claims, government investigations and intellectual property disputes. As a result, we may become subject to substantial liabilities that may not be covered by insurance. Litigation is inherently unpredictable, and large verdicts 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, our Pharmaceuticals Division frequently defends its patents against challenges by our competitors. Should we fail to successfully defend our patents, we will be faced with generic competition for the relevant products, and a resulting loss of revenue.

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 one of our competitors for the branded product. We do this in cases where we believe that the relevant patents are invalid, unenforceable, or

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would not be infringed by our generic product. As a result, we 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.

The CIBA Vision Business Unit of our Consumer Health Division also has been required to defend its patents against frequent challenges by competitors.

Separately, the US affiliates of our Pharmaceuticals and Sandoz Divisions are the subjects of lawsuits brought by private plaintiffs and state and local government entities alleging that they have fraudulently overstated the Average Wholesale Price and "best price," which are, or have been, used by the US federal and state governments in the calculation of, respectively, US Medicare reimbursements and Medicaid rebates. A limited number of similar actions have been brought to trial to date against various pharmaceutical companies, including one against our affiliate in the Pharmaceuticals Division, and in certain instances, substantial damages have been awarded. Recent damage awards are on appeal. Should we fail to successfully defend the cases against us, 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.

Governments and regulatory authorities have been stepping up their compliance and law enforcement activities in recent years in key areas, including corruption, marketing practices, antitrust and trade restrictions. Our businesses have been subject, from time to time, to such governmental investigations and information requests by regulatory authorities. For example, we are cooperating with civil and criminal investigations currently being undertaken by the US Attorney's Office into allegations of potential off-label promotion of our epilepsy drug, *Trileptal.* While the outcomes of government and regulatory investigations are unpredictable, they are costly, divert management from our business and may affect our reputation. In some instances, the inherent uncertainty of litigation, the resources required to defend against governmental actions and the risk to reputation as well as of potential exclusion from US federal government reimbursement programs have contributed to decisions by companies in our industry to enter into settlement agreements with governmental, and particularly federal, authorities. 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.

For more detail regarding specific legal matters currently pending against us, see "Item 18. Financial Statements note 19" and "Item 4. Information on the Company 4.B Business Overview Pharmaceuticals Intellectual Property."

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

We regularly review our investments in associated companies for impairment. They are reviewed for impairment whenever there is an indication that an impairment may have occurred. The amount of investments in associated companies on our consolidated balance sheet has increased significantly in recent years, primarily as a result of the recent Alcon acquisition. 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. For a detailed discussion of how we determine whether an impairment has occurred, what factors could result in an impairment and a detailed analysis of the status of our Alcon investment see "Item 5.A Operating Results Critical Accounting Policies and Estimates

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Investments in Associated Companies and Assessment of Alcon Investment" and "Item 18. Financial Statements note 10".

Similarly, we regularly review our long-lived intangible and tangible assets, including identifiable intangible assets 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. The amount of goodwill and other intangible assets on our consolidated balance sheet have increased significantly in recent years, primarily as a result of recent acquisitions. In 2008, for example, we recorded an intangible asset impairment charge of $223 million after we decided not to pursue further development of Pharmaceuticals Division pipeline product *Aurograb.* 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.A Operating Results Critical Accounting Policies and Estimates Impairment of Long-Lived Intangible and Tangible Assets" and "Item 18. Financial Statements note 9".

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 higher proportional growth and an increasing contribution to the industry's global performance. In 2008, Novartis generated approximately 64% (2007: 66%) of our net sales from continuing operations in the world's seven largest developed markets, while the seven leading emerging markets Brazil, China, India, Mexico, Russia, South Korea and Turkey contributed 10% (2007: 9%) of net sales. However, combined net sales in these seven priority emerging markets grew 18% in local currency in 2008, compared to 1% sales growth in local 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 2007 Novartis announced the creation of a new cross-divisional operation to accelerate growth in small emerging markets, expanding the presence of all of our products in regions that include Northern and Sub-Saharan Africa, Central Asia and parts of Southeast Asia.

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 in excess of the world's largest markets. Some emerging countries may be especially vulnerable to the current global financial crisis, or may have very limited resources to spend on healthcare. See " The current economic and financial crisis may have a material adverse effect on our results" above. Many of these countries have relatively few persons with the skills and training suitable for employment at an enterprise such as ours. See also " An inability to attract and retain qualified personnel could adversely affect our business" below. In other emerging countries, we may be required to rely on third-party agents, which may put us at risk of liability. See also " We may be held responsible for the potential misconduct by our third-party agents, particularly in developing countries" below. 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.

We may not be able to realize the expected benefits from our anticipated acquisition of a majority interest in Alcon.

In April 2008, we announced an agreement with Nestlé S.A. to acquire a 25% stake in Alcon Inc., a world leader in eye care, including pharmaceutical, surgical and consumer products, with the option of acquiring an additional 52% stake in the company. Under that agreement, we purchased the 25% stake from Nestlé in July 2008 for $10.4 billion. In the optional second step, we have 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. During this period, Nestlé has the right to require Novartis to buy its remaining stake at a 20.5% premium to Alcon's share price at the time of exercise, but

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not exceeding $181.00 per share. Novartis has no obligation to purchase the remaining 23% of shares held by Alcon minority shareholders.

The Alcon acquisition is intended to enhance the diversification of our product portfolio and to give us access to a high-growth area of the healthcare market. However, there can be no guarantee that the second step of the transaction will be completed or that we will, in fact, achieve majority ownership of Alcon. In addition, even if we do obtain majority ownership of Alcon, there can be no guarantee that the acquisition will be successful, or will result in the expected strategic benefits and synergies with our own eye-related businesses. A failure to complete the acquisition of a majority interest in Alcon, or to realize the expected potential strategic benefits and synergies if it is completed, may have a long-term material adverse effect on our business, financial condition or results of operations.

Our indebtedness could adversely affect our operations.

As of December 31, 2008 we had $2.2 billion of non-current financial debt and $5.2 billion of current financial debt. We may in the future incur additional debt for a variety of reasons including our agreement with Nestlé relating to Alcon, Inc. 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 place 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.

We may not be able to realize the expected benefits from our significant investments in biologics.

We believe that recent advances in technologies, particularly new approaches in the analysis of human genome data, could have a fundamental effect on product development and, in turn, on our future results of operations. We are, therefore, making major investments in these technologies and devoting significant resources to building our position in biologic therapies, which now represent approximately 25% of our preclinical research portfolio. For our efforts in this area to be successful, we need to ensure a speedy expansion of our capabilities, expertise and skills in the development, manufacturing and marketing of biological therapies. This, however, poses a number of significant challenges, including intense competition for qualified individuals. See also " An inability to attract and retain qualified personnel could adversely affect our business" below.

In 2007, we formed our Novartis Biologics Unit. To complement internal research and development activities, we also have made significant investments in licensing agreements with specialized biotechnology companies. At the same time, our Sandoz Division is taking steps to expand its expertise in biosimilars (generic versions of biological therapies) and is actively working with regulators to establish appropriate rules for the approval of these types of generic products.

There can be no guarantee that our efforts in the biologics area will be successful or that we will be able to realize the expected benefits from our significant investment in this area. A failure to build and expand our position in biologics or to achieve the expected benefits from our investments in this area could have a material adverse effect on our business, financial condition and results of operations.

Failure to obtain marketing exclusivity periods for new generic products, and intense competition from branded pharmaceuticals companies, may have an adverse effect on the success of our Sandoz Division.

Our Sandoz Division achieves significant revenue opportunities when it secures exclusivity periods granted for generic products in certain markets particularly the 180-day exclusivity period granted in the US by the Hatch-Waxman Act. Failure to obtain these market exclusivities could have an adverse effect on the success of Sandoz. In addition, the division faces intense competition from branded pharmaceuticals companies, which commonly take aggressive steps to limit the availability of exclusivity periods or to

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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.

We may not be able to realize the expected benefits from our ongoing productivity initiatives.

In December 2007, we launched a new strategic initiative called "Forward" to enhance productivity by simplifying organizational structures throughout the Group, accelerating and decentralizing decision-making and redesigning the way we operate. Through this initiative, we aim to reduce our cost-base by approximately $1.6 billion by 2010 compared to 2007 levels. Our ability to achieve the expected cost savings, however, depends on a number of factors beyond our control. If we are unable to successfully complete "Forward" and other ongoing productivity initiatives, that could have a material adverse effect on our business, financial condition and results of operations.

We may not be able to realize the expected benefits of our significant marketing efforts for our products.

The time between the launch of innovative "first-in-class" treatments and "me-too" or generic pharmaceuticals has shortened significantly in recent years. This trend is putting increasing pressure on our Pharmaceuticals Division to maximize revenue from each new product quickly following its launch, in order to recover the significant research and development costs and earn a return on that investment. A strong marketing message and rapid penetration of different geographic markets are vital for a product to attain peak sales as quickly as possible before the loss of patent protection or the entry of significant competitor products. As a consequence, we are required to invest significant resources in marketing and sales efforts. We continually evaluate the appropriateness of our marketing models, explore more efficient ways to support new product launches and adjust the composition of our sales force in response to changes in our product portfolio. For example, we announced a new commercial model for our US General Medicines business in 2008, aimed at driving sales growth while deploying resources more efficiently. If these or other efforts prove unsuccessful, this could have a material adverse effect on our business, financial condition and results of operations.

A failure to develop differentiated vaccines or to bring key products to market in time for the relevant disease seasons could have an adverse effect on the success of our Vaccines and Diagnostics Division.

The demand for some products marketed by our Vaccines and Diagnostics Division, such as influenza vaccines, is seasonal, while the demand for other vaccines, such as pediatric combination vaccines, depends on changes in birth rates in developed countries. Some vaccines that make an important contribution to the division's net sales and profits, particularly the key seasonal influenza vaccine products, are considered commodities, meaning that there are few therapeutic differences among vaccines offered by competitors. In addition, the seasonal influenza vaccine products have suffered from price erosion due to growth in product supply across the industry. The ability to develop differentiated, effective and safe vaccines, to gain approval for inclusion in national immunization recommendation lists, and to consistently produce and deliver high-quality vaccines in time for the relevant disease seasons are critical to the success of our Vaccines and Diagnostics Division.

Our OTC Business Unit faces adverse impacts from questions of safety and efficacy, as well as more intense competition.

The OTC Business Unit of our Consumer Health Division sells over-the-counter medicines, many of which contain ingredients also sold by competitors in the OTC industry. In recent years, significant questions have arisen regarding the safety, efficacy and potential for misuse of certain products sold by our OTC Business Unit 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 October 2008, acting in consultation with the FDA, we voluntarily re-labeled our US cough and cold medicines to indicate that these products

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should not be used in children under four years of age. Litigation has often followed actions such as these, particularly in the US. Additional actions and litigation regarding OTC products are possible in the future. In addition, particularly in the US, our branded OTC products compete against "store brand" products that are made with the same active ingredients but do not carry our trusted brand names, or the burden of expensive advertising. 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. These trends have had, and may continue to have, a significant adverse effect on the success of our OTC Business Unit. See also " The current economic and financial crisis may have a material adverse effect on our results" above.

The manufacture of our products is highly regulated and complex, and may encounter a variety of issues that lead to supply disruptions.

The products we market, distribute and sell are either manufactured at our own dedicated manufacturing facilities or by third parties. In either case, we need to ensure that manufacturing processes comply with applicable regulations and manufacturing practices, as well as our own high quality standards. In particular, the manufacture of our products is heavily regulated by governmental authorities around the world, including the FDA. If we or our third party suppliers fail to comply fully with such regulations then there could be a government-enforced shutdown of production facilities or production lines, which in turn could lead to product shortages. A failure to comply fully with such regulations could also lead to a delay in the approval of new products. For example, in August 2008, our Sandoz Division's Wilson, North Carolina facility received a Warning Letter from the FDA which remains unresolved. The Warning Letter raises concerns regarding the Wilson facility's compliance with FDA Good Manufacturing Practice regulations, and states that until the FDA confirms that the deficiencies have been corrected, the FDA can recommend disapproval of any pending NDAs, abbreviated NDAs or export certificate requests submitted by our Sandoz US affiliate. 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. Voluntary recalls were made in September and in the fourth quarter of 2008 as part of the FDA review of the facility.

In addition, 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. As a result of these factors, the production of one or more of our products may be disrupted from time to time.

A disruption in the supply of certain key products, or our failure to accurately predict demand, could have a material adverse effect on our business, financial condition or results of operations. And because our products are intended to promote the health of patients, for some of our products, a supply disruption could subject us to lawsuits or to allegations that the public health, or the health of individuals, has been endangered.

If any of numerous key assumptions and estimates in calculating our pension plan obligations turn out to be different than 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 the Group may differ materially from the actual results we experience due to changing market and economic conditions,

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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 $1.2 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 26". See also " The current 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, significant portions of our sales, particularly in the US, 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, all of which are from the US, accounted for approximately 8%, 7% and 6%, respectively, of Group net sales from continuing operations in 2008. The highest amounts of trade receivables outstanding were for these three customers, and they amounted to 9%, 5% and 6%, respectively, of the Group's trade receivables at December 31, 2008. 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. The increased purchasing power of these customers also increases the risk that we may not be able to effectively enforce the high standards that we expect of our distributors and customers. Each of these factors 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 may 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 future 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 international experience and the language and other skills 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.

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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 19."

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

A significant portion of our earnings and expenditures are in currencies other than US dollars, our reporting currency. In 2008, 34% of our net sales from continuing operations were made in US dollars, 32% in euros, 7% in Japanese yen, 2% in Swiss francs and 25% in other currencies. During the same period, 31% of our expenses from continuing operations arose in US dollars, 28% in euros, 16% in Swiss francs, 5% in Japanese yen and 20% in other currencies. 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."

We may be held responsible for potential misconduct of third-party agents, particularly in developing countries.

We have operations in approximately 140 countries around the world and are significantly expanding our activities in emerging growth markets. In many countries, particularly in 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 are small and 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 negative effect on our reputation and our business.

Significant disruptions of information technology systems could adversely affect our business.

Our business is increasingly dependent on increasingly complex and interdependent information technology systems, including Internet-based systems, to support business processes as well as internal and external communications. Any significant breakdown or interruption of these systems, whether due to computer viruses or other causes, may result in the loss of key information and/or impairment of production and business processes, which could materially and adversely affect our business.

Earthquakes could adversely affect our business.

Our corporate headquarters, the headquarters of our Pharmaceuticals and Consumer Health Divisions, and certain of our major Pharmaceuticals Division production facilities are located near

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earthquake fault lines in Basel, Switzerland. In addition, other major facilities of our Pharmaceuticals, Vaccines and Diagnostics, Sandoz and Consumer Health 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 in US dollars. Since the shares underlying the ADSs are listed in Switzerland on the SIX Swiss Exchange (SIX) and trade on the European trading platform SWX Europe (SWX), formerly virt-x, 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 allows 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

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The Novartis Group is a multinational group of companies specializing in the research, development, manufacturing and marketing of innovative healthcare products. Novartis AG, our Swiss holding company, owns, directly or indirectly, 100% of all significant operating companies. For a list of our significant operating subsidiaries, see "Item 18. Financial Statements note 32".

Important Corporate Developments 2006-2008

The following table provides an overview of certain important developments between 2006 and 2008:

2008

April	Novartis strengthens its healthcare portfolio through an agreement with Nestlé S.A. under which Novartis obtained the right to acquire majority ownership in Alcon Inc., the world leader in eye care, including pharmaceutical, surgical and consumer products, in two steps. In the first step, completed in July 2008, Novartis acquired a 25% stake in Alcon from Nestlé for $10.4 billion. The optional second step provides Novartis the right to buy, and Nestlé the right to sell, the remaining 52% stake in Alcon held by Nestlé between January 2010 and July 2011 for up to approximately $28 billion.
June	Novartis gains rights to PTZ601, a promising hospital antibiotic in clinical development, through the full acquisition of Protez Pharmaceuticals for $102 million in total and potential future payments of an additional $300 million.
	Two Swiss franc bonds are successfully issued totaling CHF 1.5 billion.
July	Novartis acquires majority ownership in Speedel, a Swiss-based pharmaceuticals company, and commits to acquire all remaining shares in a mandatory public tender offer (completed in September 2008), with total costs estimated at approximately $888 million. Novartis enters into a strategic partnership with Lonza, a Swiss pharmaceuticals manufacturing company, to accelerate growth of its biologic pharmaceuticals pipeline.
October	Novartis enters into an agreement to acquire the pulmonary business unit of Nektar Therapeutics for $115 million. The transaction closed in December.

2007

April	Novartis announces a definitive agreement to divest Gerber to Nestlé for $5.5 billion, the final step in a divestment program to focus the Group's strategy on healthcare, with pharmaceuticals at the core.
July	Novartis completes the sale of its Medical Nutrition Business Unit to Nestlé for $2.5 billion, which had been announced in December 2006. Novartis enhances vaccines pipeline by gaining access to Intercell's key technologies and vaccines programs through an expanded strategic alliance. Novartis completes its fourth share repurchase program, initiated in August 2004. A total of 47,575,000 Novartis shares were repurchased for CHF 3 billion.
September	Novartis completes the sale of its Gerber Business Unit to Nestlé for $5.5 billion. Novartis and Bayer Schering Pharma AG (Bayer Schering) receive

regulatory approval to complete an agreement related to various rights for the multiple sclerosis treatment Betaseron®. Novartis received a one-time payment of approximately $200 million, principally for manufacturing facilities transferred to Bayer Schering, and received rights to market its own version of Betaseron® starting in 2009.

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October	Novartis Biologics is established as a focused unit to accelerate and optimize research and development of innovative biologic medicines, which make up 25% of the Novartis pre-clinical product pipeline.
November	Novartis completes its fifth share repurchase program, initiated in July 2007. A total of 63,173,000 Novartis shares were repurchased for CHF 4 billion.
December	Novartis announces a new strategic initiative called "Forward" to enhance productivity by simplifying organizational structures, accelerating and decentralizing decision-making and redesigning the way we operate. Through this initiative, we aim to reduce our cost base by approximately $1.6 billion by 2010 compared to 2007 levels. The initiative resulted in a restructuring charge of $444 million.

2006

February	Novartis completes the sale of its Nutrition & Santé business to ABN AMRO Capital France for $211 million. The transaction was announced in November 2005.
April	Novartis completes the acquisition of all remaining shares of Chiron Corporation that it did not already own for approximately $5.7 billion. A new division called Vaccines and Diagnostics is created to incorporate activities in human vaccines and molecular diagnostics, while the pharmaceutical activities of Chiron are integrated into the Pharmaceuticals Division.
September	Novartis acquires 100% of NeuTec Pharma plc, a UK biopharmaceuticals company specializing in hospital anti-infectives, for $606 million.
October	Novartis agrees to acquire the Japanese animal health business of Sankyo Lifetech Co., Ltd. The transaction closed in March 2007.
November	Novartis announces plans for a new strategic biomedical research and development center in Shanghai. This site will become an integral part of the Group's global research and development network.

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 relevant sections on research and development for each 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 with a broad portfolio that includes innovative medicines, preventive vaccines and diagnostic tools, generic pharmaceuticals and consumer health products. Novartis is the only company to achieve leadership positions in all of these areas. The Group's businesses are divided on a worldwide basis into the following four operating divisions:

Pharmaceuticals (brand-name patented pharmaceuticals)

Vaccines and Diagnostics (human vaccines and blood-testing diagnostics)

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Sandoz (generic pharmaceuticals)

Consumer Health (over-the-counter medicines, animal health medicines, and contact lenses and lens-care products)

Our strategy is to strengthen this healthcare portfolio through sustained investments in innovation, as well as through targeted acquisitions. In April 2008, we announced a significant agreement with Nestlé S.A. providing the right to acquire 77% majority ownership of Alcon Inc. (NYSE: ACL) in two steps and add this world leader in eye care to our portfolio. The potential value of these transactions is approximately $39 billion. In July 2008, the first step was completed when Novartis acquired a 25% stake in Alcon for $10.4 billion in cash. In the optional second step, we have the right to acquire Nestlé's remaining 52% majority stake between January 2010 and July 2011 for a fixed price of $181 per share, or approximately $28 billion. During this period, Nestlé has the right to require us to buy its remaining stake at a 20.5% premium to Alcon's share price at that time, but not exceeding $181 per share. We have no obligation to purchase the remaining 23% of shares held by Alcon minority shareholders at any time.

Novartis completed the divestment of its remaining non-healthcare businesses in 2007 with the sale of the Medical Nutrition (effective July 1) and Gerber (effective September 1) Business Units, which were previously included in the Consumer Health Division. These businesses were sold in separate transactions to Nestlé S.A.

Novartis achieved net sales of $41.5 billion in 2008 from continuing healthcare operations, while net income amounted to $8.2 billion. We invested approximately $7.2 billion in research & development in 2008.

Headquartered in Basel, Switzerland, we employed approximately 96,700 full-time equivalent associates as of December 31, 2008, and have operations in approximately 140 countries around the world.

Pharmaceuticals Division

Our Pharmaceuticals Division researches, develops, manufactures, distributes, and sells branded pharmaceuticals in the following therapeutic areas: Cardiovascular and Metabolism; Oncology; Neuroscience and Ophthalmics; Respiratory; Immunology and Infectious Diseases; and Other. The Pharmaceuticals Division is organized into global business franchises responsible for the marketing of various products, as well as the Novartis Oncology business unit, responsible for the global development and marketing of oncology products. The Pharmaceuticals Division is the largest contributor of our divisions, accounting in 2008 for $26.3 billion, or 64%, of Group net sales from continuing operations, and for $7.6 billion, or 77%, of Group operating income from continuing operations (excluding Corporate income and expense, net).

Vaccines and Diagnostics Division

Our Vaccines and Diagnostics Division researches, develops, manufactures, distributes, and sells preventive vaccine treatments and diagnostic tools. It was formed in April 2006 following the acquisition of the remaining stake in Chiron Corporation not already held by Novartis. The division has two activities: Novartis Vaccines and Chiron. Novartis Vaccines is the world's fifth-largest vaccines manufacturer according to analyses of competitor annual reports. Key products include influenza, meningococcal, pediatric and travel vaccines. Chiron is a blood testing and molecular diagnostics activity dedicated to preventing the spread of infectious diseases through the development of novel blood-screening tools that protect the world's blood supply. In 2008, the Vaccines and Diagnostics Division accounted for $1.8 billion, or 4%, of Group net sales from continuing operations, and provided $78 million, or 1%, of the Group's operating income from continuing operations (excluding Corporate income and expense, net).

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Sandoz Division

Our Sandoz Division is a leading global generic pharmaceuticals company that develops, manufactures, distributes, and sells drugs along with pharmaceutical and biotechnological active substances. Through Sandoz, Novartis is the only major pharmaceutical company to have leadership positions in both patented prescription drugs and generic pharmaceuticals. The Sandoz Division has activities in Retail Generics, Anti-Infectives and Biopharmaceuticals. In Retail Generics, we develop and manufacture active ingredients and finished dosage forms of pharmaceuticals no longer protected by patents, as well as supplying active ingredients to third parties. In Anti-Infectives, we develop and manufacture off-patent active pharmaceutical ingredients and intermediates mainly antibiotics for use by Retail Generics and for sale to third-party customers. In Biopharmaceuticals, we develop and manufacture protein- or biotechnology-based products no longer protected by patents (known as biosimilars or follow-on biologics) and provide biotech manufacturing to other companies on a contract basis. Sandoz offers some 950 compounds in more than 5,000 forms in 130 countries. Sandoz is the Group's second-largest division in terms of its contribution to the Group's net sales and operating income from continuing operations. In 2008, Sandoz accounted for $7.6 billion, or 18%, of Group net sales from continuing operations, and for $1.1 billion, or 11%, of Group operating income from continuing operations (excluding Corporate income and expense, net).

Consumer Health Division

Our Consumer Health Division consists of three business units: over-the-counter medicines (OTC), Animal Health and CIBA Vision. Each has its own research, development, manufacturing, distribution and selling capabilities. However, none are material enough to the Group to be separately disclosed as a segment. OTC offers over-the-counter self medications. Animal Health provides veterinary products for farm and companion animals. CIBA Vision markets contact lenses and lens care products. The Medical Nutrition and Gerber Business Units, which were previously included in the Consumer Health Division, were divested during 2007. The results of these business units have been reclassified and disclosed in this Form 20-F as discontinued operations in all applicable periods. The Medical Nutrition Business Unit offered health and medical nutrition products and Gerber offered food and other products and services designed to serve the needs of babies and infants. In 2008, the Consumer Health Division (excluding discontinued operations) accounted for $5.8 billion, or 14%, of Group net sales from continuing operations, and for $1 billion, or 11%, of Group operating income from continuing operations (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 branded pharmaceuticals in the following therapeutic areas:

Cardiovascular and Metabolism

Oncology (including Hematology)

Neuroscience and Ophthalmics

Respiratory

Immunology and Infectious Diseases

Other

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The Pharmaceuticals Division is organized into global business franchises responsible for the marketing of various products as well as a business unit called Novartis Oncology responsible for the global development and marketing of oncology products. The Oncology Business Unit is not required to be separately disclosed as a segment in our consolidated financial statements since it shares common long-term economic perspectives, customers, research, development, production, distribution and regulatory environments with the remainder of the Pharmaceuticals Division. The Pharmaceuticals Division is the largest contributor among the four divisions of Novartis and reported consolidated net sales of $26.3 billion in 2008, which represented 64% of the Group's net sales from continuing operations.

The division is made up of approximately 80 affiliated companies which together employed 53,632 associates as of December 31, 2008, and sell products in approximately 140 countries. The product portfolio of the Pharmaceuticals Division includes more than 50 key marketed products, many of which are leaders in their respective therapeutic areas. In addition, the division's portfolio of development projects includes 152 potential new products, 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 and recently launched products in our Pharmaceuticals Division. We normally intend to sell all of our marketed products throughout the world. However, not all products and indications are currently available in every country. Compounds and new indications in development are, unless otherwise indicated, subject to required regulatory approvals and, in certain instances, contractual limitations. These compounds and indications are in various stages of development throughout the world. For some compounds, 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 compounds and new indications referred to in this Form 20-F. 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 product under special conditions. See " Regulation" for further information on the approval process. Certain of the products listed below have lost patent protection and are 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.

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Key Marketed Products

Therapeutic area	Compound	Generic name	Indication	Formulation
Cardiovascular and Metabolism	*Diovan*	valsartan	Hypertension Heart failure Post-myocardial infarction	Capsule Tablet
	Diovan HCT/ Co-Diovan	valsartan and hydrochlorothiazide	Hypertension	Tablet
	Eucreas	vildagliptin and metformin	Type 2 diabetes	Tablet
	Exforge	valsartan and amlodipine besylate	Hypertension	Tablet
	Galvus	vildagliptin	Type 2 diabetes	Tablet
	Lescol/ Lescol XL	fluvastatin sodium	Hypercholesterolemia (heterozygous familial and nonfamilial) and mixed dyslipidemia Secondary prevention of coronary events slowing the progression of atherosclerosis Heterozygous familial hypercholesterolemia in children and adolescents aged 9 years and older	Capsule Tablet
	Lotensin/ Cibacen	benazepril hydrochloride	Hypertension	Tablet
	Lotensin HCT/ Cibadrex	benazepril hydrochloride and hydrochlorothiazide	Hypertension Adjunct therapy in heart failure Progressive chronic renal insufficiency	Tablet
	Lotrel	amlodipine besylate and benazepril hydrochloride	Hypertension	Capsule
	Starlix	nateglinide	Type 2 diabetes	Tablet
	Tekturna/Rasilez	aliskiren	Hypertension	Tablet
	Tekturna HCT	aliskiren and hydrochlorothiazide	Hypertension	Tablet

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Therapeutic area	Compound	Generic name	Indication	Formulation
Oncology	*Exjade*	deferasirox	Chronic iron overload due to blood transfusions	Dispersible tablet for oral suspension
	Femara	letrozole tablets/letrozole	Advanced breast cancer in post-menopausal women (both as first- and second-line therapies) Early breast cancer in post-menopausal women following standard tamoxifen therapy (extended adjuvant therapy) Early breast cancer in postmenopausal women following surgery (upfront adjuvant therapy)	Tablet
	Gleevec/ Glivec	imatinib mesylate/imatinib	Certain forms of chronic myeloid leukemia Certain forms of gastrointestinal stromal tumor Certain forms of acute lymphoblastic leukemia Dermatofibrosarcoma protuberans Hypereosinophilic syndrome Aggressive systemic mastocytosis Myelodysplastic/myeloproliferative diseases	Tablet
	Proleukin	aldesleukin	Metastatic renal cell carcinoma Metastatic melanoma	Lyophilized powder for IV infusion upon reconstitution and dilution
	Sandostatin LAR & *Sandostatin SC*	octreotide acetate for injectable suspension & octreotide acetate	Acromegaly Symptoms associated with certain gastroenteropancreatic neuroendocrine tumors (carcinoid and VIPomas)	Vial Ampoule/pre-filled syringe
	Tasigna	nilotinib	Certain forms of chronic myeloid leukemia in patients resistant or intolerant to prior treatment including *Gleevec/Glivec*	Capsule
	Zometa	zoledronic acid for injection/zoledronic acid 4 mg	Prevention of skeletal-related events in patients with bone metastases from solid tumors Hypercalcemia of malignancy	Intravenous infusion

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Therapeutic area	Compound	Generic name	Indication	Formulation
Neuroscience and Ophthalmics	*Clozaril/ Leponex*	clozapine	Treatment-resistant schizophrenia Prevention and treatment of recurrent suicidal behavior in patients with schizophrenia and schizoaffective disorder	Tablet
	Comtan	entacapone	Parkinson's disease	Tablet
	Exelon & *Exelon* Patch	rivastigmine tartrate & rivastigmine transdermal system	Alzheimer's disease Dementia associated with Parkinson's disease	Capsule Oral solution Transdermal patch
	Focalin & *Focalin XR*	dexmethylphenidate HCl & dexmethylphenidate modified release	Attention deficit hyperactivity disorder	Tablet Capsule
	Ritalin & *Ritalin LA*	methylphenidate HCl & methylphenidate HCl modified release	Attention deficit hyperactivity disorder and narcolepsy Attention deficit hyperactivity disorder	Tablet Capsule
	Lucentis	ranibizumab	Wet age-related macular degeneration	Intravitreal injection
	Stalevo	carbidopa, levodopa and entacapone	Parkinson's disease	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
	Visudyne	verteporfin	Wet age-related macular degeneration Pathological myopia Ocular histoplasmosis	Vial, intravenous infusion activated by non-thermal laser light
	Zaditor/ Zaditen	ketotifen	Allergic conjunctivitis	Eye drops
Respiratory	*Foradil*	formoterol		

		Asthma Chronic obstructive pulmonary disease	Aerolizer (capsules) Aerosol
Tobi	tobramycin	Pseudomonas aeruginosa infection in cystic fibrosis	Inhalation solution
Xolair	omalizumab	Allergic asthma	Lyophilized powder for reconstitution as subcutaneous injection

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Therapeutic area	Compound	Generic name	Indication	Formulation
Immunology and Infectious Diseases	*Certican*	everolimus	Prevention of organ rejection (heart and kidney)	Tablet Dispersible tablet for oral suspension
	Coartem/ Riamet	artemether and lumefantrine	Plasmodium falciparum malaria or mixed infections that include Plasmodium falciparum Standby emergency malaria treatment	Tablet
	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 intravenous infusion
	Lamisil	terbinafine	Fungal infections of the skin and nails	Tablet Cream DermGel Solution Spray
	Myfortic	mycophenolic acid/mycophenolate sodium, USP	Prevention of graft rejection following kidney transplantation	Tablet
	Neoral	cyclosporine, USP Modified	Prevention of rejection following organ and bone marrow transplantation Non-transplantation autoimmune conditions such as severe psoriasis, nephrotic syndrome, severe rheumatoid arthritis, atopic dermatitis or endogenous uveitis	Capsule Oral solution
	Reclast/ Aclasta	*zoledronic acid/zoledronic acid 5 mg*	*Treatment of osteoporosis in postmenopausal women and to reduce risk of new clinical fractures after a recent low trauma hip fractures* *Treatment of osteoporosis in men*	*Intravenous infusion*

		Treatment of Paget's disease of the bone Reduction in Clinical fracture after recent low trauma hip fracture	
Simulect	basiliximab	Prevention of acute organ rejection in de novo renal transplantation	Vial for injection or infusion
Tyzeka/Sebivo	telbivudine	Chronic hepatitis B	Tablet

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Therapeutic area	Compound	Generic name	Indication	Formulation
	Voltaren/Cataflam	diclofenac sodium/potassium	Inflammatory forms of rheumatism Pain management	Tablet Capsule Drop Ampoule Suppository Gel Powder in sachet Transdermal patch
Other	*Combipatch/ Estalis/Estalis Sequi*	estradiol hemihydrate and norethisterone acetate	Treatment of symptoms of estrogen deficiency in postmenopausal women Prevention of osteoporosis in postmenopausal women	Transdermal patch
	Elidel	pimecrolimus cream	Atopic dermatitis (eczema)	Cream
	Estraderm TTS/ Estraderm MX	estradiol hemihydrate	Treatment of signs and symptoms of estrogen deficiency due to the menopause Prevention of accelerated postmenopausal bone loss	Transdermal patch
	Estragest TTS *Sequidot*	estradiol hemihydrate and norethisterone acetate	Treatment of symptoms of estrogen deficiency in postmenopausal women Prevention of postmenopausal osteoporosis	Transdermal patch
	Enablex/Emselex	darifenacin	Overactive bladder	Tablet
	Famvir	famciclovir	Acute herpes zoster including ophthalmic herpes zoster and decreased duration of post herpetic neuralgia Acute treatment of 1st episode and recurrent genital herpes infections, and for the suppression of recurrent genital herpes Treatment of recurrent herpes labialis (cold sores)	Tablet

		Indicated in immunocompromised patients with herpes zoster or herpes simplex infections	
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

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Therapeutic area	Compound	Generic name	Indication	Formulation
	Prexige	lumiracoxib	Osteoarthritis Acute pain Acute gout Primary dysmenorrhea	Tablet
	Vivelle Dot/ Estradot	estradiol hemihydrate	Estrogen replacement therapy for the treatment of the symptoms of menopause Prevention of postmenopausal osteoporosis	Transdermal patch
	Zelnorm/ Zelmac	tegaserod maleate/tegaserod	Irritable bowel syndrome with constipation Chronic idiopathic constipation	Tablet

Diovan (valsartan), together with *Diovan HCT/Co-Diovan* (valsartan and hydrochlorothiazide), is the world's No. 1 selling branded high blood pressure medicine (IMS data). *Diovan* is the only agent in its class approved to treat all of the following: high blood pressure (including children 6-16 years), high-risk heart attack survivors and patients with heart failure. First launched in 1996, *Diovan* is available in more than 100 countries for treating high blood pressure, in more than 90 countries for heart failure, and in more than 70 countries for heart attack survivors. 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 November 2007, the FDA also granted *Diovan* an additional six months of marketing exclusivity beyond the valsartan patent expiration, until September 2012, following the completion of pediatric studies. *Diovan* and *Starlix* (nateglinide), an oral type 2 diabetes medication, are being evaluated for the prevention of new-onset type 2 diabetes and cardiovascular disease in patients with impaired glucose tolerance.

Gleevec/Glivec (imatinib mesylate tablets/imatinib) is a signal transduction inhibitor approved to treat certain forms of chronic myeloid leukemia (CML) and gastrointestinal stromal tumors (GIST). First launched in 2001, *Gleevec/Glivec* is available in more than 80 countries. *Gleevec/Glivec* is indicated for the treatment of newly diagnosed adult and pediatric patients with a form of CML. *Gleevec/Glivec* is approved in the US, EU and Japan to treat Philadelphia chromosome positive (Ph+) acute lymphoblastic leukemia (ALL), a rapidly progressive form of leukemia; 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* was submitted in the US, EU and Switzerland for adjuvant treatment in GIST. In December 2008, *Gleevec/Glivec* received approval in the US for this indication, and the dossier is currently under review in the EU and Switzerland, with approvals anticipated in the second quarter of 2009. The *Gleevec/Glivec* International Patient Assistance Program is now available in 80 countries and is currently providing access to *Gleevec/Glivec* for free to more than 20,000 patients worldwide through this innovative program.

Zometa (zoledronic acid for injection/zoledronic acid 4 mg) is a treatment for certain cancers that have spread to the bones. First approved in the US in 2001, *Zometa* is available in more than 80 countries. *Zometa* is approved for the treatment of patients with multiple myeloma and patients with documented bone metastasis from solid tumors, including prostate, breast

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and lung tumors. *Zometa* is also approved in most key markets for the treatment of hypercalcemia of malignancy (tumor-induced excessive levels of calcium). In December 2007, the FDA granted *Zometa* an additional six months of marketing exclusivity, until 2013, following the completion of a pediatric study in osteogenesis imperfecta. New clinical trial results (ABCSG-12 trial) showed that when *Zometa* is used as an adjuvant breast cancer treatment in premenopausal women, the drug reduced the risk of breast cancer returning. These results were resented at the 2008 American Society of Clinical Oncology meeting, and are being evaluated as part of a potential worldwide filing for a new indication for *Zometa*.

Femara (letrozole tablets/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 as adjuvant therapy for postmenopausal women with hormone receptor-positive early breast cancer. *Femara* is also approved in the US, EU and other countries as extended adjuvant therapy for early breast cancer in postmenopausal women who are within three months of completing five years of adjuvant tamoxifen therapy. *Femara* is also approved in the US, EU and other countries as first-line treatment for postmenopausal women with hormone receptor-positive locally advanced or metastatic breast cancer, and as treatment for advanced breast cancer in postmenopausal women with disease progression following anti-estrogen therapy. In some countries, *Femara* is approved as neo-adjuvant (pre-operative) therapy for early stage breast cancer. In Japan, *Femara* is approved for the treatment of all hormone receptor-positive breast cancer in postmenopausal women. In 2008, *Femara* lost patent protection in several European markets, including Spain, which is expected to negatively impact growth. See " Intellectual Property" for further information.

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 certain symptoms associated with carcinoid tumors and other types of gastrointestinal neuroendocrine and pancreatic tumors. New clinical trial results presented in January 2009 at the Gastrointestinal Cancer Symposium of the American Society of Clinical Oncology showed *Sandostatin LAR* demonstrated antitumor benefit in patients with metastatic neuroendocrine tumors of the midgut. *Sandostatin* was first launched in 1988 and is approved in more than 85 countries. *Sandostatin SC* faces worldwide generic competition. However, patent protection continues in major markets for *Sandostatin LAR*. A new long-acting and monthly-administered competitor product, indicated for acromegaly, was launched in the US in late 2007. This competitor product may slow future growth of *Sandostatin LAR* in the US.

Neoral (cyclosporine, USP Modified) is an immunosuppressant to prevent organ rejection following a kidney, liver or heart transplant. 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. Despite our patent protection for *Neoral*, generic companies have launched competing products in the US, some European countries and elsewhere, and this competition is expected to continue. See " Intellectual Property" for further information.

Exelon (rivastigmine tartrate) capsules have been available since 1997 to treat mild to moderate Alzheimer's disease (AD) in more than 70 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 (rivastigmine transdermal system) was approved in 2007 in the US and EU and is launched in over 40 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.

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Voltaren/Cataflam (diclofenac sodium/potassium) 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 nearly every country of the world. This product, which has been experiencing generic competition for many years (see " Intellectual Property" for further information), has a wide variety of dosage forms marketed by the Pharmaceuticals Division, including tablets, drops, suppositories, ampoules and topical therapy. In addition, in various countries, our Consumer Health Division's OTC Business Unit markets low-dose oral forms and the topical therapy of *Voltaren* as over-the-counter (OTC) products.

Lescol/Lescol XL (fluvastatin sodium) are lipid-lowering drugs used to reduce cholesterol. *Lescol/Lescol XL* are indicated as an adjunct to diet for the treatment of hypercholesterolemia and mixed dyslipidemia, and as an adjunct to diet to reduce cholesterol in adolescent boys and girls with heterozygous familial hypercholestrolemnia. In addition, for patients with coronary artery diseases, *Lescol/Lescol XL* are indicated for secondary prevention to reduce the risk of undergoing coronary revascularization procedures and to slow the progression of coronary atherosclerosis in patients with coronary heart disease. *Lescol was* first launched in 1994 and *Lescol XL* in 2000. Both are available in more than 90 countries.

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 in June 2003 and in the EU in October 2003, and is now approved in 79 countries. *Stalevo* is developed and manufactured by Orion Corporation, and is marketed by Novartis and Orion in their respective territories. Novartis has applied in the US and EU for approval to extend the indication for *Stalevo* to patients with early-stage Parkinson's disease. *Comtan* (entacapone) is also indicated for the treatment of Parkinson's disease patients who experience end-of-dose wearing off. *Comtan* is marketed in 31 countries under a licensing agreement with Orion.

Ritalin, Ritalin LA, Focalin, 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 adults. *Ritalin* is also indicated for pediatric and adult narcolepsy. *Ritalin* was first marketed during the 1950's and is available in over 50 countries. *Ritalin LA* (long lasting) is available in 20 countries. *Focalin* comprises the active d-isomer of methylphenidate and therefore requires half the dose of Ritalin. *Focalin/Focalin XR* (extended release) are only available in the US, although *Focalin XR* has also been filed in Switzerland. A generic version of immediate-release *Focalin* was launched by competitors in the US in 2007.

Lotrel (amlodipine besylate and benazepril hydrochloride) is a high blood pressure treatment which is a single-pill combination of the angiotensin-converting enzyme (ACE) inhibitor benazepril, used in Lotensin/Cibacen, and the calcium channel blocker (CCB) amlodipine. Launched in 1995 and only available in the US, *Lotrel* received generic competition in May 2007, as a result of a "launch at risk" of a generic product by Teva Pharmaceuticals, despite a valid US patent until 2017. Our Sandoz Division has also launched an authorized generic version of this high blood pressure medicine. A trial date has not been set for the ongoing lawsuit against Teva, which risks potentially significant damages if Novartis prevails. There is also the possibility of an at-risk launch by other generic manufacturers after February 2009. Final results from the recently completed ACCOMPLISH trial suggest that a renin angiotensin aldosterone system (RAAS) blocker and amlodipine (calcium channel blocker) as a single-pill combination therapy initiated in high-risk hypertensive patients significantly

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reduces the risk of morbidity and mortality compared with a single-pill combination of ACE and diuretic.

Trileptal (oxcarbazepine) is an anti-epileptic drug for the treatment of partial seizures as adjunctive or monotherapy in both adults and children aged four years and above. In the US, *Trileptal* is approved for the treatment of epilepsy. *Trileptal* acts by stabilizing neuronal functions, thereby controlling and limiting the spread of seizures. It was first approved in Denmark in 1990, in the rest of the EU in 1999, and in the US in 2000. Today it is approved in 101 countries. Since 2007, *Trileptal* has been subject to generic competition, when generic versions of *Trileptal* were launched in the US and Europe. See " Intellectual Property" for further information.

Xolair (omalizumab) is the first humanized monoclonal antibody approved for the treatment of moderate to severe allergic asthma in the US and for severe allergic asthma in the EU in adolescents (aged 12 and above) and adults. It is approved in 61 countries including the US in 2003 and the EU in 2005. In 2007, a boxed warning was added to the US label with updated information on the risk and management of anaphylaxis. *Xolair* is being jointly developed with Genentech, Inc., and is co-promoted in the US by Novartis Pharmaceuticals Corporation and Genentech. We are developing *Xolair* to treat allergic asthma in children (ages 6 and older). In 2008 we also submitted a liquid formulation for European approval. In November 2008, we received a positive CHMP opinion for a liquid formulation of *Xolair* for European approval. In December 2008, *Xolair* was submitted for approval for use in children aged 6 to less than 12 years of age in the EU and US.

Famvir (famciclovir) is an antiviral agent for the treatment of acute herpes zoster (shingles), the treatment or suppression of recurrent genital herpes, and the treatment of recurrent herpes labialis (cold sores) in immunocompetent patients. In addition, *Famvir* is indicated for the treatment of recurrent mucocutaneous herpes simplex infections in HIV-infected patients. *Famvir* was first launched in 1994 and is registered in more than 70 countries. In the EU/EEA, *Famvir* is registered in 24 countries but marketed only in 17. There are also registered generics in ten EU countries. *Famvir* received generic competition in the US in September 2007. See " Intellectual Property" for further information.

Recently Launched Products

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 (AMD) that has been shown in Phase III studies to improve vision and vision-related quality of life. *Lucentis* was approved in the US in June 2006 and the EU in January 2007. It is now approved in more than 70 countries. *Lucentis* is developed in collaboration with Genentech, which holds the rights to market the product in the US. *Lucentis* is in Phase III development for the treatment of diabetic macular edema.

Exjade (deferasirox) is a breakthrough oral iron chelator that enables patients to be continuously protected from the life-threatening consequences of chronic iron overload. *Exjade* is the first once-daily oral iron chelator approved to remove excess iron caused by blood transfusions in patients who have a wide range of underlying anemias. Patients with congenital and acquired chronic anemias, such as thalassemia, sickle cell disease and myelodysplastic syndromes require transfusions as support for their anemia. *Exjade* was first approved in 2005 and is now approved in more than 90 countries including the US, EU and Japan. *Exjade* is being studied in non-transfusion dependent thalassemia and hereditary hemochromatosis.

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Exforge (valsartan and amlodipine besylate) is a single-pill combination of the angiotensin receptor blocker *Diovan* and the calcium channel blocker amlodipine. In 2007, the US and EU approved *Exforge* for the treatment of high blood pressure. It is now approved in over 70 countries and available in over 40. In July 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. Also in 2008 Novartis submitted a single pill combination of *Exforge* and Hydrochlorothiazide (HCT) for FDA approval.

Reclast/Aclasta (zoledronic acid 5 mg) is the first and only once-yearly infusion for the treatment of women with postmenopausal osteoporosis. *Reclast/Aclasta* is approved in almost 80 countries including the US, EU and Canada, and is the only osteoporosis treatment approved to reduce the incidence of fractures at all key fracture sites (hip, spine and non-spine) in the treatment of postmenopausal osteoporosis. It is also approved in more than 80 countries for the treatment of Paget's disease of the bone. The *Reclast/Aclasta* label was expanded in the EU and US to include the incidence of clinical fractures after low trauma hip fracture findings. The EU has also approved *Aclasta* for the treatment of osteoporosis in men, and *Reclast* is approved in the US as a treatment to increase bone mass in men with osteoporosis. *Reclast/Aclasta* has been submitted in the US and the EU for glucocorticoid-induced osteoporosis in men and women. Results of a trial investigating both the prevention and the treatment of glucocorticoid-induced osteoporosis demonstrated that *Reclast/Aclasta* significantly increased bone mineral density in the lumbar spine at 12 months compared to a comparator in both populations. *Reclast* is also under review for the prevention of osteoporosis in postmenopausal women in the US.

Tekturna/Rasilez (aliskiren) is the first and only approved direct renin inhibitor. Approved in the US and EU in 2007 for treating high blood pressure, it is now available in more than 65 countries. The product is known as *Tekturna* in the US and *Rasilez* in the rest of the world. We are investigating various *Tekturna/Rasilez* single-pill combination products. The first single-pill combination, *Tekturna/Rasilez* with hydrochlorothiazide called *Tekturna HCT* was approved by the US in January 2008 and in the EU in January 2009, where it is known as *Rasilez HCT*. In addition, we initiated the ASPIRE HIGHER clinical development program, the largest ongoing cardio-renal outcomes program worldwide, involving more than 35,000 patients in 14 trials. Data from the ALOFT (heart failure) and AVOID (kidney disease) studies, which are part of the ASPIRE HIGHER program, have been added to European product information. We also have additional single-pill combinations under development. A combination of *Tekturna/Rasilez* with *Diovan* (valsartan) has been submitted for approval in the US, and is in Phase III development in Europe. Also in Phase III development are *Tekturna/Rasilez* with the calcium channel blocker amlodipine and a triple-combination therapy with *Tekturna/Rasilez*, amlodipine and a diuretic.

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 many major countries including the US, the EU and Switzerland, to treat a form of chronic myeloid leukemia (CML) in chronic and/or accelerated phase patients resistant or intolerant to existing treatment including *Gleevec/Glivec*. *Tasigna* is now approved in more than 50 countries including Japan, where it was approved in January 2009. A Phase III registration trial is in progress in newly diagnosed chronic phase CML (CML-CP). *Tasigna* is also being studied as a potential treatment for gastrointestinal stromal tumor (GIST), and the recruitment in the Phase III trial has been completed in GIST patients who have failed both *Gleevec/Glivec* and sunitinib. If the results of this study are positive, then we expect to make regulatory submissions for this indication in the second quarter of 2009.

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Galvus (vildagliptin) a new 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 early 2008. *Eucreas* was the first single-pill combination of a DPP-IV inhibitor to be launched in Europe. *Galvus* is approved in more than 50 countries and *Eucreas* is approved in more than 30 countries including the EU and Latin America. In the US *Galvus* received an "approvable letter" in February 2007 that included a request for additional clinical trial data. Some small clinical studies have started, however resubmission for US approval is not currently planned.

Extavia is an injectable therapy for multiple sclerosis (MS). It is a Novartis-branded version of interferon beta-1b, a product currently 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 will supply the product to Novartis under a contract manufacturing arrangement. *Extavia* was approved in the EU in May 2008 and was launched in Germany and Denmark in January 2009. More European launches are planned in 2009. *Extavia* is filed for approval in the US. *Extavia* represents the first entry of Novartis into the treatment of MS.

Suspended or Withdrawn Products

Zelnorm/Zelmac (tegaserod maleate/tegaserod) is a partial serotonin-4 receptor agonist for the treatment of women between 18-54 years with irritable bowel syndrome with constipation, or chronic idiopathic constipation. It was first launched in 2001. Marketing and sales were suspended in the US in March 2007 based on a review of cardiovascular safety data. Subsequently, *Zelnorm/Zelmac* was withdrawn from the market, or had its sales suspended, in most of the countries where the product had been approved. However, it remains available in Brazil, Mexico, Ecuador, Honduras and the Dominican Republic. In 2008, we informed the FDA that there is no plan to resubmit a marketing application for *Zelnorm* in the US, and we closed a treatment Investigational New Drug program for the product. We have an emergency access program in the US and compassionate-use programs in Switzerland, Sweden, Denmark and Singapore to provide *Zelnorm/Zelmac* to specific patients.

Prexige (lumiracoxib) is an oral COX-2 inhibitor for osteoarthritis, acute pain, acute gout and primary dysmenorrhea. It was first approved in 2003 and had been approved in approximately 50 countries. Following a series of severe hepatic events reported in Australia and associated with the chronic use of 200 mg doses of *Prexige* or higher, health authorities, including Australia, the EU and Canada, took regulatory actions including withdrawal of licenses. In September 2007 the FDA sent Novartis a "not approvable" letter for the 100 mg once-daily dose in osteoarthritis. As of December 31, 2008, the only markets in which *Prexige* is still sold were Mexico, Dominican Republic, Ecuador and the Bahamas.

Compounds in Development

The following table and summaries describe certain key compounds and new indications for existing products currently in "Confirmatory" development within our Pharmaceuticals Division. Confirmatory refers to compounds that have established a clinical "proof-of-concept" (PoC) and are in the process of confirming safety and efficacy in patients. PoC clinical trials are small clinical trials (typically 5-15 patients) which 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. The Confirmatory phase has components of traditional Phases II/III and includes the pivotal trials leading up to submission of a dossier to health

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authorities for approval. See " Research and Development" for further information. The traditional phases of development (I,II, and III) are defined as follows:

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

Phase II: Clinical studies that test the safety and efficacy of the compound in patients with the targeted disease, with the goal of determining the appropriate doses for further testing and evaluating study design as well as identifying common side effects and risks.

Phase III: Large scale clinical studies with several hundred to several thousand patients to establish safety and effectiveness for regulatory approval for indicated uses and to evaluate the overall benefit risk relationship.

Therapeutic area	**Project/ Compound**	**Generic name**	**Potential indication/ Disease area**	**Mechanism of action**	**Formulation/ Route of administration**	**Planned filing dates/ Current phase**
Cardiovascular and Metabolism	*Galvus*	vildagliptin	Type 2 diabetes	Dipeptidyl-peptidase 4(DPP-4) inhibitor	Oral	US (registration) EU (approved)
	Galvus fixed-dose combination (*Eucreas* in EU)	vildagliptin & metformin	Type 2 diabetes	Dipeptidyl-peptidase 4(DPP-4) inhibitor & insulin sensitizer	Oral	US (registration) EU (approved)
	Tekturna/ Rasilez fixed-dose combinations	aliskiren and hydrochlorothiazide	Hypertension	Direct renin inhibitor and diuretic	Oral	US (approved) EU (approved)
		aliskiren and valsartan		Direct renin inhibitor and angiotensin II receptor antagonist		US (registration) EU (2009/III)
		aliskiren and amlodipine		Direct renin inhibitor and calcium channel blocker		2009/III
		aliskiren, amlodipine and hydrochlorothiazide		Direct renin inhibitor, calcium channel blocker and diuretic		2010/III
	Diovan and *Starlix* (free combination)	valsartan and nateglinide	Prevention of new onset type 2 diabetes, cardiovascular morbidity and mortality (NAVIGATOR)	ARB and insulin secretagogue	Oral	2010/III
		aliskiren			Tablet	≥ 2012/III

Tekturna ALTITUDE		Renal and cardiovascular events in type 2 diabetes	Direct renin inhibitor		
LCI699	TBD	Heart failure	Aldosterone synthase inhibitor	Intravenous infusion	≥ 2012/II
LCZ696	TBD	Heart failure	ARB/NEP inhibitor	Oral	≥ 2012/II

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Therapeutic area	**Project/ Compound**	**Generic name**	**Potential indication/ Disease area**	**Mechanism of action**	**Formulation/ Route of administration**	**Planned filing dates/ Current phase**
Oncology	*Afinitor* (formerly RAD001)	everolimus	Advanced renal cell carcinoma	mTOR inhibitor	Tablet	US & EU (registration)
			Advanced secretory carcinoid tumors			2009/III
			Pancreatic Neuroendocrine tumors			2009/III
			Solid tumors			≥ 2012/II
	Tasigna	nilotinib	Gastrointestinal stromal tumor in patients having failed both *Gleevec/Glivec* and sunitinib	Signal transduction inhibitor	Capsule	2009/III
			Newly diagnosed chronic myeloid leukemia			2010/III
	EPO906	patupilone	Ovarian cancer	Microtubule stabilizer	Intravenous	2010/III
	SOM230	pasireotide	Cushing's disease	Somatostatin analogue	Subcutaneous injection	2010/III
			Refractory/ resistant carcinoid syndrome		Intramusculaar injection (monthly depot)	2010/II
			Acromegaly		Intramusculaar injection (monthly depot)	2011/III
	Zometa	zoledronic acid	Adjuvant breast cancer	Zoledronic acid	Intravenous	2010/III
	ASA404	TBD	Non-small cell lung cancer	Tumor vascular disrupting agent	Intravenous	2011/III
	PKC412	midostaurin	Acute myeloid leukemia	Multi-targeted kinase inhibitor (FLT-3 inhibition)	Oral	≥ 2012/III
			Aggressive systemic mastocytosis	Multi-targeted kinase inhibitor (c-kit inhibition)		2011/II
	LBH589	panobinostat	Cutaneous T-cell lymphoma	Deacetylase (DAC) inhibitor	Oral	2009/II

		Hodgkin's lymphoma		Oral	2010/II
		Hematological and solid tumors		Oral and Intravenous	≥ 2012/I
Exjade	deferasorix	Non-transfusion dependent iron overload in beta-thalassemia	Binds and removes iron	Dispersible tablet	≥ 2012/II
		Hereditary hemochromatosis			≥ 2012/II

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Therapeutic area	**Project/ Compound**	**Generic name**	**Potential indication/ Disease area**	**Mechanism of action**	**Formulation/ Route of administration**	**Planned filing dates/ Current phase**
Neuroscience and Ophthalmics	*Extavia*	interferon beta-1b	Multiple sclerosis	Interferon beta-1b immunomodulator	Injection	EU (approved) US (registration)
	AGO178	agomelatine	Major depressive disorder	MT1 and MT2 agonist and 5-HT2c antagonist	Oral	2009/III
	FTY720	fingolimod	Multiple sclerosis	Sphingosine-1-phosphate (S1P) receptor modulator	Oral	2009/III
	Lucentis	ranibizumab	Diabetic macular edema	Anti-VEGF monoclonal antibody fragment	Intravitreal injection	2010/III
	AFQ056	TBD	L-dopa induced dyskinesia in Parkinson's disease	mGluR5 antagonist	Oral	≥ 2012/II
	CAD106	TBD	Alzheimer's disease	Beta-amyloid-protein immunotherapy	Solution	≥ 2012/II
Respiratory	QAB149	indacaterol	Chronic obstructive pulmonary disease	Long-acting beta-2 agonist	Inhalation	US & EU (registration)
	Xolair	omalizumab	Allergic asthma in patients aged 6 to less than 12 years	Anti-IgE monoclonal antibody	Lyophilized powder for reconstitution as subcutaneous injection	US & EU (registration)
			Allergic asthma		Liquid formulation for subcutaneous injection	EU (registration) US (2009/III)
	MFF258	formoterol and mometasone furoate	Asthma	Long-acting beta-2 agonist and corticosteroid	Inhalation	2009/III
			Chronic obstructive pulmonary disease			2009/III
	TBM100	tobramycin	Pseudomonas aeruginosa infection in cystic fibrosis patients	Aminoglycoside antibiotic	Inhalation	2009/III
	Gleevec/Glivec	imatinib mesylate/ imatinib	Pulmonary arterial hypertension	Signal transduction inhibitor	Oral	2011/II
	NVA237	glycopyrronium bromide	Chronic obstructive pulmonary disease	Long-acting muscarinic antagonist	Inhalation	2011/II
	QVA149	indacaterol and glycopyrronium bromide	Chronic obstructive pulmonary disease	Long-acting beta-2 agonist and long-acting muscarinic antagonist	Inhalation	2011/II

NIC002	TBD	Smoking cessation	Nicotine Qbeta therapeutic vaccine	Injection	≥ 2012/II
QAX028	TBD	Chronic obstructive pulmonary disease	Long-acting muscarinic antagonist	Inhalation	≥ 2012/II
QMF149	indacaterol and mometasone furoate	Chronic obstructive pulmonary disease	Long-acting beta-2 agonist and corticosteroid	Inhalation	≥ 2012/II
		Asthma			≥ 2012/II

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Therapeutic area	Project/ Compound	Generic name	Potential indication/ Disease area	Mechanism of action	Formulation/ Route of administration	Planned filing dates/ Current phase
Immunology and Infectious Diseases	ACZ885	canakinumab	Cryopyrin-associated periodic syndrome (CAPS)	Anti IL-1b monoclonal antibody	Injection	US & EU (registration)
			Systemic onset juvenile idiopathic arthritis			2011/II
			Rheumatoid arthritis			≥ 2012/II
	Certican	everolimus	Prevention of organ rejection heart and kidney	Growth-factor-induced cell proliferation inhibitor	Oral	US (registration)
			Prevention of organ rejection liver			2010/III
	Reclast/ Aclasta	zoledronic acid 5 mg	Glucocorticoid-induced osteoporosis	Osteoclast mediated bone resorption inhibitor	Intravenous infusion	US & EU (registration)
			Post-menopausal osteoporosis prevention			US (registration)
	ABF656	albinterferon alfa-2b	Chronic hepatitis C	Interferon alpha-type activity	Injection	2009/III
	Elidel	pimecrolimus	Atopic dermatitis in infants	T-cell and mast cell inhibitor	Cream	2011/III
	SMC021	salmon calcitonin	Osteoarthritis	Regulator of calcium homeostasis	Oral	2011/III
			Osteoporosis	Inhibition of osteoclast activity		2011/III
	Mycograb	efungumab	Invasive candida	Antibody fragment vs. fungal HSP90	Intravenous infusion	≥ 2012/III
	SBR759	TBD	Hyperphosphatemia	Selective binding of phosphate (Fe(III) containing polymer)	Powder for oral suspension	2010/II
	PTZ601	TBD	Hospital bacterial infections	Carbapenem antibiotic	Intravenous infusion	2011/II
	AEB071	sotrastaurin	Prevention of organ rejection kidney	Protein kinase C inhibitor	Oral	≥ 2012/II
	AIN457	TBD	Psoriasis	Anti IL-17 monoclonal antibody	Lyophilisate in ampule	≥ 2012/II

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

ABF656 (albinterferon alfa-2b) is a novel long-acting fusion protein having interferon alpha-type activity in Phase III development since 2006 for the treatment of chronic hepatitis C in combination with ribavirin. ABF656 was licensed from, and is being co-developed with, Human Genome Sciences Inc. We have co-promotion rights in the US and exclusive promotion and marketing rights in the rest of the world. In recent Phase III clinical trial results, based on an ITT analysis of the treatment group assigned to receive 900-mcg albinterferon alfa-2b every two weeks, albinterferon alfa-2b met its primary efficacy endpoint of non-inferiority to peginterferon alfa-2a. Additional Phase III results are expected in March 2009.

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ACZ885 is a human monoclonal antibody providing potent and selective blockade of interleukin-1b (IL-1b), a cytokine linked to inflammation, thus targeting IL-1b driven diseases. ACZ885 began Phase III development in 2007 for cryopyrin-associated periodic syndromes (CAPS), a group of rare disorders characterized by chronic recurrent urticaria, occasional arthritis, deafness, and other general signs of inflammation. A Phase I/II clinical study in CAPS patients showed immediate and long lasting clinical remission for patients treated with ACZ885. In December 2008, we filed ACZ885 for regulatory approval in this indication in the US, the EU and Switzerland. ACZ885 is also being developed for the treatment of systemic onset juvenile idiopathic arthritis and adult rheumatoid arthritis.

Afinitor (everolimus, formerly RAD001), a once-daily oral inhibitor of the mTOR pathway that has demonstrated broad clinical activity in multiple tumors, is in late stage development for the treatment of advanced renal cell carcinoma (RCC) and neuroendocrine tumors. *Afinitor* acts by directly inhibiting tumor cell growth and metabolism as well as the formation of new blood vessels (angiogenesis). Results from a Phase III study of *Afinitor* in metastatic RCC have been submitted to regulatory agencies in the US, EU and Switzerland. Additional submissions worldwide are planned. Additional Phase III studies are underway in patients with advanced secretory carcinoid tumors and pancreatic neuroendocrine tumors. Proof of concept with *Afinitor* as a single agent and in combination with other therapies has been demonstrated in the Phase I-II setting with tumor shrinkage or prolonged stable disease shown in lymphoma, breast and gastric cancers, hepatocellular carcinoma and in patients with tuberous sclerosis complex. Based on these data, Novartis plans to initiate new registration trials to evaluate the potential of *Afinitor* in these indications and in non-functional carcinoid tumors in combination with SOM230 in 2009. The active ingredient in *Afinitor* is everolimus, which is available in different dosage strengths under the trade name *Certican* for the prevention of organ rejection in heart and kidney transplant recipients. The trade name *Afinitor* is subject to regulatory approval.

AFQ056 is a metabotropic glutamate receptor 5 (mGluR5) antagonist with the potential to become the first approved treatment for Parkinson's disease levodopa-induced dyskinesia (PD-LID). No therapy has previously been approved for this disease, which is a complication after dopamine-replacement therapy in Parkinson's patients and which is characterized by a variety of hyperkinetic movements. AFQ056 recently showed positive results in a proof-of-concept trial in PD-LID and is proceeding in Phase II development.

AGO178 (agomelatine) is an MT1/MT2 receptor agonist and 5-HT2c antagonist for the treatment of major depressive disorder. AGO178 has a novel, synergistic mechanism of action which gives the potential for a more favorable adverse event profile compared with current therapies. Three Phase III trials are nearing completion in the US. Under license from Servier, we have the exclusive rights to develop and market the compound in the US and several other countries.

AIN457 is a monoclonal antibody neutralizing Interleukin-17A currently in Phase II development for the treatment of psoriasis and other immune mediated inflammatory diseases. Inhibition of IL-17A, a pro-inflammatory cytokine secreted by activated T-cells, represents a novel approach to treat a series of autoimmune and inflammatory diseases.

ASA404 is a unique Tumor Vascular Disrupting Agent (Tumor-VDA) that selectively causes disruption of established tumor vasculature, inhibition of tumor blood flow and extensive tumor necrosis. Phase II data in non-small cell lung cancer (NSCLC) show a significant survival benefit with ASA404 in combination with standard chemotherapy compared with chemotherapy alone. Phase III trials have now commenced enrollment with studies in first- and second-line NSCLC. Development of ASA404 for additional cancer indications is currently under evaluation. ASA404 was licensed from Antisoma plc, UK in April 2007.

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Certican (everolimus) is a growth-factor-induced cell proliferation inhibitor. In the US, *Certican* is currently in registration for the prevention of organ rejection in heart and kidney. In 2008, *Certican* entered Phase III development for the prevention of organ rejection in liver.

EPO906 (patupilone) is a novel microtubule stabilizer that has shown broad anti-cancer activity pre-clinically, including anti-vascular and anti-metastatic activity. Clinical activity of EPO906 as a single agent has been demonstrated in multiple solid tumors, including where taxanes are not traditionally active (e.g., CRC, brain metastases). The global development program for EPO 906 is based on a Phase III study which is underway in platinum resistant/refractory ovarian cancer.

FTY720 (fingolimod), a sphingosine-1-phosphate receptor modulator, has the potential to become the first oral disease-modifying treatment for patients with relapsing multiple sclerosis, a disabling neurological condition estimated to affect approximately 2.5 million people worldwide. Phase II data evidence a profound reduction in relapses and inflammatory disease activity as seen by magnetic resonance imaging, an effect that has since been maintained for three years. The Phase III program started in 2006, and is currently ongoing. First Phase III results from the TRANSFORMS study for FTY720 showed superior relapse-related efficacy at one year compared to interferon beta-1a. FTY720 was generally well-tolerated and its safety profile was in line with previous clinical experience. Further analysis of the TRANSFORMS data and results from two other ongoing Phase III studies will help to provide a more comprehensive assessment of FTY720's risk/benefit profile. FTY720 was licensed from Mitsubishi Tanabe Pharma Corporation.

LBH589 (panobinostat) is a novel, highly potent, multi-targeted pan-deacetylase inhibitor. The availability of both an oral and an intravenous (IV) formulation offers flexibility in developing combination regimens with multiple anticancer agents. In an ongoing Phase II study, LBH589 has shown activity in advanced refractory Cutaneous T-cell Lymphoma, a rare type of lymphoma that mainly affects the skin. In the Phase 1 setting, LBH589 demonstrated preliminary efficacy in patients with a range of diseases, including acute myeloid leukemia, Hodgkin's lymphoma, multiple myeloma, myelodysplastic syndrome and prostate cancer. A broad clinical program is ongoing to evaluate LBH589 as a single agent or in a combination regimen in Hodgkin's lymphoma, hematological malignancies and solid tumors. LBH589 is well tolerated in patients with advanced cancer when administered three times per week (oral) or weekly (IV).

LCZ696 is a novel dual-acting molecule that blocks the angiotensin receptor and inhibits the neutral endopeptidase (NEP) enzyme. The compound is set to enter Phase III development in 2009 in the treatment of heart failure, an indication in which ACE inhibitors are the current standard of care. Phase II studies involving 1,300 patients demonstrated that LCZ696 provides superior blood pressure lowering as compared to valsartan. LCZ696 was well tolerated.

MFF258 (formoterol and mometasone furoate) is in Phase III development, since 2006, for the treatment of chronic obstructive pulmonary disease (COPD) and asthma. MFF258 combines the long-acting beta-2 agonist *Foradil* (formoterol fumarate) with mometasone in a metered dose inhaler device. We are co-developing this combination product with Schering-Plough.

Mycograb (efungumab) is an antibody fragment used in combination with antifungal agents for treatment of invasive candida infections. *Mycograb* was acquired as part of our acquisition of NeuTec Pharma in 2006. In 2007, the EU Committee for Medicinal Products for Human Use (CHMP) upheld its negative opinion from 2006 on the *Mycograb* submission by NeuTec, citing issues concerning the manufacturing process. We continue to work with European regulators to address these concerns.

PKC412 (midostaurin) is an oral, multi-targeted, kinase inhibitor that has shown activity in several neoplastic diseases, including acute myeloid leukemia (AML). PKC412 used in combination with standard chemotherapy (daunorubicin and high dose cytarabine) has improved clinical response rates of FLT3-mutated AML patients compared to chemotherapy alone (based on historical

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control). PKC412 as a single agent has also demonstrated clinical activity in mast cell leukemia patients and in patients with aggressive systemic mastocytosis (ASM). In 2008, a randomized Phase III study was initiated to evaluate the potential survival benefit in patients being treated with PKC412 in combination with chemotherapy compared to the use of chemotherapy alone in newly diagnosed patients with AML with FLT3 mutations. The trial is being conducted in collaboration with CALGB (Cancer and Leukemia Group B) and other cooperative groups. In addition, a phase II pivotal trial was initiated in 2008 to evaluate the activity of PKC412 as monotherapy in treating patients with ASM.

QAB149 (indacaterol) is a once-daily beta-2 agonist that offers sustained 24-hour bronchodilation with fast onset of action for the treatment of COPD. QAB149 is being developed in a single-dose dry-powder inhaler. Results from Phase III studies demonstrated a statistically significant improvement in lung function compared to placebo within five minutes of taking the first dose, and a favorable safety profile. QAB was submitted for regulatory approval in the US and EU in December 2008.

QMF149 is a once-daily fixed dose combination of the long-acting beta-2 agonist QAB149 and mometasone. It is being developed in Schering-Plough's 'Twisthaler' inhalation device for the treatment of asthma and COPD. QMF149 is jointly developed by Novartis and Schering-Plough, and is currently in Phase II development.

QVA149 is a once-daily fixed dose combination of the long-acting beta-2 agonist QAB149 and the long-acting muscarinic antagonist NVA237 (glycopyrronium bromide). QVA149 is in Phase II development (in a concept-1 dry-powder inhaler) for the treatment of COPD. The two bronchodilators were shown in free combination to provide greater bronchodilation and symptomatic control than either administered alone.

SOM230 (pasireotide) is a somatostatin analogue in development for Cushing's disease, acromegaly and carcinoid syndrome that is refractory/resistant to Sandostatin. Data from Phase II studies show significant hormone reductions in Cushing's disease and acromegaly patients, and achievement of partial or complete symptom control in patients with refractory/resistant carcinoid syndrome. Phase III studies are currently underway in Cushing's disease, acromegaly and carcinoid syndrome that is refractory/resistant to *Sandostatin*.

Terminated Projects

ACZ885 (canakinumab) for wet age-related macular degeneration

Aurograb for Staph. aureus infections

BCT194 for psoriasis

Lamisil (terbinafine) for onychomycosis

LBQ707 for solid tumors

LBY135 for solid tumors and hematological malignancies

Prexige (lumiracoxib) for osteoarthritis

TFP561 (tifacogin) for severe community acquired pneumonia

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 81%

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of 2008 net sales. The following table sets forth certain data relating to our principal markets in the Pharmaceuticals Division.

Pharmaceuticals	2008 Net sales to third parties ($ millions)	(%)
United States	8,616	33
Americas (except the United States)	2,346	9
Europe	10,138	38
Japan	2,615	10
Rest of the World	2,616	10
Total	**26,331**	**100**

Looking ahead we will selectively invest more in emerging growth markets such as China, Russia, South Korea and Turkey.

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. To achieve this objective, we manufacture our products at five bulk chemical and 15 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 a biological process 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 Basel, Switzerland; Grimsby, UK; and Ringaskiddy, Ireland, and Changshu, China. Significant pharmaceutical production facilities are located in Stein, Switzerland; Wehr, Germany; Torre, Italy; Barbera, Spain; Suffern, New York; Sasayama, Japan and in various other locations in Europe, including France, the UK and Turkey. Our three biotechnology plants are in France, Switzerland and the US.

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 throughout a product's life cycle.

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. All raw materials we purchase must comply with our quality standards.

While we have not experienced material supply interruptions in the past, there can be no assurance that supply will not be interrupted in the future as a result of unforeseen circumstances. The manufacture of our products is heavily regulated, making supply never an absolute certainty. If we or our third party

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suppliers fail to comply fully with such regulations then there could be a product recall or a government-enforced shutdown of production facilities, which in turn could lead to product shortages. We have implemented a global manufacturing strategy to maximize business continuity.

Marketing and Sales

The Pharmaceuticals Division serves customers with approximately 5,750 field force representatives in the US (including supervisors), and an additional 15,300 in the rest of the world. These trained representatives, where permitted by law, present the therapeutic and economic benefits of our products to physicians, pharmacists, hospitals, insurance groups and managed care organizations.

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 are 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.

We are seeing worldwide the increasing influence of customer groups beyond prescribers, such as payers, pharmacists and patients. Novartis is responding by increasingly using innovative pricing arrangements to accelerate and broaden market access, and we are developing programs to innovate our commercial model and tailor our marketing efforts to the distinct needs of these different stakeholder groups. As part of that effort, we announced in 2008 an innovative new program called "Customer Centric Initiative" to implement a new regional US business model that will better address customer needs and differences in local market dynamics. As part of this program, we have created five new regional units that have cross-functional responsibility for our full primary care product portfolio, replacing our nationally managed sales forces. This new model is designed to be more effective at driving sales growth by better meeting the diverse needs of multiple customers as well as a more efficient deployment of resources. We plan to reduce the size of our US sales force organization by about 550 full-time equivalent positions in a socially responsible manner, with more than half of the reductions planned from not filling already vacant positions.

Competition

The global pharmaceutical market is highly competitive and we compete against other major international corporations with substantial financial and other resources, which sell branded 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 an increasing challenge from companies selling generic forms of our products following the expiry of patent protection. Generic companies may also gain entry to the market through successfully challenging our patents, but we vigorously defend our intellectual property rights from generic challenges that infringe upon our patents and trademarks. Some generics manufacturers, however, are increasingly conducting so-called "launches at risk" of products that are still under legal challenge for patent infringement and before final resolution of legal proceedings. In addition, we also face competition from over-the-counter (OTC) products that do not require a prescription from a physician.

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

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Research and Development

We are among the leaders in the pharmaceuticals industry in terms of research and development investment. In 2008, we invested approximately $5.7 billion in Pharmaceuticals Division research and development, which represented 21.7% of the division's total net sales. Our Pharmaceuticals Division invested $5.1 billion and $4.3 billion on research and development in 2007 and 2006 respectively. There are currently 152 projects in clinical development.

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.

Research program

Our Research program is responsible for the discovery of new drugs. In 2003, we established the Novartis Institutes for BioMedical Research (NIBR). NIBR is headquartered in Cambridge, Massachusetts with more than 90,000 square meters of space housing more than 1,400 scientists and associates. Disease-area research groups in Cambridge include cardiovascular and metabolism disease, infectious disease, oncology, muscle disorders and ophthalmology. The Cambridge-based discovery research platforms include Developmental and Molecular Pathways, NIBR Biologics Center and Global Discovery Chemistry. An additional 2,300 scientists and technology experts conduct research in Switzerland, UK, Japan, Austria, China and two other US sites. Research is conducted in the areas of neuroscience, autoimmune disease, oncology, cardiovascular disease, dermatology, gastrointestinal disease and respiratory disease at these sites. In addition, research platforms such as the Center for Proteomic Chemistry are headquartered in the NIBR site in Basel, Switzerland. There were two changes to NIBR in 2008: first, the Biologics Center was transferred to the Novartis Pharmaceutical Division's Development organization; second, the Development organization transferred its exploratory development group to NIBR.

Our principal goal is to discover new medicines for diseases with high unmet medical need. To do so we focus our work in areas where we believe we have the potential to dramatically change the practice of medicine and sufficient information to make the target scientifically manageable. This requires the hiring and retention of the best talent, the focus upon fundamental disease mechanisms that are relevant across different disease areas, the continuous improvement in technologies for drug discovery and potential therapies, the 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.

Over the past five years, the output from NIBR has grown progressively. The portfolio of pre-clinical and early clinical New Molecular Entities has increased over 50% in the last four years. Antibodies and protein therapeutics have grown to constitute 25% of NIBR's pre-clinical portfolio.

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 20 to 80 normal, healthy volunteers. The tests

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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 (i.e. people with the targeted disease) 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 some cases more than 15,000 patients in total) 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."

Initiatives to optimize the research and development processes

At the end of 2007, Novartis launched Project Forward to enhance productivity and streamline decision making by eliminating unnecessary bureaucracy. Targeted initiatives within the Divisions will generate significant cost savings and realign resources to rapidly meet the needs of patients in a dynamically changing healthcare industry.

In the Pharmaceutical Division, as part of Project Forward, the Development organization is implementing Project Step Up, a program designed to strengthen and empower project teams, integrate decision making and cross-functional teams, and simplify governance, while maintaining functional excellence. Step Up also includes initiatives to enhance the partnership between Global Marketing and Development. We expect to implement Step Up by early 2009.

Alliances and acquisitions

Our Pharmaceuticals Division forms alliances with other pharmaceutical and biotechnology companies and with academic institutions in order to develop new products, acquire platform technologies 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, especially those in the US, Switzerland, the EU 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

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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 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 a neighboring 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 process 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) for the drug. The NDA must contain all the scientific information that has been gathered about the drug and typically includes information regarding the clinical experiences of all patients tested in the drug's clinical trials. A Supplemental New Drug Application (sNDA) must be filed for a line extension of, or new indications for, a previously registered drug. Throughout the life cycle of a product, the FDA also requires compliance with standards relating to good laboratory, clinical and manufacturing practices.

Once an NDA 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. These recommendations are consolidated and are used by the Senior FDA staff in its final evaluation of the NDA. Based on that final evaluation, FDA then provides to the NDA's sponsor an approval, or a "complete response" letter if the application is not approved. If not approved, the letter will state the specific deficiencies in the NDA 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 sNDA, 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.

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

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products intended for commercialization in a single EU member state only, or for line extensions to existing national product licenses.

Under the Centralized Procedure, applications are made to the European Medicines Agency (EMEA) 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, and optional for other new chemical entities or innovative medicinal products. 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 EMEA. The EMEA 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/Co-Rapporteur's Assessment Report. When the company's complete response is received by the EMEA, the clock restarts on day 121. If there are further aspects of the dossier requiring clarification, the EMEA will then request an Oral Explanation on day 180, in which the sponsor must appear before the EMEA'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. In the decentralized procedure the application is done simultaneously in selected or all Member States. Subsequently, the company may seek mutual recognition of this first authorization from some or all of the remaining EU Member States. Then, within 90 days of this initial decision, each Member State reviews the application and can issue objections or requests for additional information. On Day 90, each Member State must be assured that the product is safe and effective, and that it will cause no risks to the public health. Once agreement has been reached, each Member State grants national marketing authorization for the product.

After the Marketing Authorizations have been granted, the company must submit periodic safety reports to the EMEA (Centralized Procedure) or to the National Health Authorities (MRP). These Marketing Authorizations must be renewed every five years.

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 the recent elections and the consolidating Democratic control of both houses of Congress and the Executive branch of government, there is a significant risk of legislative action to control prices including, potentially, amendments to the 2006 Medicare reform legislation which would enable the US government to use its significant purchasing power to demand additional discounts from pharmaceutical companies.

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,

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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.

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 branded 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, there are ongoing political efforts at the federal, state and local levels to change the legal status of such imports, and we expect those pressures to intensify as a result of the Democratic takeover of Congress and the White House.

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, and know-how 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 law 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.

The protection offered by such patents extends for varying periods depending on the grant, duration and enforceability of patents in the various countries. The protection afforded, which may vary from country to country, depends upon the type of patent and its scope of coverage. The duration of the protection will further depend on patent expiry data and the availability of patent term extensions, as well as other regulatory provisions for exclusivity such as data exclusivity, orphan drug status and pediatric exclusivity. We monitor our competitors worldwide and vigorously defend against infringements of our intellectual property.

However, patent protection for the active ingredients used in a number of our Pharmaceuticals Division's leading products has been challenged in on-going litigation or has expired, or is near expiry in the US and in other markets (for convenience the major EU countries and Japan are collectively referred to as "other markets"):

Diovan/Co-Diovan/Diovan HCT. We have patent protection (including extensions) on valsartan, the active ingredient used in our best-selling product *Diovan*, until 2011 in the major countries of

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the EU (until February 2011 in Spain, and until May 2011 in France, Germany, Italy and the UK); until September 2012 in the US, and until 2013 in Japan. No litigations concerning the *Diovan* patents are currently ongoing in the US.

Gleevec/Glivec. We have patent protection (including extensions) 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 Novartis does 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, but it was lifted in 2008. That litigation is ongoing. In Russia, we have a patent covering the compound and a permanent injunction was obtained against a company that filed for marketing authorization for a generic version of *Glivec*. An appeal of the lower court's ruling is pending.

Zometa and *Reclast/Aclasta* Patent protection on zoledronic acid, the active ingredient in these products, will expire in 2013 in the US and 2012 in other major markets. Patent litigation against a generic manufacturer who has challenged the patent is on-going. An at-risk launch of a generic version of *Zometa* is possible in the US beginning at the end of 2010 when the 30-month stay period expires, absent any negative court decision before then. For *Reclast,* the 30-month stay period expires in May 2011, making an at-risk launch possible at that time, or earlier in the event of an earlier negative court decision.

Femara. Patent protection for the active ingredient in *Femara* will expire in 2011 in the US as well as in major European markets, and in 2012 in Japan. Patent litigation against a generic manufacturer who challenged this patent has been settled.

Sandostatin. Patent protection for the active ingredient of *Sandostatin* has expired. Generic versions of *Sandostatin SC* have been approved in the US and elsewhere. Patents protecting the *Sandostatin LAR* formulation, the long-acting version of *Sandostatin* which represents a majority of our sales, expire in 2014 and beyond in the US and in 2010 in other markets outside the US.

Neoral. Patent protection for the cyclosporin ingredient of *Neoral* has expired worldwide. Patent protection covering the *Neoral* micro-emulsion formulation patent and other patents is due to expire in September 2009 and beyond in major markets. However, generic cyclosporin products competing with *Neoral* have already entered the market in the US, Germany, Japan, Canada and elsewhere. A permanent injunction has been obtained in the Netherlands and preliminary injunctions have been obtained in Spain and the UK against certain manufacturers. Injunctions have so far not been obtained in other countries. Revenue from this product has declined from its peak, and may decline significantly in the future as a result of ongoing generic competition.

Lucentis. Patent protection for the active ingredient in *Lucentis* expires in 2018-22 in Europe, Japan and other major markets. In the US *Lucentis* is marketed by Genentech. In countries other than the US, Genentech has licensed *Lucentis* to Novartis.

Exelon. Patent protection for the active ingredient in *Exelon*, granted to Proterra and licensed to Novartis, is expiring 2012 in the US and 2011 in most other markets. Novartis holds a patent on a specific isomeric form of the active ingredient used in *Exelon* which expires in 2012-14 in major markets. Generic manufacturers filed applications to market a version of *Exelon* capsules in the US, but not the *Exelon* Patch, and challenged our patents. The resultant US lawsuits have been settled. Under the terms of the settlement agreements, Novartis has granted the generic manufacturers a license to our US patents covering *Exelon.* The agreements generally permit the generic manufacturers to launch a generic version of *Exelon* capsules, but not of the *Exelon* Patch, prior to the patent expiration date. A generic manufacturer of Exelon capsules has

filed a lawsuit

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challenging a Canadian patent on the specific isomeric form of the active ingredient which expires September 2009. The lawsuit is ongoing.

Voltaren. Patent protection for the active ingredient in *Voltaren* has expired. Revenue from this product may decline significantly in the future as a result of ongoing generic competition.

Lescol. Patent protection for the active ingredient in *Lescol* will expire in 2012 (including pediatric exclusivity) in the US and has already expired in August 2008 in major European markets. Formulation patents expire 2012 and beyond. Patent litigation under the compound patent is ongoing against a generic manufacturer who filed for marketing authorization for a generic version of *Lescol* in the US, challenging the patent on the active ingredient and one formulation patent. An at-risk launch of a generic version of this product is possible in the US beginning in February 2011, at the expiration of the 30-month stay, absent any negative court decision before then. Other generic manufacturers have filed for marketing authorization challenging formulation patents for *Lescol XL* in the US. In Europe, several generic manufacturers have challenged the validity of formulation patents for *Lescol XL* that expire in 2017 at the European Patent Office (EPO), and in court in a number of countries. Conflicting decisions by the EPO, the UK and the Netherlands with the EPO upholding the patent, the courts revoking it are now on or subject to appeal.

Exjade. Patent protection for the active ingredient in *Exjade* will expire in 2019 in the US and 2021 in other markets.

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, are also granted. Patent litigation concerning the patent on entacapone by Orion is ongoing against generic manufacturers who have challenged these patents in the US. An at-risk launch of a generic version of this product is possible in the US beginning in February 2010, at the expiration of the 30-month stay, absent any negative court decision before then. Novartis is not party to the pending litigation.

Stalevo. One of the active ingredients in the combination product *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, is ongoing against generic manufacturers who have challenged the patent on entacapone and formulation patents in the US. An at-risk launch of a generic version of this product is possible in the US beginning in June 2010, at the expiration of the 30-month stay, absent any negative court decision before then. Novartis is not party to the pending litigation.

Ritalin LA. Patent protection for the active ingredient of *Ritalin LA* has expired. The formulation of *Ritalin LA* and its use is covered by patents granted to Celgene and Elan and licensed to Novartis, expiring up to 2018 in the US. Patent litigation against generic manufacturers who challenged these patents is ongoing in the US. An at-risk launch of a generic version of this product in the US is possible beginning in April 2009, at the expiration of the 30-month stay, absent any negative court decision before then.

Focalin. The formulation of *Focalin XR* and its use are covered by patents granted to Celgene and Elan and licensed to Novartis. Protection expires 2015-18 in the US and in other markets. Patent litigation against generic manufacturers who challenged these patents is ongoing in the US. An at-risk launch of a generic version of this product is possible in the US beginning in February 2010, at the expiration of the 30-month stay, absent any negative court decision before then.

Exforge. is a single-pill combination medication of amlodipine besylate and valsartan. The valsartan patent expires 2011-13 (see above). The *Exforge* pill patent will expire in 2019 and has been challenged in both the US and Europe. In Europe opposition proceedings are ongoing.

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Lotrel is protected by a patent on compositions containing amlodipine and benazepril in the US until 2017. Patent litigation challenging the patent is ongoing in the US. A trial is expected in 2010. Low-dose generic versions of *Lotrel* have been launched at-risk by one generics manufacturer. It is possible that other generics manufacturers will launch their own generic versions of *Lotrel* at risk at some time after February 2009 when the FDA can fully approve such other generic versions. Revenue from this product has declined significantly, and may decline further in the future as a result of continued and additional generic competition.

Trileptal. Patent protection for the active ingredient of *Trileptal* has expired. A patent has been granted in the US directed to a method of treating seizures with our marketed formulations of *Trileptal,* expiring 2018. In Europe, the corresponding granted patent is currently being challenged. Patent litigation was started against generic manufacturers that have filed applications to market generic versions of *Trileptal* in the US and challenge the validity of *Trileptal* patents, and has now been withdrawn. Generic versions of *Trileptal* have been marketed in the US and elsewhere. Revenue from this product has declined, and may decline significantly in the future as a result of ongoing generic competition.

Xolair. Patent protection for the active ingredient in *Xolair* will expire in 2018 in the US and in 2017 in other markets.

Famvir. Patent protection for the active ingredient in *Famvir* expires in 2010 in the US, and has expired in most other markets. Patents on methods of use will expire in 2014 and 2015. Patent litigation against the generic manufacturers which challenged these patents is ongoing in the US. In 2007, one generic manufacturer launched generic *Famvir* at-risk in the US, and related litigation is ongoing. Revenue from this product has declined, and may decline significantly in the future as a result of ongoing generic competition.

Tekturna/Rasilez. Patent protection for the active ingredient of *Tekturna/Rasilez* will expire in 2018 in the US and between 2015 and 2020 in other markets.

Tasigna. Patent protection for the active ingredient in *Tasigna* will expire in 2023 in the US and other major markets.

Galvus. Patent protection for the active ingredient of *Galvus* is estimated to expire, with extensions in 2024 in the US and 2019-24 in other markets.

Zelmac/Zelnorm. Patent protection for the active ingredient of *Zelmac/Zelnorm* will expire in 2016 in the US and 2012 in Europe and other markets.

Prexige. Patent protection for the active ingredient in *Prexige* will expire in 2018 in the US and major countries.

The loss of patent protection can have a significant adverse impact on our Pharmaceuticals Division. We work to offset these negative effects by developing process and product enhancements, protecting those enhancements with patents, and by positioning many of our products in specific market niches. However, there can be no assurance that these strategies will be effective in the future to ensure competitive advantage, or that we will be able to avoid substantial adverse effects from the loss of patent protection in the future.

VACCINES AND DIAGNOSTICS

Our Vaccines and Diagnostics Division is a leader in the research, development, manufacturing and marketing of vaccines and blood tests and instruments worldwide. As of December 31, 2008, the Vaccines and Diagnostics Division employed 4,774 associates worldwide in 16

countries. In 2008, the Vaccines and Diagnostics Division had consolidated net sales of $1.8 billion representing 4% of total Group net sales from continuing operations.

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The Novartis Vaccines and Diagnostics Division is the world's fifth-largest vaccines manufacturer, according to analyses of competitor annual reports, and is growing at double-digit rates. Our vaccine products include influenza, meningococcal, pediatric, adult and travel vaccines. Our blood testing business is dedicated to preventing the spread of infectious diseases through the development of novel blood-screening tools.

The current product portfolio of our Vaccines and Diagnostics Division includes more than 20 marketed products, many of which are their respective market leaders. In addition, the division's portfolio of development projects includes nine potential new products and new indications or formulations for existing products in various stages of clinical development.

Menveo (MenACWY-CRM), a quadrivalent conjugate vaccine for the prevention of the A, C, Y and W-135 strains of meningococcal disease, was submitted for marketing authorization in the US and Europe in 2008 for use in individuals 11-55 years old. Our *Menveo* Phase III program for the additional indication of the prevention of the disease in persons aged 2 months to 10 years old is ongoing, and it is expected to be expanded by 1,500 additional infants following recent discussions with the FDA. As a result of this new requirement, the US submission of *Menveo* for use in infants is not expected until 2011.

The menB vaccine has shown potential to be the first to protect infants as young as six months from the deadly meningococcal B serogroup. Clinical trial results issued in 2008 showed nearly all infants age six to 12 months in a Phase II study generated a protective immune response as early as one month after the second dose against strains representing multiple antigens in the vaccine. Another 2008 study showed the vaccine worked in infants who received it starting at two months of age. A Phase III trial in infants and children is underway.

Ixiaro vaccine for the prevention of Japanese encephalitis in travelers to Asia has been submitted for marketing approval in the US and in the EU, where it received a positive opinion from the CHMP in December 2008. Further pediatric studies with the vaccine are planned.

Novartis has continued to strengthen its vaccine pipeline through a number of new partnerships in 2008. We received an exclusive license to AlphaVax' investigational cytomegalovirus vaccine for prevention of disease in newborns. The vaccine is completing Phase I development. Intercell also transferred on an exclusive basis its preclinical Group B streptococcus (GBS) vaccine program to Novartis. The GBS vaccine program was part of the vaccine portfolio for which Intercell had granted license options to Novartis under a strategic partnership entered into in 2007.

In 2008, the Vaccines and Diagnostics Division continued efforts towards full-scale seasonal influenza vaccine production and recognized the sale of our H5N1 pre-pandemic vaccine to the US government. Separately, the division withdrew its application for an EU centralized marketing authorization application (MAA) for *Aflunov,* another pre-pandemic vaccine, when the request by the EMEA for additional data, as required by the pre-pandemic guideline, could not be met within the applicable regulatory timeframe. Further clinical trials are currently underway after which the MAA will be re-submitted.

The division also expanded its line of nucleic acid testing products in Europe in 2008 and rolled-out new tests for the West Nile Virus. The diagnostics product *Ultrio* assay 3/3 was approved in August 2008.

Our diagnostics collaboration continues with Gen-Probe Inc. This arrangement relates to the development and commercialization of nucleic acid testing products under the *Procleix* brand name to screen donated blood, plasma, organs and tissue for viral infection.

Our Vaccines and Diagnostics Division is continuing to lead efforts on the corporate diversification strategy of Novartis AG. The Novartis Vaccines Research Center of Excellence in Virology was opened in Cambridge, MA in September 2008 as an important step towards identifying vaccines to prevent Respiratory syncytial virus, HIV and Influenza.

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In January 2009, the US Department of Health and Human Services had awarded Novartis Vaccines and Diagnostics a contract for up to $486 million over eight years to support the design, construction, validation and licensing of the division's cell culture-based manufacturing facility at Holly Springs, North Carolina, to provide a pre-pandemic supply of influenza vaccine, and to provide the capacity to manufacture 150 million doses of pandemic vaccine within six months of declaration of an influenza pandemic.

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, not all products are 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.

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Key Marketed Vaccine Products

Product	Indication
Influenza Vaccines	
Agrippal	A purified surface antigen influenza vaccine for adults and children above six months of age
Begrivac	A preservative free influenza vaccine for adults and children above six months of age
Fluad	A purified surface antigen influenza vaccine containing the proprietary MF59 adjuvant for the elderly
Fluvirin	A purified surface antigen influenza vaccine for adults and children above four years of age
Optaflu	Cell culture-based influenza vaccine for adults above 18 years of age
Meningococcal Vaccines	
Menjugate	Meningococcal C vaccine for children above 2 months of age
Travel Vaccines	
Encepur Children *Encepur* Adults	Tick-borne encephalitis vaccine for children 1-11 years of age and for adults 12+ years of age
Rabipur/Rabavert	Vaccine for rabies, which can be used before or after exposure (typically animal bites)
Pediatric Vaccines	
Quinvaxem	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
Polioral	Live, attenuated, oral poliomyelitis vaccine (Sabin) containing attenuated poliomyelitis virus types 1, 2 and 3 from birth

Other Marketed Vaccine Products

The Vaccines and Diagnostics Division also markets additional products in travel vaccines (*e.g., Typhoral* L, *Havpur*), pediatric vaccines (*e.g.,* IPV-*Virelon*, TD-*Virelon*, *Diftetall*, *Vaxem-Hib*) and adult vaccines (*e.g., Tetanol*, Td-*Virelon*).

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Vaccine Products in Development

Therapeutic Area	Project/Compound	Potential Indication/Disease Area	Planned filing dates/ Current phase
Influenza	*Optaflu*	Cell culture-based trivalent seasonal influenza vaccine	EU registered; US 2009/Phase III
	Agrippal	Egg-based trivalent seasonal influenza vaccine	EU registered; US Filed
	Fluad pediatric	A purified surface antigen influenza vaccine containing the proprietary MF59 adjuvant in development for children 6-36 months of age	Phase II
	Focetria	H5N1 influenza vaccine to be used in a pandemic. Approved in the EU, but an update to the file will be required at the time of a pandemic	EU approved in May 2007; annual update pending a pandemic
	Aflunov	H5N1 influenza vaccine to be used before a pandemic occurs	EU submitted; US Phase II
Meningitis	*Menveo*	Quadrivalent meningitis vaccine for strains A, C, Y and W-135 for infants, adolescents and adults	Submitted (adolescents & adults) (US & EU) 2011/Phase III (infants)
	MenB		2009/Phase III
P aeruginosa		Prophylactic vaccine for P aeruginosa infections[1]	Phase II
JEV[1]	*Ixiaro*	Prophylactic vaccine against Japanese encephalitis virus (JEV)	Submitted (US & EU)
HCV[1]		Therapeutic Hepatitis C virus (HCV) vaccine	Phase I
		Prophylactic HCV vaccine	Phase I
HIV[1]		Prophylactic HIV vaccine	Phase I
GBS		Prophylactic Group B Streptococcus (GBS) vaccine	Phase I
H pylori		Prophylactic vaccine for H pylori	Phase I
CMV[2]		Prophylactic vaccine for cytomegalovirus	Phase I

(1) In collaboration with Intercell

(2) In collaboration with AlphaVax

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Key Marketed Diagnostics Products

Therapeutic Area	Project/Compound	Potential Indication/Disease Area	Status
Blood Testing	*Procleix* eSAS System	Semi automated modular instrument solution supporting Duplex and *Ultrio* NAT assays	EU approved (CE marked) US approved
	Procleix TIGRIS System	Fully automated instrument solution supporting *Ultrio* NAT assays	EU approved (CE marked) US approved (FDA BLA approval for TESTs supported)
	Procleix Duplex Assay	NAT assay designed to detect HIV-1, HCV through a single test	US approved EU approved (CE marked)
	Procleix WNV Assay	First NAT assay approved by the FDA to detect West Nile virus.	US approved EU approved (CE marked)
	Procleix Ultrio Assay	NAT assay designed to detect HIV-1, HCV and HBV through single testing process	EU approved (CE marked) for use on *eSAS* and *Tigris* US approved for use on *eSAS* and *Tigris*

Diagnostic Products in Development

Therapeutic Area	Project/Compound	Potential Indication/Disease Area	Planned filing dates/ Current phase
Blood Testing	*Procleix Ultrio* + Assay	NAT assay designed to detect HIV-1, HCV and HBV through single testing process with a higher sensitive to HBV	2009 (for use on *eSAS* and *Tigris*)/ Phase III
	Parvo test	NAT test designed to detect the Parvo B19 virus	Discovery
	Dengue test	NAT test designed to detect the Dengue virus	Discovery
Clinical Diagnostics	*Mis-folded protein assay*	Novel technology to detect abnormal protein particles that cause several neurodegenerative diseases such as Diabetes, Alzheimer's, Parkinson's in patients	Discovery
Molecular Diagnostics	*Novachip*	Multi-analyte detection proprietary platform which enables the diagnostics of complex diseases by providing multi-parameter array technology and multiple-analyte applications	Pre-clinical
	CRM	Markers for diagnostic and early detection of allograft rejection and dysfunction based on gene expression profiling	Pre-clinical
	ACZ	Molecular test that can predict Rheumatoid Arthritis	Pre-clinical

patients' response to Novartis' ACZ885

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Principal Markets

The principal markets for our Vaccines and Diagnostics Division include the US and Europe. The following table sets forth the aggregate 2008 net sales of the Vaccines and Diagnostics Division by region:

Vaccines and Diagnostics	2008 Net sales to third parties	
	($ millions)	(%)
United States	765	43
Americas (except the United States)	30	2
Europe	683	39
Rest of the World	281	16
Total	**1,759**	**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 2008, the Vaccines and Diagnostics Division invested $360 million in research and development, which amounted to 20.5% of the division's net sales. The Vaccines and Diagnostics Division invested $295 million and $148 million on research and development in 2007 and 2006, 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." At each of these steps, there is a substantial risk that we will not achieve our goals. In such an event, we may be required to abandon a product in which we have made a substantial investment.

Production

We manufacture our vaccines products at four facilities in Europe and Asia. Our principal production facilities are located in Liverpool, UK; Marburg, Germany; Siena and Rosia, Italy; and Ankleshwar, India. We continue to invest and upgrade these 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. Our diagnostics products are manufactured for us by outside suppliers. The division's predecessor, Chiron, experienced supply interruptions in the past, and there can be no assurance that supply will not be interrupted again in the future as a result of unforeseen events. The manufacture of our products is heavily regulated which means that supply can never be an absolute certainty. If we or our suppliers fail to comply fully with such regulations then there could be a product recall or government-enforced shutdown of production facilities which in turn could lead to product shortages.

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

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have an adverse effect on the supply of essential materials. All raw materials we purchase must comply with our quality standards.

Each year new influenza vaccines need to be produced in order to confer effective 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 us with information on currently circulating strains and identifies the appropriate strains to be included in next season's influenza vaccine. Each year, the European Medicines Agency 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.

Marketing and Sales

Our main Vaccines marketing and sales organizations are based in Germany, UK, Italy and the US. We are also expanding operations in China and India, as well as in various other European countries. In the US, we market influenza 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 focused exclusively on blood banks. With roughly half of worldwide blood donations not being subjected to updated viral nucleic acid screening, the company will focus on increasing the practice of viral nucleic acid screening using its proprietary systems in emerging areas 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, new registrations for seasonal flu vaccines must be validated and submitted every year, based on the influenza strains provided by WHO and the Centers for Disease Control and Prevention needed for the growth of the vaccine.

Diagnostics 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 has 180 days to review a PMA. Under Pre-Market Notification (510(k)), the

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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 has 90 days to review and clear a 510(k) submission. 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 has 240 days to review a BLA.

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. 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 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 Vaccines & Diagnostics 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, 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.

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 no longer protected by valid and enforceable patents. As of December 31, 2008, affiliates of the Sandoz Division employed 23,146 associates worldwide in more than 130 countries. In 2008, our Sandoz Division achieved consolidated net sales of $7.6 billion, 18% of the Group's total net sales.

The Sandoz Division is active in Retail Generics, Anti-Infectives and Biopharmaceuticals. In Retail Generics, we develop and manufacture active ingredients and finished dosage forms of pharmaceuticals no longer protected by patents, as well as supplying active ingredients to third parties. In Anti-Infectives, we develop and manufacture off-patent active pharmaceutical ingredients and intermediates mainly antibiotics for use by Retail Generics and for sale to third-party customers. In Biopharmaceuticals, we develop and manufacture protein- or other biotechnology-based products no longer protected by patents (known as biosimilars or follow-on biologics) and sell biotech manufacturing services to other companies.

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The worldwide market for generic pharmaceutical products has been growing by about 10% annually and is expected by industry analysts to continue at nearly that rate through 2013, fueled primarily by the growing health needs of an aging population, opportunities created through patent expiries, increasing access to healthcare and pressures to contain healthcare costs. According to IMS Health, Sandoz is the No. 2 company in worldwide generic sales and is positioned as a global leader in Retail Generics. Sandoz Biopharmaceuticals has emerged as a leader in biosimilars, with two marketed medicines based on precedent-setting approvals, a third medicine having received a positive opinion from the EU's CHMP, and a pipeline of two dozen projects at various stages of development. In addition, Sandoz remains one of the leading manufacturers of antibiotics worldwide.

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

In 2008, despite a limited number of new product launches, particularly in the US, Retail Generics benefited from key product launches including clopidogrel (Plavix®/Iscover®) in Germany. Anti-Infectives had continued volume growth and favorable pricing for active ingredients, offset partially by currency losses on sales denominated in US dollars but manufactured in Europe. Biopharmaceuticals grew as Sandoz continued to roll out important follow-on products and to expand contract manufacturing. Following the launch in Germany in 2007 of *Epoetin alfa Hexal* and *Binocrit, we* continued to roll out *Binocrit* in key European markets throughout 2008. Our recombinant human growth hormone *Omnitrope,* the first follow-on for this product to receive US and EU approvals, was also introduced in the US and major European markets in 2008 in a new, more patient-friendly liquid pen form, following the initial launch in 2006-2007.

In 2006, a Sandoz affiliate signed a binding Memorandum of Understanding regarding an exclusive collaboration with Momenta Pharmaceuticals, Inc., a biotechnology company specializing in the characterization and engineering of complex pharmaceuticals, to develop complex generics and follow-on biotechnology pharmaceuticals. As part of the arrangement, we purchased approximately 4.7 million shares of Momenta common stock for an aggregate price of $75 million. In June 2007, the Memorandum of Understanding was replaced by a definite Collaboration and License Agreement. Sandoz and Momenta intend to jointly develop, manufacture and commercialize four drug candidates, sharing profits from the sales under separate arrangements for each project. The companies also have agreed on a right of first negotiation for certain other projects concerning complex generic and follow-on product candidates for inclusion in the collaboration. In 2008, the FDA accepted for review our ANDA for glatiramer acetate, a generic version of Copaxone®, which was developed in collaboration with Momenta.

Recently Launched Products

Sandoz launched a number of important products in 2008, including:

Omnitrope, a follow-on version of the recombinant human growth hormone Somatropin®, was launched in the Liquid Pen version (5 and 10 mg) in the US, France and Italy.

Binocrit, a follow-on version of the recombinant human protein Eprex®/Erypo® for the treatment of anemia, was launched in the UK and France.

Cetirizine hydrochloride/pseudoephridine hydrochloride, a generic version of the antihistamine/decongestant combination Zyrtec-D®, was launched in the US.

Clopidogrel, a generic version of the anti-coagulant Plavix®/Iscover®, was launched in Germany.

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Risperidone, a generic version of the anti-psychotic product Risperdal®, was launched in France and Germany.

Lansoprazole, a generic version of the proton pump inhibitor Lanzor®/Prevacid®, was launched in France.

Amlodipine, a generic version of the anti-hypertensive Norvasc®, was launched in Japan and Italy.

Atorvastatin, a generic version of the anti-cholesterol product Lipitor®, was launched in Turkey.

Omeprazole, a generic version of the proton pump inhibitor Losec®/Prilosec®, was launched in Italy.

Ramipril, a generic version of the ACE inhibitor Tritace®/Ramace® or Altace®, was launched in Italy.

Key Marketed Products

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

Retail Generics

Product	Originator Drug	Description
Omeprazole	Prilosec®	Ulcer and heartburn treatment
Amoxicillin/clavulanic acid	Augmentin®	Anti-infective
Metoprolol	Lopressor®	Anti-hypertension
Fentanyl	Duragesic®	Analgesic
Amlodipine/Benazepril	Lotrel®	Hypertension
Simvastatin	Zocor®	Cholesterol lowering treatment
Acetylcysteine	Fluimucil®	Respiratory System
Ketoprofen	Orudis®	Analgesic
Azithromycin	Zithromax®	Anti-infective
Amoxicillin	Amoxil®	Anti-infective

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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

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 2008 net sales by region:

Sandoz	2008 Net sales to third parties	
	($ millions)	(%)
United States	1,766	24
Americas (except the United States)	546	7
Europe	4,481	59
Rest of the World	764	10
Total	**7,557**	**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

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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 39 production facilities around the world. Among these, our principal production facilities are located in Barleben, Germany; Kundl, Austria; Menges and Ljubljana, Slovenia; Broomfield, Colorado; Wilson, North Carolina; Stryków, Poland; Kalwe and Mahad, India; Buenos Aires, Argentina; Boucherville, Canada; Cambé and Taboão, Brazil; Gebze and Syntex, Turkey. In 2007, we restructured our worldwide production network with the sale of our facility in Hvidovre, Denmark, and the acquisition of production sites in Gebze, Turkey, Zhongshan, China, and Jakarta, Indonesia. Although no longer part of our production capacity, we intend to retain a close relationship with the Radebeul, Germany site, which will remain one of our key suppliers.

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 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 raw materials from multiple suppliers based in the EU. We obtain chemicals 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.

The goal of our supply chain strategy is to produce and distribute high quality products efficiently. The manufacture of our products is heavily regulated, making supply never an absolute certainty. If we, or our third party suppliers, fail to comply fully with such regulations, then there could be product recalls or a government-enforced shutdown of production facilities, which in turn could lead to product shortages. We have experienced supply interruptions in the past and there can be no assurance that supply will not be interrupted again in the future as a result of unforeseen circumstances. For example, in August 2008, our Wilson, North Carolina facility received a Warning Letter from the FDA which remains unresolved. The Warning Letter raises concerns regarding the Wilson facility's compliance with FDA Good Manufacturing Practice regulations, and states that until the FDA confirms that the deficiencies have been corrected, the FDA can recommend disapproval of any pending NDAs, abbreviated NDAs or export certificate requests submitted by our Sandoz US affiliate. 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. Voluntary recalls were made in the fourth quarter of 2008 as part of the FDA review of the facility.

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.

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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 branded 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 which 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 shift decision making from physicians to insurance funds.

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 follow-on biologics are either new or still in development, and policies have not yet been defined for substitution and reimbursement of biosimilars in many markets, including the US.

Competition

The market for generic products is characterized by increasing demand for high-quality pharmaceuticals that can be produced at lower costs due to a 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 branded products to generic companies (the so-called "authorized generic"). By doing so, research-based pharmaceutical companies participate in the conversion of their branded product once generic conversion begins. Consequently, generic companies that were not in a position to compete on a specific product are allowed to 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 enters the market 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 recently reacted to generic competition by decreasing the prices of their branded product, thus seeking to limit 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 and 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 are much lower than those of the established counterparts, as no Phase I to Phase III clinical trials 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 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 protein products, the regulatory pathways for approving such products are still in development in many countries. However, at least for certain biopharmaceutical products, at least some

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clinical trials do appear to be required. Nonetheless, Sandoz has successfully registered and launched the first biosimilar product in Europe and the US, as well as a second product in Europe.

Currently, the affiliates of the Sandoz Division employ more than 1,000 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 and Schaftenau, Austria; Menges and Ljubljana, Slovenia; Kolshet, India; Boucherville, Canada; Wilson, North Carolina; Cambé, Brazil and Buenos Aires, Argentina.

In 2008, Sandoz invested $667 million in product development, which amounted to 8.8% of the division's net sales. Our Sandoz Division invested $563 million and $477 million in product development in 2007 and 2006 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 biologically equivalent to the reference product.

In the US, the decision whether a generic pharmaceutical is bioequivalent to the original branded 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 approximately eighteen months 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, amendments to the Hatch-Waxman Act may affect the availability of generic marketing exclusivity in certain circumstances. The amendments now require generic applicants to launch their products within certain time frames or risk losing the marketing exclusivity that they had gained through being a first-to-file applicant.

In the EU, decisions on the granting of a marketing authorization are made either by the EMEA 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. According to recent legislation, 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. Because this recent legislation extended the

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ten-year protection period throughout the EU and offered the opportunity for an extension of the existing data protection period, it is possible that future launches of generic products will be delayed in certain EU countries.

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 take the position that their intellectual property rights have been infringed by the introduction of our generic products, and assert patent and other intellectual property rights against us. As a result, we can become involved in extensive 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.

CONSUMER HEALTH

Our Consumer Health Division 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. The business of Consumer Health is conducted by a number of affiliated companies throughout the world. Created in January 2002, the Consumer Health Division's continuing operations consists of the following three business units:

Over-the-Counter (OTC)

Animal Health

CIBA Vision

As of December 31, 2008, the affiliates of our Consumer Health Division continuing operations employed 13,014 associates worldwide. In 2008, the affiliates of our Consumer Health Division achieved consolidated net sales from continuing operations of $5.8 billion, which represented 14% of the Group's total net sales from continuing operations.

Our Consumer Health Division places 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, our Consumer Health Division seeks 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 business unit depends upon its ability to anticipate and meet the needs of consumers and health professionals worldwide.

The Medical Nutrition and Gerber Business Units were previously included in the Consumer Health Division, but have been classified as discontinued operations in all periods in the Group's consolidated financial statements, as a consequence of the divestment of these business units. On September 1, 2007, we completed the sale of the Gerber Business Unit to Nestlé S.A., Switzerland for $5.5 billion. On July 1, 2007, we completed the sale of the remainder of the Medical Nutrition Business Unit to Nestlé S.A., Switzerland for $2.5 billion. On February 17, 2006, we completed the sale of Nutrition & Santé for $211 million to ABN AMRO Capital France.

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The following is a description of the three Consumer Health Division Business Units:

Over-the-Counter (OTC) 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 45 countries. The OTC business focuses on a group of strategic global brands in leading product categories that include cough/cold/respiratory treatments (*Triaminic* and *TheraFlu/NeoCitran*), pain relief (*Excedrin*, *Voltaren*), lifestyle treatments, including gastrointestinal (*Benefiber,*) and smoking cessation treatments (*Habitrol/Nicotinell*), and dermatological treatments (*Lamisil AT*). In addition, preparations are underway for the expected launch of an over-the-counter version of the blockbuster prescription drug Prevacid®, one of the leading prescription medicines currently used to treat a number of acid related disorders including heartburn. Over-the-counter Prevacid is expected to become Novartis OTC's second biggest brand, after OTC *Voltaren*, based on projected sales.

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 38 countries. Animal Health has a dedicated research and development team, which 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* (pain relief) and *Sentinel/Milbemax/Interceptor* (intestinal parasite control and heartworm prevention), while leading farm animal products include the farm fly control product *Agita* and the therapeutic anti-infective *Denagard*, an effective broad-spectrum antimicrobial used to treat and control bacteria in swine. Aquaculture products include vaccines and treatments mainly used in salmon farming. In March 2007, we completed the acquisition of the Japanese animal health business of Sankyo Lifetech Co., Ltd., expanding our presence in Japan, particularly in the rapidly-growing companion animal segment.

CIBA Vision is a global leader in the research, development, and manufacturing of contact lenses and lens care products. The business of CIBA Vision is conducted by affiliated companies in nearly 40 countries. CIBA Vision is committed to the research and development of innovative products, processes and systems. R&D efforts have produced lenses such as the *Air Optix* family of silicone hydrogel lenses, and *Dailies* daily disposable lenses. CIBA Vision is also the world's leading provider of color contact lenses to change and enhance eye color through products such as *FreshLook* lenses. In lens care, CIBA Vision has developed many innovative products, particularly multi-purpose solutions in one bottle such as *Aquify/Solocare Aqua* and the *Clear Care/Aosept Plus* peroxide system.

Principal Markets

The principal markets for the Consumer Health Division are the US and Europe. The following table sets forth the aggregate 2008 net sales of the Consumer Health Division by region:

Consumer Health	**2008 Net sales to third parties**	
	($ millions)	**(%)**
United States	1,714	29
Americas (except the United States)	503	9
Europe	2,732	47
Rest of the World	863	15
Total net sales	**5,812**	**100**

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Sales of our OTC Business Unit 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 Business Unit'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 Business Unit are produced by the business unit'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; and Humacao, Puerto Rico.

Animal Health: Approximately 80% of our production volume is manufactured by third parties and Novartis affiliates in other divisions or business units. 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.

CIBA Vision: CIBA Vision has major production facilities in Batam, Indonesia; Duluth, Georgia; Des Plaines, Illinois; Grosswallstadt, Germany; Cidra, Puerto Rico; Singapore; Johor, Malaysia; and Mississauga, Canada. In 2008, CIBA Vision significantly streamlined its production processes, resulting in consistently high fulfillment rates.

While production practices may vary from business unit to business unit, we generally obtain our raw materials from sources around the world. We depend to a large extent on suppliers for the raw materials, intermediates and active ingredients. To limit the volatility of prices charged to us for raw materials, where practical and beneficial, we make use of long-term supply agreements. We also proactively monitor markets and developments that could have an adverse effect on the supply of essential materials.

The goal of our supply chain strategy is to produce and distribute high quality products efficiently. The manufacture of our products is heavily regulated, making supply never an absolute certainty. If we, or our third party suppliers, fail to comply fully with such regulations, then there could be product recalls or a government-enforced shutdown of production facilities, which in turn could lead to product shortages. Some of our production facilities are unionized, including some CIBA Vision facilities. CIBA Vision has experienced significant supply interruptions in the past and there can be no assurance that CIBA Vision's supply or the supply of OTC or Animal Health will not be interrupted again in the future as a result of unforeseen circumstances.

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

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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.

CIBA Vision: In most countries, contact lenses are available only by prescription. CIBA Vision lenses can be purchased from eye care professionals, optical chains and large retailers, subject to country regulation. CIBA Vision's lens care products can be found in major drug, food, mass merchandising and optical retail chains in the US, Europe, Japan and elsewhere subject to country regulations. In addition, mail order and Internet sales of contact lenses are becoming increasingly important channels in major markets worldwide.

Competition

The global market for products of the type sold by our Consumer Health 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.

Research and Development

OTC: In OTC, the focus of research and development activities is primarily on dermatology, analgesics, cough/cold/respiratory, gastrointestinal, and cardiovascular risk reduction (through smoking cessation programs). 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.

CIBA Vision: CIBA Vision invests substantially in internal research and development operations, which yield new chemistries, lens designs and surfaces, and processing technologies. These resources are complemented by licensing agreements and joint research and development partnerships with third parties. For contact lenses our key focus is in two areas: daily disposable lenses and silicone hydrogel lenses. In lens care, our development efforts focus on lens care solutions that complement silicone hydrogel contact lenses, and provide the safety, disinfecting and cleaning power needed to help maintain ocular health.

In 2008, the Consumer Health Division continuing operations invested $313 million in research and development, which amounted to 5.4% of the division's net sales. Our Consumer Health Division invested $301 million and $260 million on research and development in 2007 and 2006 respectively,

Regulation

OTC: For OTC products, the 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 in the US or registration in the EU and the rest of the world. See " Pharmaceuticals Regulation." In the US, in addition to the NDA process which is also 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

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determination through a regulatory process known as the OTC Review. In the OTC Review, the FDA establishes, 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. Most countries also have a regulatory process for switching a particular pharmaceutical product 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 (EPA), and vaccines are under the control of the US Department of Agriculture (USDA). 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."

CIBA Vision: Contact lenses and lens care products are regulated as medical devices in the US, the EU and the majority of other regulated countries. In the US, extended wear contact lenses are considered Class III devices, for which a PMA application is submitted to FDA. Daily wear lenses and lens care products are considered Class II devices for which the manufacturer must submit a Premarket Notification 510(k) application. See " Vaccines & Diagnostics Regulation."

Intellectual Property

Our Consumer Health businesses 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 businesses 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.

In addition, see "Item 18. Financial Statements note 19" for a description of patent litigation involving the CIBA Vision Business Unit of our Consumer Health Division.

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."

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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, a few 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.

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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	532,000	Drug substances, intermediates
Grimsby, UK	450,000	Drug substances, intermediates
Stein, Switzerland	358,000	Steriles, ampules, vials, tablets, capsules, transdermals
Basel, Switzerland Klybeck	235,000	Drug substances, intermediates
Basel, Switzerland Schweizerhalle	230,000	Drug substances, intermediates
Basel, Switzerland St. Johann	225,000	Drug substances, intermediates, biopharmaceutical drug substance
Torre, Italy	200,000	Tablets, drug substance intermediates
Changshu, China	229,000	Drug substances, intermediates
Suffern, NY	61,000	Tablets, capsules, transdermals, vials
Kurtkoy, Turkey	51,000	Tablets, capsules, effervescents
Horsham, UK	14,400	Tablets, capsules
Sasayama, Japan	104,000	Tablets, capsules, dry syrups, suppositories, creams, powders
Huningue, France	112,000 (includes Animal Health facilities)	Suppositories, liquids, solutions, suspensions, biopharmaceutical drug substances
Singapore	29,262	Bulk tablets
Wehr, Germany	58,000	Tablets, creams, ointments

Barbera, Spain	51,000	Tablets, capsules
Chang Ping, China	28,000	Tablets, capsules, gel

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Location/Division or Business Unit	Size of Site (in square meters)	Major Activity
Vaccines and Diagnostics		
Emeryville, CA	99,000 (production and R&D facilities; includes Pharmaceuticals facilities)	Vaccines and blood testing
Vacaville, CA	1,300	Diagnostic component; biopharmaceutical drug substance
Liverpool, UK	62,000	Influenza vaccines
Ankleshwar, India	11,000	Vaccines
Marburg, Germany	45,000 (production and R&D facilities)	Vaccines
Siena/Rosia, Italy	97,000 (production and R&D facilities)	Vaccines
Sandoz		
Taboão da Serra, Brazil	501,000	Capsules, tablets, syrups, suppositories, suspensions, creams, drop solutions, powders
Kundl and Schaftenau, Austria	449,000 (production and R&D facilities)	Biotech products, intermediates, active drug substances, final steps (finished pharmaceuticals)
Menges, 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

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Location/Division or Business Unit	Size of Site (in square meters)	Major Activity
Wilson, NC	31,000 (production and R&D facilities)	Broad range of finished dosage forms
Rudolstadt, Germany	23,000 (production and R&D facilities)	Inhalation technology, ophthalmics and nasal products
Stryków, Poland	20,000	Broad range of finished dosage forms
Kolshet, India	20,000 (production and R&D facilities)	Generic pharmaceuticals
Boucherville, Canada	14,350 (production and R&D facilities)	Injectable products
Consumer Health		
OTC		
Lincoln, NE	46,000 (production and R&D facilities)	Tablets, liquids, creams, ointments, capsules, patches
Nyon, Switzerland	15,000 (production and R&D facilities)	Liquids and creams
Humacao, Puerto Rico	8,000	Tablets, capsules, medicated chocolates, softgels and Thin Strips
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	Packaging, formulation of liquids, solids, creams, sterile filling
Braintree, UK	6,000	Veterinary immunologicals
Huningue, France	5,000	

		Formulation and packaging of tablets, creams, ointments, suspensions and liquids
Charlottetown, Canada	2,700	Veterinary immunologicals for aquaculture

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Location/Division or Business Unit	Size of Site (in square meters)	Major Activity
CIBA Vision		
Johor, Malaysia	35,000	Contact lenses
Duluth, GA	34,000	Contact lenses
Pulau Batam, Indonesia	27,000	Contact lenses
Des Plaines, IL	27,000	Contact lenses
Singapore	19,000	Contact lenses
Cidra, Puerto Rico	6,000	Contact lenses
Toronto, Canada	15,000	Lens care products
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	88,000	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
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	8,500	Vaccines

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Location/Division or Business Unit	Size of Site (in square meters)	Major Activity
Sandoz		
Kundl and Schaftenau, Austria	449,000 (production and R&D facilities)	Biotech processes, innovations in antibiotic technologies
Menges, 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 finished dosage forms and new delivery systems
Wilson, NC	31,000 (production and R&D facilities)	Broad range of finished dosage forms
Rudolstadt, Germany	23,000 (production and R&D facilities)	Inhalation technology, ophthalmics and nasal products
Holzkirchen, Germany	17,000	Broad range of innovative dosage forms, including implants and transdermal therapeutic systems
Boucherville, Canada	14,350 (production and R&D facilities)	Injectable products
Kolshet, India	20,000 (production and R&D facilities)	Generic pharmaceuticals
Consumer Health		
OTC		
Lincoln, NE	44,870 (production and R&D facilities)	Tablets, capsules, liquids, ointments, creams and high potent compounds
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
Animal Health		

St. Aubin, Switzerland	26,000	Parasiticides, therapeutics for companion and farm animals
Larchwood, IA	13,000 (production and R&D facilities)	Veterinary immunologicals

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Location/Division or Business Unit	Size of Site (in square meters)	Major Activity
Yarrandoo, Australia	3,000	Animal Health products
Basel, Switzerland	2,000	Animal Health products
CIBA Vision		
Duluth, GA	13,000	Vision-related medical devices
Grossostheim, Germany	4,000	Vision-related medical devices

Progress is being 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. Research and Development now accounts for a greater proportion of our activities at the site, and therefore changes needed to be made to the Campus, since the site had been designed primarily for pharmaceuticals production. Through December 31, 2008, the total amount paid and committed to be paid on the Campus Project is $1.5 billion. We expect that, through 2015, we will spend more than $2.6 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, our Pharmaceuticals Division opened a new pharmaceuticals manufacturing facility in Singapore. The plant manufactures solid dosage forms (tablets) of existing and new Novartis products. When fully operational, our investment in this facility is expected to total approximately $180 million. Also in 2007, we announced plans to invest in a new large-scale cell culture plant in Singapore. Following completion of the basic design of the facility in early 2008, the project was put on hold but could be resumed depending on the development of the biopharmaceutical pipeline.

In 2008, our Pharmaceuticals Division invested approximately $63 million in a new production facility in Changshu, China, mainly to support the production of *Tekturna/Rasilez*. Commercial production is expected to commence in 2009.

Pre-production activities have commenced in our recently-extended Pharmaceutical Plant in Chang Ping, China. The total investment in this upgraded facility is expected to be approximately $24 million. The plant will support supply of our malaria treatment *Coartem* to the World Health Organization (WHO), in addition to supplying the local Chinese market with a diverse product portfolio.

In April 2007, NIBR opened a start-up facility for our new R&D center in Shanghai, China. This 5,000 square meter laboratory is home to approximately 125 Research and Development scientists. In 2008, we broke ground on a new facility that will be home to approximately 400 R&D scientists and approximately 400 other Pharmaceuticals Division personnel. An initial investment of $100 million is planned for the construction of the two facilities.

In September 2008, the Vaccines and Diagnostics Division inaugurated its new virology research center in Cambridge, Massachusetts. This 8,500 square meter facility which houses a state-of-the-art BSL3 laboratory will be home to 220 Research and Development scientists. In June 2008, the division also broke grounds on a new rabies and tick-borne encephalitis manufacturing facility in Marburg, Germany which is expected to require a total investment of approximately $250 million. Work continued on the division's cell culture-based manufacturing site in Holly Springs, North Carolina. To date, the total amount spent on the project is $350 million. The total investment in this new facility is expected to be least $600 million, partly supported by grants from the US government.

In 2008, CIBA Vision closed the specialty lens manufacturing facility in Grosswallstadt, Germany, and moved the related operations to its production facility in Cidra, Puerto Rico.

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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 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 19."

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 Form 20-F. The consolidated financial statements and the financial information discussed below have been prepared in accordance with IFRS as published by the IASB.

OVERVIEW

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

The Group's businesses are divided into four global operating divisions:

Pharmaceuticals: Innovative patent-protected pharmaceuticals

Vaccines and Diagnostics: Human vaccines and blood-testing diagnostics

Sandoz: Generic pharmaceuticals

Consumer Health: OTC (Over-the-Counter medicines), Animal Health and CIBA Vision (contact lenses and lens-care products)

Our strategy is to strengthen this healthcare portfolio through sustained investments in innovation as well as targeted acquisitions. In April 2008, Novartis announced an agreement with Nestlé S.A. providing the right to acquire 77% majority ownership of Alcon Inc. (NYSE: ACL), the world leader in eye care, in a two-step process. The potential value of these transactions is up to approximately $39 billion. In July 2008, the

first step was completed when Novartis acquired a 25% stake for $10.4 billion in cash. In the optional second step, Novartis has the right to acquire Nestlé's remaining 52% majority stake between January 1, 2010, and July 31, 2011, for a fixed price of $181 per share, or approximately $28 billion. During

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this period, Nestlé has the right to require us to buy its remaining stake at a 20.5% premium to Alcon's share price at that time, but not exceeding $181 per share. Novartis has no obligation to purchase the remaining 23% of shares held by Alcon minority shareholders.

Results from continuing operations in 2008, 2007 and 2006 exclude contributions from the Medical Nutrition and Gerber Business Units, which were divested in 2007 and resulted in a combined after-tax divestment gain of $5.2 billion. The sale of these businesses in separate transactions to Nestlé S.A. completed the divestment of remaining non-healthcare businesses. Both were previously included in the Consumer Health Division, but are now classified as discontinued operations in the consolidated financial statements.

Novartis achieved net sales of $41.5 billion in 2008 from continuing operations, up 9% (+5% in local currencies, or lc). Pharmaceuticals delivered accelerating growth while overcoming the 2007 challenges from the entry of generic competition for some products in the US and the suspension of *Zelnorm*. Important contributions from other businesses particularly Vaccines and Diagnostics and Consumer Health further supported the performance.

Operating income from continuing operations advanced 32% to $9.0 billion based on the solid business expansion and productivity gains from Forward, the Group-wide efficiency initiative launched in December 2007. Results in 2007 included approximately $1.0 billion of exceptional charges ($590 million for the Corporate environmental provision increase and $444 million in Forward restructuring charges). Excluding these two charges, operating income was up 15% in 2008.

Net income from continuing operations grew 25% to $8.2 billion, at a slower pace than operating income mainly due to an unusually low tax rate in 2007 as well as the start of financing costs in July 2008 for the 25% Alcon investment. Excluding the above exceptional charges in 2007, net income rose 11% in 2008. Basic earnings per share from continuing operations were up 28% to $3.59 from $2.81 in 2007 on fewer outstanding shares.

Headquartered in Basel, Switzerland, the Group employed approximately 96,700 full-time equivalent associates as of December 31, 2008, and has operations in approximately 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 global healthcare market is expected to continue growing due to long-term demographic and socioeconomic trends worldwide. Both in industrialized countries and emerging markets, the aging of the population, along with sedentary lifestyles and poor nutritional habits, are producing a rising incidence of chronic diseases. These and other factors are prompting greater use of medicines. At the same time, new medicines and healthcare products are being developed to better treat many diseases as a result of technological advances and consistent investments in innovation.

The growing burden of healthcare costs as a percentage of Gross Domestic Product in many countries, however, is placing intense pressure on governments and payors to control spending even more tightly. Deteriorating economic conditions are a complicating factor, and signs are emerging that the current economic slowdown may have a more negative impact on healthcare expenditures than in past recessions, in part due to the ongoing shift of costs to patients.

As a result, the healthcare industry operates in an ever-more challenging environment as government-controlled authorities around the world and managed-care providers in the US are stepping up actions to cut costs and restrict access to higher-priced new medicines. Some generic drug manufacturers, meanwhile, have become more aggressive in challenging intellectual property rights for patented medicines. At the same time, investments needed for the Research & Development of new medicines have risen dramatically, in part because of increasing scrutiny of drug safety and efficacy.

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In response to this fast-changing environment, Novartis has built up its presence in businesses that go beyond the traditional focus on patent-protected medicines. These areas include preventive vaccines and diagnostics, generic pharmaceuticals and consumer health products. We have invested heavily in all of these businesses through internal initiatives intended to drive organic growth as well as through acquisitions, and will continue to do so in the future.

Novartis believes this diversified portfolio focused solely on healthcare best addresses the needs of patients and customers, providing a broad range of products that offer important treatment benefits while helping to reduce overall healthcare costs. A growing number of patients, physicians and payors worldwide can benefit from this range of products offered by Novartis. These include new medicines seeking to offer improved efficacy and safety (Pharmaceuticals), preventive vaccines and diagnostic tools (Vaccines and Diagnostics), off-patent generic pharmaceuticals (Sandoz), and readily available products to support day-to-day health (Consumer Health).

This strategy also helps Novartis to mitigate the negative impact of economic challenges faced by healthcare systems and many patients, particularly in the area of patent-protected medicines. It also offers attractive opportunities for future growth in these attractive market segments.

Fundamental Drivers Remain Strong

With demographics and socioeconomic developments driving long-term growth in demand for healthcare, Novartis expects its businesses to keep expanding in the coming years, both in the established markets of the US, Western Europe and Japan, as well as in many emerging markets.

Aging Population Faces Increasing Healthcare Needs

The elderly represent a growing proportion of the world's population, a result of increasing life expectancy and declining birth rates. Nearly 500 million people worldwide were age 65 and older in 2006, and this number is expected to increase to one billion by 2030, according to a study published in 2007 by the US National Institute of Aging and the US Department of State. According to this study, the proportion of elderly people in the US is projected to rise to 13% from 8% by 2030, surpassing the number of children in the coming decade. In addition, the numbers of people over age 85 are increasing rapidly. While the elderly represent a greater percentage of the population in developed countries, older populations are generally growing more rapidly in the emerging markets. The increase in life expectancy is partly due to improved healthcare, but the aging of the population also creates increasing medical costs for governments, healthcare systems and patients since studies show the incidence of disease, and use of medicines, rises with age.

Novartis has many products in its portfolio that could provide benefits to the aging population by treating diseases and conditions that disproportionately afflict this group, including cardiovascular disease, cancer, Alzheimer's disease, osteoporosis, age-related macular degeneration and seasonal influenza.

Emerging Markets Grow Faster than Developed Countries

At a time of slowing pharmaceuticals sales growth in many industrialized countries, the longer-term economic expansion in several emerging markets has led to higher growth rates and an increasing contribution to the industry's global performance. According to IMS Health, a leading provider of industry information, the global pharmaceuticals market (both patent-protected and generic pharmaceuticals) is expected to grow 4.5-5.5% in 2009, at a similar pace compared to 5-6% in 2008. However, the 2009 forecast is slower than the 6-7% seen in 2007, and also below growth rates in previous years. The industry's sales in 2009 are expected to exceed $820 billion.

Key trends of recent years including faster growth in emerging markets, tougher regulation and cost-control measures, and patent expirations for many top-selling branded drugs may become even more prominent in 2009 and the future.

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Among developed markets, the US the world's largest pharmaceuticals market is forecast by IMS to grow only 1-2% in 2009 to about $285 billion, due in part to economic conditions as well as patent expiries and fewer new product launches. The top five European countries (France, Germany, Italy, Spain and the United Kingdom) are forecast to grow 3-4% in 2009, tempered by the increasing use of health benefit assessments, government cost-containment efforts and economic conditions.

At the same time, the seven leading emerging markets Brazil, China, India, Mexico, Russia, South Korea and Turkey are forecast by IMS to grow in 2009 at a combined 14-15% pace to about $110 billion in annual sales. These countries are benefiting from increasing government spending as a percentage of Gross Domestic Product on healthcare as well as broader public and private funding to improve access to medicines.

Novartis continues to take actions to increase its presence in a number of high-priority emerging markets, particularly China, Russia, South Korea and Turkey in the Pharmaceuticals Division, while implementing new business models in other emerging markets. Emerging markets, which accounted for approximately 24% of the Group's net sales in 2008, are expected to make increasingly significant contributions to future long-term results of operations.

Lifestyle Changes Boost Prevalence of Chronic Illnesses

Economic growth and change in nutritional habits have led to changes in lifestyles, both in industrialized and emerging countries. Surveys show people in general have become more sedentary and have adopted dietary habits that have in turn increased the risks of disease. These trends have led to a rapid rise in the incidence of chronic illnesses such as obesity, cardiovascular disease, diabetes, cancer and lung disorders. A World Health Organization report in October 2008 noted that heart attacks and related problems remain the world's top killer, claiming 29% of people who die each year, followed by infectious diseases and cancer. Novartis offers many products to help patients with chronic diseases, and will continue to make significant R&D investments into new treatments.

Scientific Advances Drive the Discovery of New Medicines

Ongoing developments in technologies and the understanding of diseases are laying a foundation for the creation of new treatments for medical conditions for which none currently exist or where current treatment options are inadequate. R&D investments by the global pharmaceuticals industry have risen more than tenfold during the last 20 years, according to the US industry trade association PhRMA, leading to a significant increase in the number of drugs in development pipelines.

Based on recent advances in technologies, particularly the analysis of human genome data, the number of drugs in development is expected to rise further based on improving information about the role of specific genes and proteins in the human body. Like other research-based pharmaceutical companies, we are making major investments in these new technologies. These could have a fundamental effect on product development and, in turn, could affect future results of operations.

Increasingly Challenging Business Environment

While the overall healthcare market has grown steadily, the competitive operating environment is becoming even more challenging. Factors include increasing cost pressures from payors, the threat of patent expirations for leading products, a period of relatively low industry-wide R&D productivity and increasing scrutiny of drug safety by regulatory agencies. Novartis believes it is well-positioned to address these challenges.

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Pressure of Patent Expirations and Generic Competition

The pharmaceuticals industry faces a continuing high level of patent expirations, with branded products representing approximately $24 billion in combined annual sales set to lose patent protection in 2009, similar to levels seen in recent years, according to IMS Health.

Given the ongoing pressure of patent expirations, innovation is critical to the success of companies like Novartis. Sustainable growth can come only by discovering and developing new products that address unmet needs, are accepted by patients and physicians, and are reimbursed by payors. Our ability to gain regulatory approvals, and then successfully secure and defend intellectual property rights is particularly important for the Pharmaceuticals Division. The loss of exclusivity for one or more important product due to patent expiration, generic challenges, competition from new branded products or changes in regulatory status could have a material negative impact on the Group's results of operations.

Novartis takes active steps to defend its intellectual property rights, including initiating patent infringement lawsuits against generic drug manufacturers and, to a lesser degree, against other research-based pharmaceutical companies. Some generics manufacturers, however, are increasingly conducting "at risk" launches of products before final resolution of legal challenges for patent infringement.

In 2008, sales of four Novartis pharmaceutical products *Lotrel* (high blood pressure)*Lamisil* (fungal infections), *Trileptal* (epilepsy) and *Famvir* (viral infections) continued to lose sales following the start of generic competition in the US during 2007. As a result of generic competition, combined net sales for these products in the US declined from $2.6 billion in 2006 to $1.6 billion in 2007, and further to $536 million in 2008. This sharp reduction had an adverse effect on the results of operations of the Pharmaceuticals Division in 2007 and 2008.

Our three best-selling products *Diovan* (high blood pressure)*Gleevec/Glivec* and *Zometa* (both for cancers) could potentially face significant competition in the coming two to six years in various markets, particularly the US and Europe. Competition could come in a number of forms: patent challenges, the entry of generic versions of another medicine in the same therapeutic class, or the regular expiration of patents. In particular, the patent on our top-selling drug, *Diovan,* expires in major European Union countries during 2011 and in the US in September 2012. In addition, sales of *Diovan* may begin to erode earlier in certain EU countries and the US ahead of a competitor product, Cozaar®, becoming the first branded medicine in this therapeutic class to lose market exclusivity (EU: 2009, US: 2010). Similarly, zoledronic acid, the active ingredient in *Zometa* as well as in *Aclasta/Reclast* (osteoporosis), is currently the subject of US patent litigation, with the possibility of an "at risk" launch by one or more generic competitors as early as the end of 2010. The loss of exclusivity for any one of these products could have a material adverse effect on the Group's business, financial condition and results of operations.

In addition to *Zometa* and *Aclasta/Reclast,* key products in the Pharmaceuticals Division that are the subject of ongoing US patent litigation include *Femara* (breast cancer), *Lescol* (high cholesterol), *Focalin/Ritalin LA* (Attention Deficit/Hyperactivity Disorder) and *Comtan/Stalevo* (Parkinson's disease). The loss of exclusivity for some of these products could have a significant adverse effect on the results of operations of the Pharmaceuticals Division. In addition, *Neoral* (transplantation) and *Voltaren* (pain), which are still among the Pharmaceuticals Division's top-ten selling products and had combined net sales of $1.8 billion in 2008, have encountered generic competition for some time in many markets. Although these products continue to generate relatively stable results, future sales from these products may decline further, which in turn could have an adverse effect on the Pharmaceuticals Division's business, financial condition and results of operations.

Regulatory Approvals Drop and Scrutiny of Safety Rises

Although scientific advances continue to lead to breakthroughs for patients, the pharmaceuticals industry has suffered from a dearth of regulatory approvals for new drugs in recent years. For example, the FDA approved only 18 entirely new drugs (new molecular entities) in 2007, one of the lowest

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single-year totals since 1983, when there were 14 new approvals. New product approvals for the industry are expected to remain low, with only 25-30 new molecular entities slated for launch in 2009, which follows FDA approvals for 24 brand new medicines in 2008, according to IMS Health. This decline in productivity comes at a time when the worldwide pharmaceuticals industry is spending more than $40 billion each year on R&D activities.

Following widely publicized issues such as the Merck & Co. recall of its pain medicine Vioxx® in 2004, healthcare regulators are increasingly focusing on product safety and efficacy as well as the risk/benefit profile of developmental drugs. Regulators are requiring more clinical trial data, with a significantly higher number of patients and more detailed analyses. As a result, obtaining regulatory approvals has become more challenging for pharmaceutical companies. In addition, maintaining regulatory approvals has become increasingly expensive as companies are now required to gather far more detailed safety and other clinical data on products after approval.

Similar to our industry peers, Novartis has suffered setbacks in recent years in gaining regulatory approvals for new products as well as being able to keep products on the market, primarily in the Pharmaceuticals Division. For example, in March 2007, we received an "approvable" letter from the FDA regarding *Galvus* (diabetes), which required Novartis to conduct additional major clinical trials to obtain US regulatory approval. Although *Galvus* was subsequently approved in the EU, a resubmission for US approval is not planned. Separately, in the second half of 2007, *Prexige* (osteoarthritic pain) was withdrawn in Australia and the EU based on post-marketing reports of serious liver side-effects, including two deaths in Australia, allegedly associated with long-term uses of higher doses. This product was subsequently withdrawn from remaining markets during 2008.

Pressure to Reduce Drug Prices and Increase Access to Medicines

Prices for healthcare products, primarily patented medicines, continue to stir significant political debate in both industrialized and developing countries. These debates focus on the relative costs of medicines at a time of rapidly rising overall expenditures for healthcare and an economic slowdown. As a result, payors primarily government-controlled agencies as well as insurance companies and managed care organizations in the US have been exerting pressure for some time to cut prices, urging physicians to use more generics and restricting access to new medicines. Patients also are being forced to pay a larger contribution toward their own healthcare costs, which has limited the growth of patented pharmaceuticals in countries such as the US. At the same time, this trend has led to growth in the use of OTC and generic pharmaceuticals, market segments in which Novartis is one of the world leaders.

Other Novartis Businesses Face Competition

Businesses in the Novartis portfolio outside of the Pharmaceuticals Division also face their own challenges.

Sandoz

The strong longer-term growth outlook for the generic pharmaceuticals market and the ongoing loss of exclusivity for several important industry products can create significant opportunities for Sandoz, but competition in this industry is very intense. Sandoz believes it has competitive advantages based on leadership positions in the world's top generics markets, active in countries covering 90% of the world's population, as well as its track record in gaining regulatory approvals for "difficult-to-make" generics that apply advanced technologies or are challenging to manufacture.

However, many of the division's products are considered commodities, with multiple sellers competing aggressively on price. In addition, pressure is increasing in some markets, particularly Europe and the US, to further reduce prices for generic pharmaceuticals. These pressures stem both from

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government regulations and various distributors that are aggressively seeking to increase their profit margins at the expense of generics manufacturers.

Finally, a number of factors have tended to limit the availability or decrease the value of marketing exclusivity periods granted to generics companies in certain markets. These can be a significant source of revenue for generics companies, particularly the 180-day exclusivity period granted in the US by the Hatch-Waxman Act. Among the negative factors are aggressive steps taken by branded pharmaceuticals companies to counter the growth of generics, and increased competition among generics companies to achieve these periods of exclusivity. Pricing pressures and efforts by competitors of Sandoz have had, and likely will continue to have, a negative influence on the Division's results of operations.

Vaccines and Diagnostics

In the Vaccines and Diagnostics Division, the demand for some products such as influenza vaccines is seasonal, while the demand for others such as pediatric combination vaccines depends upon birth rates in developed countries and emerging markets. Some vaccines that make an important contribution to the division's net sales and profits, particularly the key influenza vaccines, are considered commodities, meaning there are few therapeutic differences among products offered by a number of competitors. In addition, the seasonal influenza vaccine market suffered from price erosion in 2008 amid an oversupply of vaccines across the industry. The ability to develop differentiated, effective and safe vaccines, to gain approval for inclusion in national immunization recommendation lists, and to then consistently produce and deliver high-quality vaccines in time for the relevant disease seasons are critical to the success of this business.

Consumer Health

Consumer spending, economic conditions, intense competition and efforts in many countries to shift healthcare costs to patients are among factors influencing results in the Consumer Health Division, which relies on consumer acceptance and loyalty to leading products brands in order to generate growth. The OTC Business Unit, which ranks No. 4 in this segment, faces significant competition from other major healthcare companies as well as from growing use in the US of so-called "private label" brands (consumer products sold by major retailers under own-label brands). In Animal Health, changes in the number of companion animals being maintained in consumer households in key geographic regions (particularly the US and Europe) can influence results, while the farm animal business continues to be affected by the global farming crisis. In CIBA Vision, trends in the use of contact lenses are dependent upon various factors that include economic cycles, consumer acceptance of new and existing products, innovations in contact lens technologies and consumer preference in general for these products.

Legal proceedings may have a significant negative effect on our results of operations

In recent years, the industries of which we are a part have become important targets of litigation around the world, especially in the US. A number of our subsidiaries are, and will likely continue to be, subject to various legal proceedings that arise from time to time, including product liability, commercial, employment and wrongful discharge, antitrust, securities, sales and marketing practices, health and safety, environmental and tax litigation claims, government investigations and intellectual property disputes. As a result, we may become subject to substantial liabilities that may not be covered by insurance. Litigation is inherently unpredictable, and large verdicts 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.

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Patent Litigation

Our Pharmaceuticals Division frequently defends its patents against challenges by our competitors. Should we fail to successfully defend our patents, we will be faced with generic competition for the relevant products, and a resulting loss of revenue.

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 one of our competitors for the branded 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, we frequently face patent litigation, and in certain circumstances, we may elect to market a generic product even though patent infringement actions are still pending. However, these so-called "at-risk" launches could result in Sandoz facing substantial damages if we do not prevail in litigation.

The CIBA Vision Business Unit of our Consumer Health Division also has been required to defend its patents against frequent challenges by competitors.

Pricing Litigation

The US subsidiaries of our Pharmaceuticals and Sandoz Divisions are the subjects of separate lawsuits brought by private plaintiffs and state and local government entities alleging that they have fraudulently overstated the Average Wholesale Price and "best price," which are, or have been, used by the US federal and state governments in the calculation of, respectively, US Medicare reimbursements and Medicaid rebates. A limited number of similar actions have been brought to trial to date against various pharmaceutical companies, including one against our subsidiary in the Pharmaceuticals Division, and in certain instances, substantial damages have been awarded. Recent damage awards are on appeal. Should we fail to successfully defend the cases against us, we could face substantial damages if the final court decision is adverse to us.

Governmental Investigations

Governments and regulatory authorities have been stepping up their compliance and law enforcement activities in recent years in key areas, including corruption, marketing practices, antitrust and trade restrictions. Our businesses have been subject, from time to time, to such governmental investigations and information requests by regulatory authorities. For example, we are cooperating with civil and criminal investigations currently being undertaken by the US Attorney's Office into allegations of potential off-label promotion of our epilepsy drug *Trileptal*. While the outcomes of government and regulatory investigations are unpredictable, they are costly, divert management from our business and may affect our reputation. In some instances, the inherent uncertainty of litigation, the resources required to defend against governmental actions and the risk to reputation as well as of potential exclusion from US federal government reimbursement programs have contributed to decisions by companies in our industry to enter into settlement agreements with governmental, and particularly federal, authorities. 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 that 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.

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

Novartis Strategies for Sustainable Growth

Novartis believes it has one of the best portfolios to address the demands of the dynamically changing healthcare environment.

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We are implementing longer-term strategic initiatives to create sustainable growth. Key actions include strengthening our healthcare portfolio, driving innovation through R&D investments, expanding in high-growth markets and improving operational efficiency.

Selectively Strengthen Healthcare Portfolio

Each of the four divisions is expected to play a significant role in the future success of the Group, providing opportunities for growth by offering a range of medicines and vaccines to patients, physicians and payors. We will continue to evaluate internal and external opportunities to improve the competitiveness of these businesses and better position the Group for success. The strong performances of the Vaccines and Diagnostics and Sandoz Divisions in recent years reflect the positive impact of significant investments. The focused diversification also helps to balance industry risks.

Innovative Medicines

The aim of the Pharmaceuticals Division is to provide patients and physicians with new and better medicines that deliver improved efficacy and fewer side-effects as well as to address unmet medical needs. Novartis ranks as one of the top 10 companies worldwide based on sales of patent-protected medicines, with leading positions in cardiovascular and cancer treatments and an expanding presence in neuroscience. Viewed as having one of the most respected pipelines in the industry, we will continue to invest heavily in Research & Development. We are also reviewing ways to more efficiently support new product launches by using new selling models and advanced marketing tools, particularly in the US and Europe. We are also committed to being a preferred partner for strategic alliances with biotechnology companies, both for development compounds and new technologies, and these collaborations will remain important to future business developments.

Prevention

The Vaccines and Diagnostics Division markets vaccines as well as blood-testing diagnostic tools that protect against many life-threatening diseases, providing access to the fast-growing human vaccines market. This division was created in April 2006 following the Group's acquisition of the remaining stake in Chiron Corporation not already held by Novartis. We further strengthened this business in September 2007 by entering into a strategic R&D alliance with Intercell, an Austrian biotechnology company focused on vaccines development.

Cost-Saving Alternatives

Sandoz markets generic products that replace branded medicines after patent expiry, providing cost-effective alternatives for patients, physicians and payors. With the acquisition in 2005 of two leading generic pharmaceuticals companies (Hexal AG and Eon Labs, Inc.), Sandoz became the world's second-largest generics company. Competitive advantages include strengths in difficult-to-make generics, particularly extended-release formulations of medicines and biosimilars (follow-on versions of previously approved biotechnology drugs). Given these capabilities, which provide access to higher-value areas of the generic pharmaceuticals market, Sandoz is expected to become an increasing contributor to our future results of operations.

Patient and Consumer Empowerment

The Consumer Health Division comprises the OTC, Animal Health and CIBA Vision Business Units, all of which provide high-quality consumer healthcare products with well-known brands. These businesses have gained market share in their respective segments through a focus on strategic brands, product innovation and expansion in emerging markets. While divesting non-healthcare activities, these three businesses have been strengthened through targeted acquisitions. For example, the North American rights

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to various OTC products were acquired in 2006 from Bristol-Myers Squibb Co., while the acquisition of Sankyo Lifetech's animal health business in Japan in 2007 expanded the geographic presence of Animal Health.

Step Up Innovation

Maintaining a competitive advantage in the healthcare industry requires significant R&D investments. The ability of Novartis to continue to grow all of our businesses and replace sales lost due to the end of exclusivity for important products depends upon the capability of the Group's R&D activities to identify and develop high-potential products and bring them quickly to market.

Like our competitors in the healthcare industry, Novartis will continue making significant investments in drug discovery. We are also taking steps to accelerate R&D activities throughout the Group and to find ways to lower attrition rates among pipeline products in the final stages before regulatory approvals. For example, a reorganization of the Pharmaceuticals Development organization that started in late 2007 has strengthened project focus, streamlined organizational structures and simplified decision-making processes.

Novartis has been building its innovative position by building capabilities and expertise in biologic therapies, which now represent 25% of our preclinical pharmaceuticals research portfolio. Biologic treatments, often referred to as "large molecules," are made from living cells and stimulate a response against specific disease targets. They often are intended to treat diseases that have been difficult to treat with "small molecule" medicines based on chemical substances. Novartis formed the Novartis Biologics Unit in 2007, establishing a dedicated innovation team with a strong biotech culture in the areas of discovery and development unique to biologics. The unit has full access to the extensive Novartis R&D organization and multiple therapeutic areas.

The quality of our current development pipeline reflects investments made in the Group's own R&D activities, in many cases more than 10-20 years ago, as well as recent acquisitions and licensing collaborations. We have consistently had one of the highest R&D investment rates as a percentage of net sales in the industry, reflecting our commitment to bringing innovative and differentiated products to patients with novel therapeutic benefits.

Our Pharmaceuticals Division uses up to one-third of its annual R&D expenditures to reach licensing agreements with other companies, particularly specialized biotechnology firms, to co-develop promising compounds. These collaborations enable us to capitalize on the potential of these compounds and to expand our development pipeline. Complementing internal R&D activities, Novartis (like other companies) has entered into a significant number of alliances in recent years. Equity investments are sometimes made in a licensing partner, or a decision is made to fully acquire a company to gain exclusive access to novel compounds. The industry-wide decline in R&D productivity in recent years, however, has led to increasing competition for collaborations with specialized players at the forefront of their fields. Funding requirements for R&D activities are likely to continue to grow in the future and are expected to continue rising at a faster rate than net sales. These investments, however, are critical to our continuing success. In 2008, we invested $7.2 billion in R&D activities throughout the Group, a 12% increase over 2007 and representing 17.4% of net sales.

Expand in High-Growth Markets

Novartis is expanding in high-growth markets around the world, particularly in a number of the seven leading countries of Brazil, China, India, Mexico, Russia, South Korea and Turkey identified by IMS Health as important to the healthcare industry. Even in light of the weakened economic conditions in some of these countries, these long-term investments are crucial to capturing market share and being well-positioned for the eventual economic recovery.

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Novartis has been taking significant actions to increase its presence in a number of these priority markets as well as adapting commercial models to better meet the needs of other emerging markets. A new cross-divisional operation was created in 2007 to accelerate growth in smaller emerging markets and better position the presence of all Novartis products. These areas include Northern and Sub-Saharan Africa, Central Asia and some countries in Southeast Asia. The Pharmaceuticals Division is also undertaking aggressive investments to accelerate growth in China, Russia, South Korea and Turkey, while Sandoz continues to expand its leadership in Central and Eastern Europe.

In 2008, Novartis generated approximately 64% (2007: 66%) of the Group's net sales from continuing operations in the world's seven largest developed markets, while 10% (2007: 9%) of net sales came from these seven leading emerging markets listed above. At the same time, combined net sales in these seven priority emerging markets grew 18% in local currencies (lc) in 2008 compared to 1% lc growth in the seven largest developed markets. Emerging markets in general accounted for approximately 24% of the Group's net sales in 2008 compared to 22% in 2007. As a result, emerging markets are expected to make increasingly significant contributions to our future results of operations.

Improve Organizational Efficiency

Novartis is constantly exploring ways to improve productivity. In particular, we are taking actions to improve our competitiveness in a fast-changing healthcare environment through Forward, a Group-wide initiative that has streamlined organizational structures and changed the way the Group operates. This initiative is expected to generate significant cost savings and help prepare Novartis for future growth. At the same time, we will continue investing in higher-value activities, particularly R&D in new biological therapies and expansion in key emerging markets.

As part of this initiative started in December 2007, Novartis has been streamlining and simplifying organizational structures in the corporate headquarters as well as in the Pharmaceuticals and Consumer Health Divisions. These initiatives have removed management layers, eliminated structural duplications and reduced resources used for general and administrative functions. We are also evaluating and optimizing supply networks worldwide. Initiatives are also progressing rapidly to standardize and streamline shared functions such as procurement, information technology and financial transaction processing to generate benefits in cost management and economies of scale. Some administrative activities also are being outsourced or transferred to lower-cost countries.

Through these initiatives, which are designed to maximize resources available to support ongoing profitable growth, the aim is to reduce the Group's cost base by approximately $1.6 billion by 2010 compared to 2007 levels. Annual cost savings of approximately $1.1 billion were achieved in 2008, exceeding the planned target of $670 million, mainly on the strength of accelerated procurement savings.

In order to implement these efficiency measures, Novartis recorded a restructuring charge of $444 million in 2007 that included plans for the reduction of approximately 2,500 full-time equivalent positions, or approximately 2.5% of the Group's worldwide workforce at the end of 2007. A majority of these reductions were achieved through natural attrition and vacancy management, with all of these actions done in a socially responsible manner.

Separate initiatives are underway to find more efficient marketing approaches to support new product launches. A strong marketing message and rapid penetration of multiple geographic territories are vital for a product to attain peak sales as quickly as possible before the loss of patent protection or the entry of competitive products. We continually evaluate our marketing models in the divisions and adjust the composition of sales forces, as appropriate.

As the US market becomes more complex, a new program called the Customer Centric Initiative was launched in October 2008 to implement a new regional US business model in the Pharmaceuticals Division that will better address customer needs and increasing differences among the needs of local markets. Five new regional units have been created with cross-functional responsibility for the full primary

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care product portfolio, replacing nationally managed sales forces. This new model is designed to be more effective at driving sales growth by better meeting the diverse and specific needs of customers as well as deploying resources more efficiently. As part of this initiative, approximately 550 full-time equivalent positions were eliminated in the US sales organization in a socially responsible manner, with more than half achieved by not filling vacant positions. The new organization started on January 1, 2009. A one-time charge of $19 million was taken in the fourth quarter of 2008, with annual cost savings of $80 million anticipated starting in 2010.

Acquisitions, Divestments and Other Significant Transactions

Novartis has made several acquisitions, strategic investments and divestments in recent years that have had a significant and ongoing impact on its financial condition and results of operations, see "Item 18. Financial Statements note 2".

In 2007, we narrowed our focus solely to healthcare through the divestments of the Medical Nutrition (effective July 1) and Gerber Business Units (effective September 1).

At the same time, contributions from strategic acquisitions have a significant impact on the Group's results of operations. The remaining stake in Chiron Corporation was acquired in April 2006 to create the new Vaccines and Diagnostics Division, while Sandoz strengthened its position as a world leader in generic pharmaceuticals through the 2005 acquisitions of Hexal AG and Eon Labs, Inc.

As a result of these acquisitions and also through other actions such as the agreement in 2008 providing future rights to majority control of the eye-care company Alcon the Group's results of operations are increasingly affected by charges for the amortization of intangible assets as well as impairment charges and other one-time costs related to the integration of acquisitions.

Novartis continually evaluates potential opportunities for targeted acquisitions or other strategic transactions, including product licensing agreements, that would improve our competitive position and create value for shareholders.

Acquisitions in 2008

Corporate Alcon

On April 7, Novartis announced an agreement with Nestlé S.A. under which we obtained rights to acquire in two steps majority ownership of Alcon Inc. (NYSE: ACL), a Swiss-registered company only listed on the New York Stock Exchange. The potential total value of the two steps is up to approximately $39 billion. The first step was completed on July 7, 2008, when Novartis acquired an initial 24.8% stake in Alcon, representing 74 million shares, from Nestlé for $10.4 billion in cash. Alcon's closing share price was $148.44 on April 4, the last trading day before the signing of this agreement. However, the investment reflects a price of $140.68 per share. The transaction price of $143.18 per share was determined by using Alcon's volume-weighted average share price between January 7, 2008, and April 4, 2008. This price was later reduced by approximately $2.50 per share to account for the dividend paid by Alcon in May 2008. We paid for this stake from internal cash reserves and external short-term financing.

In the optional second step, Novartis has 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. During this period, Nestlé has the right to require us to buy its remaining stake at a 20.5% premium to Alcon's share price at the time of exercise, but not exceeding $181.00 per share. We have no obligation to purchase the remaining 23% of shares held by Alcon minority shareholders.

The Group has determined that the put and call options represent contracts in a business combination to buy, sell or acquire at a future date, and are therefore exempt from recognition under IAS 39.

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The purchase price allocation of the $10.4 billion paid for the 24.8% stake consisted of the Group's share of Alcon's reported net assets ($1.1 billion), additionally appraised tangible and intangible assets ($5.1 billion) and implicit goodwill ($4.2 billion). Since the July 7 acquisition date the investment has contributed a loss of $11 million to the 2008 consolidated income statement.

As a result of the 37% decline in Alcon's share price at the end of 2008 to $89.19 from the price paid for the initial 24.8% stake, Novartis performed an impairment test on the investment's carrying value.

This test assessed the "value in use" to Novartis of this strategic investment by valuing estimated discounted cash flows and future dividend streams from Alcon against the "fair value less costs to sell" of this stake, as measured by the closing price on December 31, 2008, on the NYSE for the 23% of Alcon's publicly traded shares.

Since the higher of the estimated "value in use" and the "fair value less costs to sell" exceeded the carrying value of $140.68 per share, no impairment charge was recorded. Key assumptions and sensitivity analysis information are provided in "Item 18. Financial Statements note 10".

If only Alcon's year-end closing price had been used for the impairment test, the value of this investment would have been $6.6 billion, or approximately $3.8 billion below the year-end carrying value on the Novartis consolidated balance sheet. If this amount had been used as an impairment charge, the Group's reported net income in 2008 of $8.2 billion would have been reduced by approximately $3.5 billion to $4.7 billion.

Pharmaceuticals Speedel

On July 10, Novartis announced the all-cash purchase of an additional 51.7% stake in Speedel Holding AG (SIX: SPPN) through off-exchange transactions together with plans to buy all remaining shares in the Swiss biopharmaceuticals company in a mandatory public tender offer under the same conditions. Following these actions, and in addition to the previously held 9.5% stake, Novartis now holds more than 99.8% of Speedel's outstanding shares. This process, including the delisting of Speedel's shares on the SIX Swiss Exchange, is expected to be completed in early 2009. The acquisition price for the 90.3% interest not previously held is approximately CHF 939 million (or $888 million) excluding $26 million of cash held by Speedel as of the July acquisition of majority control. Speedel has been fully consolidated as a subsidiary since the July acquisition date of a majority stake. Based on a final purchase price allocation, Speedel's identified net assets were $472 million and produced goodwill of $493 million. As a result of this purchase price allocation, the value of the initial 9.5% stake rose by $38 million, which was recorded in the consolidated statement of recognized income and expense. The consolidation of Speedel resulted in immaterial amounts being included in the Group's 2008 consolidated income and operating cash flow statements.

Pharmaceuticals Protez

On June 4, Novartis agreed to acquire Protez Pharmaceuticals, a privately held US biopharmaceuticals company, and gaining access to PTZ601, a broad-spectrum antibiotic in Phase II development against potentially fatal drug-resistant bacterial infections. Novartis paid $102 million in cash to acquire 100% of Protez, whose owners are eligible for additional payments of up to $300 million contingent upon the future success of PTZ601. Protez has been consolidated since the transaction completion date of July 17. Based on the purchase price allocation, identified net assets from Protez amounted to $72 million and produced goodwill of $30 million. The consolidation of Protez has resulted in immaterial amounts being included in the Group's 2008 consolidated income and operating cash flow statements.

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Pharmaceuticals Nektar pulmonary business

On October 21, Novartis agreed to acquire Nektar Therapeutics Inc.'s pulmonary business unit for $115 million in cash. In this transaction, which was completed on December 31, 2008, Novartis acquired research, development and manufacturing assets of Nektar's pulmonary business unit, including tangible assets as well as intellectual property, intangible assets and related expertise. The full purchase price has been allocated to the net assets acquired with no residual goodwill.

Other Significant Transactions in 2008

Corporate Issuance of Swiss franc bonds

On June 26, Novartis issued two Swiss franc bonds totaling CHF 1.5 billion (approximately $1.4 billion) in the Swiss capital market, with each listed on the SIX Swiss Exchange. One was a 3.5% four-year bond for a total of CHF 700 million issued by Novartis Securities Investment Ltd. and guaranteed by Novartis AG. The other was a 3.625% seven-year bond of CHF 800 million issued by Novartis AG.

Divestments/Discontinued Operations in 2007

Consumer Health Gerber Business Unit

On September 1, Novartis completed the divestment of the Gerber infant products Business Unit for approximately $5.5 billion to Nestlé S.A. resulting in a pre-tax divestment gain of approximately $4.0 billion and an after-tax gain of $3.6 billion.

Consumer Health Medical Nutrition Business Unit

On July 1, Novartis completed the divestment of the remainder of the Medical Nutrition Business Unit for approximately $2.5 billion to Nestlé S.A. resulting in a pre-tax divestment gain of $1.8 billion and an after-tax gain of $1.6 billion.

Gerber and Medical Nutrition are reported as discontinued operations in all periods in the Group's consolidated financial statements. These businesses in total had 2007 net sales of $1.7 billion and operating income of $311 million before their respective divestment.

Other Significant Transactions in 2007

Vaccines and Diagnostics Intercell

On September 28, Novartis entered into a strategic alliance with Intercell AG, an Austrian biotechnology company focused on vaccines development. In accordance with the agreement, Novartis paid $383 million (EUR 270 million), and also recorded $207 million (EUR 146 million) of intangible assets and acquired an additional 4.8 million shares for $176 million (EUR 124 million) that increased the Novartis holding in Intercell to 15.9%. The equity investment is accounted for as an available-for-sale marketable security within the financial assets of the division.

Pharmaceuticals Betaseron®

On September 14, Novartis and Bayer Schering Pharma AG received regulatory approval to complete an agreement related to various rights for the multiple sclerosis treatment Betaseron® under an earlier agreement between Schering and Chiron Corporation transferred to Novartis in April 2006. Under the new agreement, Novartis received a one-time payment of $200 million, principally for manufacturing facilities transferred to Bayer Schering, as well as receiving rights to market a Novartis-branded version of Betaseron® called *Extavia* starting in 2009 in the EU and later in the US following anticipated approval. As a result of the clarification of the intangible product rights, a reassessment was made of the related

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assets from the Chiron acquisition as of April 20, 2006. This resulted in an increase of $235 million in identified net assets in 2007 relating to the Chiron 2006 acquisition.

Acquisitions in 2006

Vaccines and Diagnostics Chiron

On April 20, Novartis completed the acquisition of the remaining 56% of the shares of Chiron Corporation that we did not already own for approximately $5.7 billion. For the period from January 1, 2006 until completion of the acquisition, the 44% minority interest in Chiron held by us had been accounted for using the equity method. For the period after completion of the acquisition, Chiron has been fully consolidated with its identifiable assets and liabilities being revalued to their fair value at the date of acquisition. Following the acquisition, Chiron's vaccines and diagnostic activities are reported as a separate Division, called Vaccines and Diagnostics, and its pharmaceuticals activities are consolidated into the Pharmaceuticals Division's results.

Pharmaceuticals NeuTec

In 2006, we acquired 100% of NeuTec Pharma plc, a biopharmaceuticals company specializing in hospital anti-infectives, for $606 million. We have fully consolidated NeuTec's financial results, which have not included any sales, in our financial statements since July 14, 2006.

Divestments/Discontinued Operations in 2006

Consumer Health Medical Nutrition Business Unit

During 2006, Novartis announced plans to divest the components of our Medical Nutrition Business Unit, which was part of our Consumer Health Division. This Business Unit is disclosed as discontinued operations in all periods presented in our consolidated financial statements.

On February 17, we completed the sale of Nutrition & Santé for $211 million to ABN AMRO Capital France, resulting in a pre-tax divestment gain of $129 million.

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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 from continuing operations for 2008 and 2007 for currencies most important to the Group:

Currency	2008 in %	2007 in %	2006 in %
US dollar (USD)			
Net sales	34	39	43
Operating expenses	31	36	38
Euro (EUR)			
Net sales	32	30	27
Operating expenses	28	28	25
Swiss franc (CHF)			
Net sales	2	2	2
Operating expenses	16	14	16
Japanese yen (JPY)			
Net sales	7	6	7
Operating expenses	5	5	5
Other currencies			
Net sales	25	23	21
Operating expenses	20	17	16

We prepare our consolidated financial statements in US dollars. As a result, fluctuations in the exchange rates between the US dollar and other currencies may 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 statements, revenue and expense 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 2008, 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 "Item 18. Financial Statements note 1", " note 5" and " note 15".

The average value of the US dollar against other currencies important for Novartis deteriorated significantly in 2008. The following table sets forth the foreign exchange rates of the US dollar against the

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Swiss franc, euro and Japanese yen, respectively, used for foreign currency translation when preparing the Group's consolidated financial statements:

	2008		2007		2006	
$ per unit	Average for year	Year end	Average for year	Year end	Average for year	Year end
EUR	1.470	1.411	1.371	1.465	1.256	1.317
CHF	0.925	0.948	0.834	0.881	0.798	0.819
JPY (100)	0.970	1.107	0.850	0.884	0.860	0.841

Currency translation impact on key figures Continuing Operations

	Local Currencies Change in % 2008	Local Currencies Change in % 2007	$ Change in % 2008	$ Change in % 2007
Net sales	5	6	9	11
Operating income	20	(14)	32	(11)
Net income	13	(7)	25	(4)

For additional information on the effects of currency fluctuations see "Item 11. Quantitative and Qualitative Disclosures about Non-Product-Related Market Risk."

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

Our principal accounting policies are set out in "Item 18. Financial Statements note 1" and are prepared in accordance with IFRS as issued by the IASB. As a result of uncertainties inherent in our business activities, we need to make certain estimates and assumptions that require we make difficult, subjective and complex judgments. Because of uncertainties inherent in such judgments, actual outcomes and results may differ from our assumptions and estimates. 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 fixed and determinable, and collectability is reasonably assured. At the time of the sale, we also record estimates for a variety of sales deductions, including rebates, discounts and incentives, and product returns. Sales deductions are reported as a reduction of revenue.

Deductions from Revenues

As is typical in the pharmaceutical industry, our gross sales are subject to various deductions, primarily composed 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.

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The following summarizes the nature of some of these deductions and how the deduction is estimated. The US market has the most complex arrangements related to revenue deductions. Specific reference is therefore made to the US market and where applicable to the Pharmaceuticals Division's primary US operating unit, Novartis Pharmaceuticals Corporation (NPC). However, in a number of countries outside the US, including major European countries, we provide rebates to government entities. These rebates are often legislatively mandated.

The US Medicaid program is administered by State governments using State and federal funds to provide assistance to certain vulnerable and needy individuals and families. In 1990, the Medicaid Drug Rebate Program was established to reduce State and federal expenditures for prescription drugs. Under the rebate program, Novartis subsidiaries have signed agreements to provide a rebate on drugs paid for by a State. Calculating the rebates to be paid involves interpreting relevant regulation, which are subject to challenge or change in interpretive guidance by government authorities. Provisions for estimating Medicaid rebates are calculated using a combination of historical experience, product and population growth, product price increases, the mix of contracts and specific terms in the individual State agreements. These provisions are adjusted based upon established processes and experiences from re-filing data with individual States.

On January 1, 2006, an additional prescription drug benefit was added to the US Medicare program, which funds healthcare benefits to individuals over the age of 65. Individuals who previously had dual Medicaid/Medicare drug benefit eligibility had their Medicaid prescription drug coverage replaced on January 1, 2006, by the new Medicare Part D coverage. This benefit is provided through private prescription drug plans, and this change led to a significant shift of plan participants between the two programs in which some of our US subsidiaries participate. 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.

Any rebate adjustments may involve revisions of provisions for several periods since Medicaid and Medicare rebate claims are typically submitted to Novartis up to six months after the products are dispensed to patients.

Our US subsidiaries participate in industry and government sponsored programs designed to offer savings on prescription drugs to eligible patients. These savings depend on a patient's current drug coverage and personal income level. Provisions for obligations resulting from these programs are based on historical experience, trend analysis and current program terms.

Chargebacks occur where our subsidiaries have arrangements with indirect customers in the US to sell products at prices that are lower than the list 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 chargebacks by reducing accounts receivable by an amount equal to our estimate of chargebacks attributable to a sale. Provisions for estimated chargebacks 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 claims processing time lag. Chargebacks are generally settled within one to three months of incurring the liability by reducing trade receivables.

We offer rebates to key managed healthcare plans, group purchasing organizations and other direct and indirect customers to sustain and increase the market share of our products. These rebate programs provide customers a rebate after they attain certain performance parameters relating to product purchases, formulary status or pre-established market share milestones relative to competitors. Since rebates are contractually agreed upon, rebates are estimated based on the terms of individual agreements, historical experience, expected mix of reimbursement programs and

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projected product growth rates. We adjust provisions related to customer rebates 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 lag time for processing rebate claims. Management 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.

When we sell a product that the customer has a right to return, we record a provision for estimated sales returns, based on the historical rate of returns. Other factors are also considered, such as product recalls, expected marketplace changes and, in the US, the entry of generic products. In 2008, sales returns amounted to approximately 1% of gross product sales. In the Vaccines and Diagnostics Division, where no Novartis specific historical return rate experience is available, sales are only recorded based on evidence of product consumption.

We adjust the shipping patterns of our pharmaceutical products to maintain customer inventories that are consistent with underlying patient demand. In the US we monitor inventory levels at wholesalers based on gross sales volume and prescription volumes obtained from third party data and information received from key wholesalers. Based on this information, we estimate that inventories of NPC's pharmaceutical products on hand at wholesalers and other distribution channels in the US were approximately one month at December 31, 2008.

NPC has entered into fee-for-service agreements with certain US pharmaceutical wholesalers. These agreements cover items such as product returns, timing of payment, processing of chargebacks, provision of inventory data and the quantity of inventory held by the wholesaler. These agreements provide a financial disincentive for wholesalers to purchase product quantities in excess of what is necessary to meet current demand.

We offer cash discounts to customers in the US and other countries to encourage prompt payment. Cash discounts, which are typically 2% of gross sales in the US, are accrued at the time of invoicing and deducted from revenue.

Following a decrease in the price of one of its products, 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 is reasonably estimated based on inventory levels of the relevant product.

Other sales discounts, such as consumer coupons and discount cards, are also 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.

Discounts, rebates or other deductions shown on invoices to customers are generally deducted directly from gross sales without recording them in the revenue deduction provision.

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The following tables show the worldwide extent of our revenue deductions, related payment experiences and provisions:

Provision for revenue deductions

2008	Provisions offset against gross trade accounts receivable at January 1, 2008	Provisions at January 1, 2008	Effect of currency translation	Payments/ utilizations	Income Statement charge: Adjustments of prior years	Income Statement charge: Current year	Provisions offset against gross trade accounts receivable at December 31, 2008	Provisions at December 31, 2008
	($ millions)	($ millions)	($ millions)	($ millions)	($ millions)	($ millions)	($ millions)	($ millions)
US Medicaid, Medicare and State program rebates & credits including prescription drug saving card rebates		490		(754)	(117)	762		381
US managed healthcare rebates		197		(423)	2	493		269
Non-US healthcare plans & programs rebates		174	(12)	(281)	(16)	450		315
Chargebacks (including hospitals)	296		(14)	(1,934)		1,936	(218)	66
Direct customer discounts, cash discounts & other rebates	336	159	(5)	(1,298)	(3)	1,223	(311)	101
Sales returns & other deductions		492	(24)	(496)	(12)	573		533
Total	**632**	**1,512**	**(55)**	**(5,186)**	**(146)**	**5,437**	**(529)**	**1,665**

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2007	Provisions offset against gross trade accounts receivable at January 1, 2007	Provisions at January 1, 2007	Effect of currency translation and from discontinued operations	Payments/ utilizations	Income Statement charge: Adjustments of prior years	Income Statement charge: Current year	Provisions offset against gross trade accounts receivable at December 31, 2007	Provisions at December 31, 2007
	($ millions)	($ millions)	($ millions)	($ millions)	($ millions)	($ millions)	($ millions)	($ millions)
US Medicaid, Medicare and State program rebates & credits including prescription drug saving card rebates		538		(780)	(91)	823		490
US managed healthcare rebates		235		(477)	(21)	460		197
Non-US healthcare plans & programs rebates		76	14	(133)	5	212		174
Chargebacks (including hospitals)	329		(16)	(2,319)	(5)	2,307	(296)	
Direct customer discounts, cash discounts & other rebates	273	108	4	(1,243)	(23)	1,376	(336)	159
Sales returns & other deductions		471	(30)	(515)	(20)	586		492
Total	**602**	**1,428**	**(28)**	**(5,467)**	**(155)**	**5,764**	**(632)**	**1,512**

2006	Provisions offset against gross trade accounts receivable at January 1, 2006	Provisions at January 1, 2006	Effect of currency translation and from discontinued operations	Payments/ utilizations	Income Statement charge: Adjustments of prior years	Income Statement charge: Current year	Provisions offset against gross trade accounts receivable at December 31, 2006	Provisions at December 31, 2006
	($ millions)	($ millions)	($ millions)	($ millions)	($ millions)	($ millions)	($ millions)	($ millions)
US Medicaid, Medicare and State program rebates & credits including prescription drug saving card rebates		497		(643)	(35)	719		538
US managed healthcare rebates		256		(457)	(5)	441		235
Non-US healthcare plans & programs rebates		35	6	(108)	2	141		76
Chargebacks (including hospitals)	379		7	(2,340)	(3)	2,286	(329)	
Direct customer discounts, cash discounts & other rebates	256	66	89	(989)	(22)	981	(273)	108
Sales returns & other deductions		408	43	(579)	(13)	612		471

Total	**635**	**1,262**	**145**	**(5,116)**	**(76)**	**5,180**	**(602)**	**1,428**

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Gross to Net sales reconciliation

2008	Income Statement charge Charged through revenue deduction provisions 2008 ($ millions)	Income Statement charge Charged directly without being recorded in revenue deduction provisions 2008 ($ millions)	Total 2008 ($ millions)	In % of 2008 gross sales
Group gross sales subject to deductions			**49,972**	**100.0**
US Medicaid, Medicare and State program rebates and credits, including prescriptions drug savings card rebates	(645)	(96)	(741)	(1.5)
US managed healthcare rebates	(494)		(494)	(1.0)
Non-US healthcare plans and program rebates	(434)	(105)	(539)	(1.1)
Chargebacks (including hospitals)	(1,936)	(146)	(2,082)	(4.2)
Direct customer discounts, cash discounts and other rebates	(1,220)	(2,328)	(3,548)	(7.1)
Sales returns and other deductions	(562)	(547)	(1,109)	(2.2)
Total gross to net sales adjustments	**(5,291)**	**(3,222)**	**(8,513)**	**(17.1)**
Group net sales			**41,459**	**82.9**

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2007	Income Statement charge Charged through revenue deduction provisions 2007 ($ millions)	Charged directly without being recorded in revenue deduction provisions 2007 ($ millions)	Total 2007 ($ millions)	In % of 2007 gross sales
Gross sales subject to deductions from continuing operations			**46,426**	**100.0**
Gross sales subject to deductions from discontinued operations			1,985	
Group gross sales subject to deductions			**48,411**	
US Medicaid, Medicare and State program rebates and credits, including prescriptions drug savings card rebates	(731)	(57)	(788)	(1.7)
US managed healthcare rebates	(439)		(439)	(0.9)
Non-US healthcare plans and program rebates	(217)	(113)	(330)	(0.7)
Chargebacks (including hospitals)	(2,247)	(73)	(2,320)	(5.0)
Direct customer discounts, cash discounts and other rebates	(1,330)	(1,988)	(3,318)	(7.1)
Sales returns and other deductions	(561)	(598)	(1,159)	(2.5)
Total gross to net sales adjustments from continuing operations	**(5,525)**	**(2,829)**	**(8,354)**	**(17.9)**
Net sales from continuing operations			**38,072**	**82.1**
Total gross to net sales adjustments from discontinued operations	(84)	(173)	(257)	
Total gross to net sales adjustments	**(5,609)**	**(3,002)**	**(8,611)**	
Group net sales			**39,800**	

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2006	Income Statement charge Charged through revenue deduction provisions 2006 ($ millions)	Charged directly without being recorded in revenue deduction provisions 2006 ($ millions)	Total 2006 ($ millions)	In % of 2006 gross sales
Gross sales subject to deductions from continuing operations			**41,751**	**100.0**
Gross sales subject to deductions from discontinued operations			3,094	
Group gross sales subject to deductions			**44,845**	
US Medicaid, Medicare and State program rebates and credits, including prescriptions drug savings card rebates	(683)	(28)	(711)	(1.7)
US managed healthcare rebates	(436)		(436)	(1.0)
Non-US healthcare plans and program rebates	(143)	(83)	(226)	(0.5)
Chargebacks (including hospitals)	(2,212)	(117)	(2,329)	(5.6)
Direct customer discounts, cash discounts and other rebates	(887)	(1,872)	(2,759)	(6.6)
Sales returns and other deductions	(472)	(425)	(897)	(2.1)
Total gross to net sales adjustments from continuing operations	**(4,833)**	**(2,525)**	**(7,358)**	**(17.5)**
Net sales from continuing operations			**34,393**	**82.5**
Total gross to net sales adjustments from discontinued operations	(271)	(196)	(467)	
Total gross to net sales adjustments	**(5,104)**	**(2,721)**	**(7,825)**	
Group net sales			**37,020**	

Acquisition accounting

Our consolidated financial statements and results of operations reflect an acquired business after the acquisition has been completed. We account for acquired businesses using the purchase method of accounting, which requires the acquired assets and assumed liabilities to be recorded as of the acquisition date of at their respective fair values. Any excess of the purchase price over the estimated fair values of the acquired identified net assets is recorded as goodwill in the balance sheet and is denominated in the local currency of the related acquisition. Goodwill is allocated to an appropriate cash-generating unit, which is the smallest group of assets that generates cash inflows. These units are largely independent of the cash inflows from other assets or group of assets.

In-Process Research & Development (IPR&D) is valued as part of the process of allocating acquisition purchase price. Other 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. This occurs even if uncertainties continue to exist as to whether the R&D projects will ultimately be successful in producing a commercial product.

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The numerous judgments made by management in estimating the fair value to be assigned to each class of acquired assets and assumed liabilities can materially affect the Group's results of operations. These valuations are based on information available at the acquisition date and are based on expectations and assumptions that have been deemed reasonable by management.

Impairment of long-lived intangible and tangible assets

We review long-lived assets, other than goodwill and IPR&D, for impairment, whenever events or changes in circumstance indicate that the asset's balance sheet carrying amount may not be recoverable. In order to assess if there is an impairment, we estimate the future cash flows expected to result from the asset and its eventual disposal.

We consider goodwill to have an indefinite life, so impairment testing is done at least annually. Any goodwill impairment charge is recorded in the income statement under other income and expense. IPR&D is also assessed for impairment on an annual basis, with any impairment charge recorded in research & development expenses. Once a project included in IPR&D has been successfully developed and is available for use, it is amortized over its useful life under cost of goods sold, where any related impairment charge is also recorded.

If an assets balance sheet carrying amount exceeds the higher of its "value in use" to Novartis or our "fair value less costs to sell", we will recognize an impairment loss for the difference. For intangible assets, including IPR&D or product and marketing rights, we typically use the Discounted Cash Flow method. This method starts with a forecast of all expected future net cash flows. These cash flows, which reflect the risks and uncertainties associated with the assets, are then discounted at an appropriate rate to net present value.

The net present values involve highly sensitive estimates and assumptions specific to the nature of the Group's activities with regard to:

- 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 the IPR&D into commercially viable products;
- The probability of obtaining regulatory approval;
- Long-term sales forecasts for periods of up to 20 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:

- 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 and equipment.

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We have adopted a uniform method for assessing goodwill for impairment and any other intangible asset indicated as possibly impaired. If no cash flow projections for the whole useful life of an intangible asset are available, we utilize cash flow projections for the next five years based on management's range of forecasts, with a terminal value based on sales projections that are usually in line or lower than inflation for later periods. Typically three probability-weighted scenarios are used.

Discount rates used in these scenarios are based on our weighted average cost of capital, which are adjusted for specific country and currency risks associated with the cash flow projections. An after-tax discount rate is used since the cash flows also take into account tax expenses.

Due to the above factors, actual cash flows and values could vary significantly from the 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 to sell" or on the "value in use" derived from applying discounted future cash flows using the key assumptions in the following table:

	Pharmaceuticals	Vaccines and Diagnostics	Sandoz	Consumer Health
	(%)	(%)	(%)	(%)
Sales growth rate assumptions after forecast period	2.0	2.0	0.0 to 7.0	(2.0) to 4.0
Discount rate	7.0	7.0	6.8 to 12.0	4.0 to 8.0

In 2008, we recorded impairment charges of $344 million, which included a full impairment of $223 million for the termination of the *Aurograb* (infections) development project and $97 million for various impairments of upfront and milestone payments and product rights in the Pharmaceuticals Division. Additionally, various impairments totaling $24 million were recorded in the other divisions. In 2007, impairment charges of $482 million were recorded, of which $320 million represented a partial impairment charge for *Famvir* product rights following the launch of an "at risk" generic version by a competitor and subsequent loss of sales in the Pharmaceuticals Division. Various other additional impairment charges totaling $162 million were recorded in the divisions. In 2006, we recorded impairment charges of $126 million principally relating to capitalized milestone payments in the Pharmaceutical Division as well as marketed products in our Sandoz Division.

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 "Item 18. Financial Statements note 9".

Investments in associated companies

We use the equity method to account for investments in associated companies (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 investments in Roche Holding AG and Alcon Inc.

We review investments in associated companies for impairment whenever events or changes in circumstance indicate that the asset's balance sheet carrying amount may not be recoverable. Where a significant or prolonged decline in fair value has occurred, such as a decline in a company's share price, to a level below the carrying value in our balance sheet, we calculate the "value in use" taking into account anticipated dividend streams and a discounted cash flow analysis of the company's operations. These

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assessments utilize external data and internal Novartis projections to determine whether the investment is impaired.

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 income statement under "Income from associated companies."

If the asset's balance sheet carrying amount exceeds the higher of its "value in use" or "fair value less costs to sell," we will recognize an impairment loss for the difference. "Value in use" is defined as the present value of future cash flows expected from an asset or cash-generating unit. For investments in associated companies, we typically use the Discounted Cash Flow method that is based on a forecast of all expected future net cash flows. As an alternative methodology we may also use the Discounted Dividend Method that is based on the value of all future dividends and the residual value of our investment, less disposal cost. These cash flows, which reflect risks and uncertainties associated with an investment, are discounted at an appropriate rate to net present value.

Net present values for associated companies are highly sensitive to several assumptions including:

- Long-term sales forecasts for periods of up to 20 years;
- Sales erosion rates after the end of patent protection and timing of the entry of generic competition;
- The behavior of competitors (launch of competing products, marketing initiatives, etc.);
- The outcome of R&D activities (compound efficacy, results of clinical trials, etc.) including the probability of obtaining regulatory approval and development timelines;
- The amount and timing of projected future cash flows; and
- The selected discount and tax rates.

Factors that could result in impairments include:

- Lower than expected sales for acquired products or sales associated with patents and trademarks;
- Lower than anticipated future sales resulting from acquired IPR&D;
- Lower than expected profit margins caused by pricing pressure, exchange rate effects or other factors;
- Failure of material R&D programs; and
- Product recalls or withdrawals and associated product liabilities.

We have adopted a method for assessing investments in associated companies for impairment that utilizes cash flow projections based on a range of management forecasts, with a terminal value based on sales projections usually in line or lower than GDP nominal growth forecasts for later periods.

Discount rates are based on the associated company's estimated weighted average cost of capital, 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 dividends as well as related values derived using discounting techniques.

The amount of investments in associated companies on our consolidated balance sheet has increased significantly in recent years, primarily due to the Alcon investment in 2008. Our assessment of the

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recoverable value of the Alcon investment is discussed below. For more information, see "Item 18. Financial Statements note 10".

Assessment of Alcon investment

The purchase price allocation of the $10.4 billion paid for the 24.8% stake consisted of the Group's share of Alcon's reported net assets ($1.1 billion), additionally appraised tangible and intangible assets ($5.1 billion) and implicit goodwill ($4.2 billion).

As a result of the 37% decline in Alcon's share price to $89.19 at the end of 2008 from the price paid for the initial 24.8% stake, Novartis performed an impairment test on the investment's carrying value.

This test assessed the "value in use" to Novartis of this strategic investment by valuing discounted cash flows and future dividend streams from Alcon against the "fair value less costs to sell" of this stake, as measured by the closing price on December 31, 2008, on the NYSE for the 23% of Alcon's publicly traded shares. The main assumptions for both the Discounted Cash Flow and Dividend Discount Methods are shown in the following table:

	Discounted Cash Flow Method (DCF)	Discounted Dividend Method (DDM)
Sales growth rate after terminal period	2.0 to 4.0%	2.0 to 4.0%
Discount rate	7.5 to 8.0%	7.5 to 8.0%
Dividend and other cash payouts to shareholders (as % EPS)	NA	40 to 70%

NA Not applicable

Valuation estimates are highly sensitive to the applied assumptions and parameters, including the discount rate, the perpetual growth rate and the dividend payout ratio. As such, both of the estimates for "value in use" result in a wide range of potential values.

The calculation of "value in use" applying the above-mentioned methods and assumptions resulted in a value for Alcon in the range of $120 to $170 per share. However, for the purpose of preparing our 2008 potential impairment valuation, one estimate had to be selected to assess "value in use." Novartis management have judged the mid-point of this range, $145 per share, as the most appropriate quantification of "value in use."

Since the higher of the estimated "value in use" and the "fair value less costs to sell" exceeded the carrying value of $140.68 per share, no impairment charge was recorded. Further information is provided in "Item 18. Financial Statements note 10".

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The following table provides sensitivity analyses to our mid-point valuation:

Assumption	Sensitivity	Effect on "value in use" ($ per share)
Discount rate	+1.0%	-20 to -30
	-1.0%	+30 to + 50
Terminal growth rate	+1.0%	+25 to + 30
	-1.0%	-15 to -20
Dividend payout	+20.0%	+10 to + 25
	-20.0%	-10 to -25

If only Alcon's year-end closing price had been used for the impairment test, the value of this investment would have been $6.6 billion, or approximately $3.8 billion below the year-end carrying value on the Novartis Group's consolidated balance sheet. If this amount had been used as an impairment charge, the Group's reported net income in 2008 of $8.2 billion would have been reduced by approximately $3.5 billion to $4.7 billion.

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. 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 $1.2 billion. If the 2008 discount rate had been one-half of one percentage point lower than actually assumed, pension expense would have risen by approximately an additional $12 million, and if the same decrease were assumed for the return on assets, pension expense would have increased by $93 million. We record differences between assumed and actual income and expense as "Actuarial gains/losses" in the consolidated statement of recognized income and expense. 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 "Item 18. Financial Statements note 26".

Derivative financial instruments and related cash flow hedging

Derivative financial instruments are initially recognized in the balance sheet at fair value and subsequently remeasured 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 statement of recognized income and expense. The gain or loss relating to the ineffective portion is recognized immediately in the 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 recognized income and expense at that time is recognized in the income statement when the committed or forecasted transaction

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is ultimately recognized. 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 recognized income and expense. Amounts are only deferred when management judges the forecasted transaction to be probable.

Equity-based compensation

The fair value of Novartis shares, Novartis ADSs and related options granted to associates as compensation are recognized as an expense over the related vesting or service period. 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, expected share price volatility and expected dividend yield. Novartis shares and ADSs are valued using the market value on grant date. The amounts for shares and options are charged to income over the relevant vesting or service periods, adjusted to reflect actual and expected vesting levels. The charge for equity-based compensation is included in personnel expenses for the subsidiaries where associates receiving equity-based compensation are employed. For detailed information on the Group's equity-based compensation plans and underlying assumptions for valuation of share options granted in 2008, see "Item 18. Financial Statements note 27".

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 "Item 18. Financial Statements note 19".

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 portion of the overall accrual is actuarially determined. We consider 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 in connection with a loss contingency 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 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 "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 contingencies and environmental 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.

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New accounting pronouncements

The following are new or amended IFRS standards or interpretations that, based on our analysis, are of significance to the Group. These changes would need to be adopted by January 1, 2009 : IAS 1 *"Presentation of Financial Statements",* IAS 23 *"Borrowing Costs"* and IFRS 8 *"Operating Segments".* The Group does not expect these changes to have a significant impact on the Group's consolidated financial statements. Novartis only intends to adopt the revised IFRS 3 *"Business Combinations"* from January 1, 2010. We are currently evaluating the potential impact that this standard will have on the Group's consolidated financial statements. See "Item 18. Financial Statements note 1".

SEGMENT REPORTING

Novartis is divided on a worldwide basis into four operating divisions (Pharmaceuticals, Vaccines and Diagnostics, Sandoz and Consumer Health) and Corporate activities. These four operating divisions reflect the Group's internal management structure. They are managed separately because they each manufacture, distribute and sell distinct products that require differing marketing strategies.

Inter-divisional sales are made at amounts considered to approximate arm's-length transactions. Where practicable, the same accounting policies are applied by the Group as well as the Divisions. We principally evaluate divisional performance and allocate resources based on operating income.

Pharmaceuticals Division

Pharmaceuticals researches, develops, manufactures, distributes, and sells branded medicines in the following therapeutic areas: Cardiovascular and Metabolism; Oncology; Neuroscience and Ophthalmics; Respiratory; Immunology and Infectious Diseases; and Other. 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 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 four divisions, accounting in 2008 for $26.3 billion, or 64%, of net sales from continuing operations and for $7.6 billion, or 77%, of operating income from continuing operations (excluding Corporate Income & Expense, net).

Vaccines and Diagnostics Division

Vaccines and Diagnostics researches, develops, manufactures, distributes, and sells preventive vaccine treatments and diagnostic tools. It was formed in April 2006 following the acquisition of the remaining majority stake in Chiron Corporation not already held by Novartis. The division has two activities: Novartis Vaccines and Chiron. Novartis Vaccines is the world's fifth-largest vaccines manufacturer ranked by annual sales. Key products include influenza, meningococcal, pediatric and traveler vaccines. Chiron 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 2008, Vaccines and Diagnostics accounted for $1.8 billion, or 4%, of net sales from continuing operations and provided $78 million, or 1%, of operating income from continuing operations (excluding Corporate Income & Expense, net).

Sandoz Division

Sandoz is a leading global generic pharmaceuticals company that develops, manufactures, distributes, and sells drugs as well as pharmaceutical and biotechnological active substances. Through Sandoz, we are the only major pharmaceutical company to have leadership positions in both patented medicines as well as generic pharmaceuticals. Sandoz has activities in Retail Generics, Anti-Infectives and Biopharmaceuticals.

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In Retail Generics, Sandoz develops and manufactures active ingredients and finished dosage forms of medicines no longer covered by patents. Retail Generics also supplies certain active ingredients to third parties. In Anti-Infectives, Sandoz develops and manufactures off-patent active pharmaceutical ingredients and intermediates, mainly antibiotics, for internal use by Retail Generics and for sale to third-party customers. In Biopharmaceuticals, Sandoz develops and manufactures biological medicines (including protein-based products no longer protected by patents and known as "biosimilars" and provides biotech manufacturing to other companies on a contract basis. Sandoz offers more than 950 compounds in over 5,000 dosage forms in more than 130 countries. Sandoz is the Group's second-largest division, both in terms of contributions to net sales and operating income from continuing operations. In 2008, Sandoz accounted for $7.6 billion, or 18%, of net sales from continuing operations and for $1.1 billion, or 11% of operating income from continuing operations (excluding Corporate Income & Expense, net).

Consumer Health Division

Consumer Health consists of three Business Units: OTC, Animal Health and CIBA Vision. Each has its own research, development, manufacturing, distribution and selling capabilities. However, none are 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; and CIBA Vision markets contact lenses, lens care products and ophthalmic products.

Medical Nutrition and Gerber, which were previously included in Consumer Health, were divested during 2007. The results of these Business Units have been reclassified and disclosed as discontinued operations in all periods in our consolidated financial statements included in this Financial Report. For more detail, see "Factors Affecting Results of Operations Acquisitions, Divestments and Other Significant Transactions" and "Item 18. Financial Statements note 2".

In 2008, Consumer Health accounted for $5.8 billion, or 14%, of net sales from continuing operations and for $1.0 billion, or 11%, of operating income from continuing operations (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.

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 were was significantly affected by a number of acquisitions and divestments during 2008, 2007 and 2006. For more detail how these actions have affected our results, see "Factors Affecting Results of Operations Acquisitions, Divestments and Other Significant Transactions" above.

Divestment of Medical Nutrition and Gerber Business Units

The results of the Medical Nutrition and Gerber Business Units in the Consumer Health Division are reported as discontinued operations for 2008, 2007 and 2006 in our consolidated financial statements. As a result, the divestment of these Business Units does not affect the comparability of year-on-year results for continuing operations, neither for the Group nor for the Consumer Health Division.

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Currency Fluctuations

The volatile changes in the value of the US dollar, our reporting currency, during 2008 against various currencies particularly the Swiss franc and euro had an overall 12% positive currency translation effect on results of operations in 2008, and as a result on the comparability of results of operations for 2008, 2007 and 2006. For more information, see "Effects of Currency Fluctuations" above.

RESULTS OF OPERATIONS

2008 Compared to 2007

Key Figures Continuing Operations

	Year ended December 31, 2008 ($ millions)	Year ended December 31, 2007 ($ millions)	Change (%)
Net sales from continuing operations	**41,459**	**38,072**	**9**
Other revenues	1,125	875	29
Cost of goods sold	(11,439)	(11,032)	4
Marketing & sales	(11,852)	(11,126)	7
Research & development	(7,217)	(6,430)	12
General & administration	(2,245)	(2,133)	5
Other income & expense, net	(867)	(1,445)	(40)
Operating income from continuing operations[(1)]	**8,964**	**6,781**	**32**
Income from associated companies	441	412	7
Financial income	384	531	(28)
Interest expense	(290)	(237)	22
Income before taxes from continuing operations	**9,499**	**7,487**	**27**
Taxes	(1,336)	(947)	41
Net income from continuing operations[(1)]	**8,163**	**6,540**	**25**
Net income from discontinued operations	70	5,428	
Group net income	**8,233**	**11,968**	
Attributable to:			
Shareholders of Novartis AG	*8,195*	*11,946*	*(31)*
Minority interests	*38*	*22*	*73*
Basic earnings per share from continuing operations ($)	**3.59**	**2.81**	**28**

(1) Operating and net income in 2007 include exceptional charges of $1,034 million ($788 million after tax) for Corporate environmental provision increase of $590 million and Forward restructuring charges of $444 million.

Overview of Continuing Operations

Pharmaceuticals led the strong performance supported by contributions from Vaccines and Diagnostics and Consumer Health. Net sales rose 9% (+5% in local currencies, or lc) to $41.5 billion. Higher sales volumes provided six percentage points of growth, while positive currency

translation added four percentage points. Price changes had a negative effect of one point, while acquisitions had no impact. The US remained the Group's largest country market with 31% of net sales in 2008 (34% in 2007). The European region increased its contribution to 44% of net sales (42% in 2007), while the rest of the world provided 25% (24% in 2007) of net sales.

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Operating income advanced 32% to $9.0 billion due to the solid business expansion as well as productivity gains from Forward, the Group's efficiency initiative that is freeing up resources for investments in innovation and expansion in high-growth markets. The 2007 results included exceptional charges of approximately $1.0 billion ($590 million for a Corporate environmental provision increase and $444 million of Forward restructuring charges). Excluding these two charges, operating income rose 15% in 2008.

Net income grew 25% to $8.2 billion in 2008, rising at a slower pace than operating income due to an unusually low tax rate in 2007 that included various one-time factors. Also affecting net income were the start of financing costs in July 2008 for the acquisition of a 25% stake in Alcon Inc. The agreement with Nestlé S.A. provides future rights to majority control of Alcon, the world leader in eye care. Excluding the 2007 exceptional charges for the environmental provision and Forward, net income rose 11%. Basic earnings per share grew 28% to $3.59 from $2.81 in 2007 on fewer outstanding shares.

Net Sales

	Year ended December 31, 2008 ($ millions)	Year ended December 31, 2007 ($ millions)	Change (%)	Change in local currencies (%)
Pharmaceuticals	26,331	24,025	10	5
Vaccines and Diagnostics	1,759	1,452	21	20
Sandoz	7,557	7,169	5	1
Consumer Health continuing operations	5,812	5,426	7	4
Net sales from continuing operations	**41,459**	**38,072**	**9**	**5**
Net sales from discontinued operations		1,728		
Group net sales	**41,459**	**39,800**		

Pharmaceuticals Division

Accelerating momentum in Pharmaceuticals in 2008 was driven by ongoing dynamic growth in Oncology, sustained expansion of the cardiovascular portfolio and $2.9 billion of contributions in 2008 from recently launched products including *Aclasta/Reclast, Tekturna/Rasilez, Exforge, Exjade, Lucentis, Exelon* Patch, *Tasigna* and *Xolair.*

Outside North America, all regions achieved solid performances: Europe ($10.1 billion, +10% lc), Latin America ($1.7 billion, +8% lc), Japan ($2.6 billion, +4% lc) and rest of the world with $2.6 billion (+15% lc). The priority emerging markets of China, Russia, South Korea and Turkey together delivered more than 20% lc net sales growth. In the US, net sales fell 2% to $8.6 billion, returning to growth in the second half of 2008 and nearly offsetting the 2007 impact of generic competition and the *Zelnorm* suspension.

Oncology ($8.2 billion, +14% lc) growth was led by *Gleevec/Glivec* ($3.7 billion, +15% lc). Other products achieving annual net sales of more than $1 billion were *Zometa* ($1.4 billion) as well as *Femara* and *Sandostatin* (each $1.1 billion). Cardiovascular strategic products ($6.7 billion, +10% lc) advanced on gains from the new medicines *Exforge* ($406 million) and *Tekturna/Rasilez* ($144 million), which together provided over half of the franchise's incremental growth, while the Group's flagship product *Diovan* ($5.7 billion, +10% lc) expanded at a steady pace.

Top performers among recently launched medicines included the once-yearly osteoporosis therapy *Aclasta/Reclast* ($254 million), the age-related macular degeneration drug *Lucentis* ($886 million) and the addition of *Exelon* Patch, a skin patch formulation for Alzheimer's disease that has reinvigorated the *Exelon* franchise ($815 million).

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Top Twenty Pharmaceuticals Division Product Net Sales 2008

Brands	Therapeutic area	United States ($ millions)	Change in local currencies (%)	Rest of world ($ millions)	Change in local currencies (%)	Total ($ millions)	Change (%)	Change in local currencies (%)
Diovan/Co-Diovan	Hypertension	*2,404*	*10*	*3,336*	*10*	*5,740*	*15*	*10*
Gleevec/Glivec	Cancers	*902*	*26*	*2,768*	*12*	*3,670*	*20*	*15*
Zometa	Cancer complications	*666*	*3*	*716*	*3*	*1,382*	*7*	*3*
Femara	Breast cancer	*483*	*18*	*646*	*17*	*1,129*	*20*	*17*
*Sandostatin (*incl. *LAR)*	Acromegaly	*431*	*5*	*692*	*6*	*1,123*	*9*	*6*
Neoral/Sandimmun	Transplantation	*98*	*(9)*	*858*	*(4)*	*956*	*1*	*(4)*
Lucentis	Age-related macular degeneration			*886*	*122*	*886*	*125*	*122*
Exelon/Exelon Patch	Alzheimer's disease	*279*	*32*	*536*	*20*	*815*	*29*	*24*
*Voltaren (*excl. OTC)	Inflammation/pain	*5*	*(44)*	*809*	*4*	*814*	*9*	*3*
Lescol	Cholesterol reduction	*154*	*(26)*	*491*	*(1)*	*645*	*(3)*	*(9)*
Top ten products total		**5,422**	**10**	**11,738**	**13**	**17,160**	**17**	**12**
Exjade	Iron chelator	*213*	*22*	*318*	*66*	*531*	*49*	*45*
Comtan/Stalevo	Parkinson's disease	*200*	*12*	*302*	*17*	*502*	*20*	*15*
*Tegretol (*incl. *CR/XR)*	Epilepsy	*146*	*19*	*305*	*1*	*451*	*9*	*6*
Ritalin/Focalin	Attention Deficit/ Hyperactivity Disorder	*347*	*16*	*93*	*18*	*440*	*17*	*16*
Exforge	Hypertension	*150*	*329*	*256*	*274*	*406*	*294*	*292*
Foradil	Asthma	*14*	*(33)*	*373*	*2*	*387*	*7*	*0*
Lotrel	Hypertension	*386*	*(48)*			*386*	*(48)*	*(48)*
Trileptal	Epilepsy	*135*	*(73)*	*197*	*(2)*	*332*	*(52)*	*(53)*
Tobi	Cystic fibrosis	*194*	*11*	*101*	*(4)*	*295*	*8*	*6*
Myfortic	Transplantation	*95*	*40*	*195*	*50*	*290*	*50*	*47*
Top 20 products total		**7,302**	**1**	**13,878**	**15**	**21,180**	**14**	**9**
Rest of portfolio		*1,314*	*(13)*	*3,837*	*(7)*	*5,151*	*(4)*	*(9)*
Total Division net sales[(1)]		**8,616**	**(2)**	**17,715**	**9**	**26,331**	**10**	**5**

(1) Net sales in 2008 include a one-time contribution of $104 million from a brand-specific provision reversal following a Novartis review of accounting for rebate programs to US government health agencies. Individual brand sales may include contributions from the reversal of these provisions.

Pharmaceuticals Division product highlights Selected leading products

Note: Net sales growth data refer to 2008 worldwide performance in local currencies. Growth rates are not provided for some recently launched products since they are not meaningful.

Diovan ($5.7 billion, +10% lc), the world's top-selling branded medicine for high blood pressure, grew steadily in all key markets worldwide, with areas outside the US now accounting for about 58% of net sales and delivering 10% lc growth. US sales also rose 10% as *Diovan* strengthened its 40% leading share of the angiotensin receptor blockers (ARBs) segment despite an overall slowdown in the

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antihypertensive market, including ARBs. *Diovan* has benefited from its status as the only medicine in the ARB class approved to treat high blood pressure, high-risk heart attack survivors and heart failure.

Gleevec/Glivec ($3.7 billion, +15% lc), a targeted therapy for certain forms of chronic myeloid leukemia (CML) and gastrointestinal stromal tumors (GIST), sustained solid double-digit growth in 2008 based on strong clinical data and its status as the leading therapy for these and other life-threatening forms of cancer. In December 2008, *Gleevec* became the first FDA-approved treatment for use after GIST surgery (adjuvant setting). Similar submissions were made in the EU, Switzerland and other countries, with additional launches for this indication expected in 2009. Data from the landmark IRIS study at the American Society of Hematology meeting showed nearly 90% of CML patients in the study were still alive seven years after diagnosis when treated with *Gleevec*, demonstrating the longest overall survival observed to date in this disease area.

Zometa ($1.4 billion, +3% lc), an intravenous bisphosphonate therapy for patients with cancer that has spread to the bones, returned to growth thanks to improved compliance for existing indications and new data showing significant anticancer benefits of this therapy. A study in premenopausal women with hormone-sensitive, early-stage breast cancer showed the addition of *Zometa* to hormone therapy after surgery significantly reduced the risk of recurrence or death beyond benefits achieved with hormone therapy alone. Other new data in 2008 showed the addition of *Zometa* to standard chemotherapy before breast cancer surgery reduced the size of breast tumors more effectively than chemotherapy alone in women with early-stage disease. More studies are underway to review potential anticancer benefits of *Zometa*.

Femara ($1.1 billion, +17% lc), an oral therapy for women with hormone-sensitive breast cancer, continued with strong growth. New data from the BIG 1-98 trial suggested a reduced risk of death for patients taking *Femara* instead of tamoxifen in initial adjuvant treatment. Although the results did not meet statistical significance, these were the first data to suggest this survival benefit for an aromatase inhibitor versus tamoxifen in the monotherapy setting immediately following surgery. The entry of generic competition in some markets, including some European countries, had a modest negative impact on global growth.

Sandostatin ($1.1 billion, +6% lc), for acromegaly and symptoms associated with carcinoid syndrome, benefited from growth of *Sandostatin LAR*, the once-monthly version that accounts for 85% of net sales, particularly in key regions such as Latin America and in emerging markets. New competition in the US in this segment had a minimal impact on *Sandostatin LAR* sales in 2008.

Neoral/Sandimmun ($956 million, -4% lc), for organ transplantation, has experienced a modest overall decline despite ongoing generic competition based on its pharmacokinetic profiles, reliability and use in treating a life-threatening condition.

Lucentis ($886 million, +122% lc), a biotechnology eye therapy now approved in more than 70 countries, has delivered dynamic growth since its first European launch in early 2007. *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. It has been judged as cost-effective by various government health agencies, including the UK National Institute for Health and Clinical Excellence (NICE) in 2008. Genentech holds the US rights.

Exelon/Exelon Patch ($815 million, +24% lc), a therapy for mild to moderate forms of Alzheimer's disease dementia and also dementia linked with Parkinson's disease, has experienced renewed growth following the introduction of the once-daily *Exelon* Patch formulation in late 2007 that quickly gained broad acceptance by patients and caregivers.

Voltaren ($814 million, +3% lc, excluding OTC sales), a treatment for inflammation and pain, no longer has patent protection in many key markets around the world, but has continued to generate

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consistent growth in regions such as Latin America, the Middle East, Africa and Asia based on long-term trust in the brand.

Lescol ($645 million, -9% lc), a statin drug used to reduce cholesterol, has been impacted by the 2007 launch in the US of a generic version of simvastatin, another medicine in this class. Europe and other regions have seen steady sales, while *Lescol* was launched in China in 2008.

Exjade ($531 million, +45% lc), the first and only once-daily oral therapy for transfusional iron overload, a potentially fatal condition linked to certain blood disorders, had dynamic growth in 2008 and is now available in more than 90 countries.

Comtan/Stalevo ($502 million, +15% lc), a treatment for Parkinson's disease, has grown mainly based on *Stalevo,* an enhanced levodopa therapy. New data in 2008 from the FIRST-STEP Phase III trial showed *Stalevo* provided better symptomatic benefits in early Parkinson's disease patients than those treated with carbidopa/levodopa, a widely-used therapy.

Tegretol ($451 million, +6% lc), a treatment for epilepsy, has grown thanks to increasing use of the long-acting *Tegretol XR/CR* formulations of this medicine. Earlier formulations have faced generic competition for some time.

Ritalin/Focalin ($440 million, +16% lc), for treatment of Attention Deficit/Hyperactivity Disorder (AD/HD), has benefited from use of the long-acting *Ritalin LA* and *Focalin XR* patent-protected versions that involve methylphenidate, the active ingredient in *Ritalin* that has faced generic competition for some time in many countries.

Exforge ($406 million, +292% lc), a single-pill combination of the angiotensin receptor blocker *Diovan* (valsartan) with the calcium channel blocker amlodipine, has set new standards since its launch in late 2007 for the introduction of a high blood pressure combination therapy. The US approved *Exforge* in July 2008 as a first-line therapy, providing a new growth opportunity.

Foradil ($387 million, +0% lc), a long-acting bronchodilator, maintained overall steady sales and is marketed by Novartis predominantly outside the US, where sales rose 2% lc and offset a decline in the US.

Lotrel ($386 million, -48% lc, only in the US), a single-pill combination therapy for high blood pressure, fell sharply after an "at risk" launch in mid-2007 by a generic competitor despite a US patent valid until 2017. Sales in 2008 came from higher-dose formulations that still have market exclusivity.

Trileptal ($332 million, -53% lc), for epilepsy seizures, has been negatively impacted by generic competition for tablet formulations in key markets, including the US, following the end of patent protection in late 2007.

Tobi ($295 million, +6%), for cystic fibrosis, is considered a leading treatment for this potentially fatal genetic disease that mainly affects the lungs and digestive system.

Myfortic ($290 million, +47% lc), which is used in combination with other transplant medicines, has experienced rapid growth in use among kidney transplant patients based on clinical data showing its ability to reduce gastro-intestinal problems.

Aclasta/Reclast ($254 million), the first once-yearly infusion therapy for various forms of osteoporosis, has now been used in more than 350,000 patients and has experienced consistent growth since its launch to treat postmenopausal osteoporosis in late 2007. New indications approved in 2008 have broadened the use of *Aclasta* in Europe and the US (where it is known as *Reclast*) to include treatment of osteoporosis in men. *Aclasta* has been shown to reduce the risk of new fractures in patients who have recently suffered a low-trauma hip fracture, and in the same patient group to reduce all-cause mortality by 28% vs. placebo.

Xolair ($211 million, +42% lc, only Novartis sales), a biotechnology therapy for moderate to severe allergic asthma that targets a root cause of this disease, is now available in over 50 countries worldwide.

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Xolair Liquid, a new formulation that will ease administration, received a positive EU opinion in November 2008 supporting approval. In December 2008, *Xolair* was submitted for use in children from 6 to less than 12 years of age in the EU and by Genentech in the US. Novartis co-promotes *Xolair* with Genentech in the US and shares a portion of operating income. Genentech's *Xolair* sales in the US were $517 million in 2008.

Tekturna/Rasilez ($144 million), the first new type of high blood pressure medicine in more than a decade, showed consistent growth in the US and Europe in a competitive market environment in 2008. Positive data from the ALOFT (heart failure) and AVOID (kidney disease) clinical studies, which are part of the ASPIRE HIGHER cardio-renal outcomes program, were added to European product information. *Rasilez HCT*, a single-pill combination with a diuretic, received European approval in January 2009, while a decision in Switzerland is expected in 2009. This medicine is already approved in the US as *Tekturna HCT*. A single-pill combination with *Diovan* was also submitted for approval in the US.

Tasigna ($89 million) has gained quickly as a new therapy in the second-line setting for patients with a certain form of chronic myeloid leukemia (CML) resistant or intolerant to prior therapy, including *Gleevec/Glivec*. *Tasigna* shows potential to become a leading treatment for certain newly diagnosed CML patients based on new data at the American Society of Hematology meeting in December. A Phase III trial comparing *Tasigna* and *Gleevec/Glivec* in newly diagnosed CML patients has completed recruitment.

Galvus ($43 million), a new oral treatment for type 2 diabetes, and *Eucreas*, a single-tablet combination with metformin, showed promising results in Europe since the first launches in early 2008. The majority of sales have been for *Eucreas*, the first single-pill combination in the DPP-IV inhibitor class launched in Europe. A resubmission for US approval is not planned.

Vaccines and Diagnostics Division

Deliveries of H5N1 pandemic influenza vaccines to the US government and steady growth in diagnostics led the expansion. Additional growth came from components sold for use in pediatric vaccines, all of which more than offset lower US seasonal influenza vaccine sales.

Sandoz Division

Modest growth was achieved as improving performances in many markets were largely offset by a 10% decline in the US on a lack of new product launches in 2008. Central and Eastern Europe advanced 13% lc, with Russia at the forefront. Germany rose 2% lc, leading to 2.5 percentage points of market share gains to 26.4% in fast-changing industry conditions. Canada, Turkey and Brazil were among other top-performing markets.

Consumer Health Division Continuing Operations

All businesses delivered higher sales in deteriorating market conditions, particularly CIBA Vision thanks to new product launches. OTC grew dynamically in emerging markets, while US sales declined due to changes in consumer spending that have affected this industry. Animal Health growth came from expansion of the companion animals business.

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Operating Income

	Year ended December 31, 2008 ($ millions)	Net sales (%)	Year ended December 31, 2007 ($ millions)	Net sales (%)	Change (%)
Pharmaceuticals	**7,579**	28.8	**6,086**	25.3	25
Vaccines and Diagnostics	**78**	4.4	**72**	5.0	8
Sandoz	**1,084**	14.3	**1,039**	14.5	4
Consumer Health continuing operations	**1,048**	18.0	**812**	15.0	29
Corporate income & expense, net	(825)		(1,228)		33
Operating income from continuing operations	**8,964**	**21.6**	**6,781**	**17.8**	32

Operating Income Excluding Environmental Provision and Forward Charges

	Year ended December 31, 2008 ($ millions)	Net sales (%)	Year ended December 31, 2007 ($ millions)	Net sales (%)	Change (%)
Pharmaceuticals[1]	**7,579**	28.8	**6,393**	26.6	19
Vaccines and Diagnostics	**78**	4.4	**72**	5.0	8
Sandoz	**1,084**	14.3	**1,039**	14.5	4
Consumer Health continuing operations[1]	**1,048**	18.0	**909**	16.8	15
Corporate income & expense, net[1][2]	(825)		(598)		38
Operating income from continuing operations excluding Corporate environmental charge and Forward restructuring charge[3]	**8,964**	21.6	**7,815**	20.5	15
Corporate environmental provision increase			(590)		
Forward restructuring charges			(444)		
Operating income from continuing operations	**8,964**	**21.6**	**6,781**	**17.8**	32

(1) Operating income in 2007 excludes the respective divisional exceptional restructuring charges for the Forward initiative totaling $444 million (Pharmaceuticals: $307 million, Consumer Health: $97 million and Corporate: $40 million).

(2) Corporate Income & Expenses, net, in 2007 excludes a $590 million Corporate environmental provision increase.

(3) Operating income from continuing operations has been presented excluding the Corporate environmental charge and Forward restructuring charges in 2007 as an additional disclosure since these items were material charges in the year, were of a significant and unusual nature, and are important to quantify for future comparison purposes. Novartis believes it is important to users of our financial statements to highlight these adjustments.

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Pharmaceuticals Division

Advancing more than twice as fast as net sales, operating income benefited from the accelerating pace of growth in the second half of 2008 and increased productivity as well as from lower exceptional charges. As a result, the operating margin in 2008 rose 3.5 percentage points to 28.8% of net sales from 25.3% in 2007. Marketing & sales costs fell 1.2 percentage points to 30.8% of net sales as productivity initiatives involving new commercial models, particularly in the US and Europe, provided resources to support ongoing new product launches including *Aclasta/Reclast, Tekturna/Rasilez, Exforge, Lucentis* and *Exelon* Patch. R&D investments rose 0.5 percentage points to 21.7% of net sales and included investments in late-stage projects such as QAB149, FTY720, ACZ885 and in Oncology. R&D expenses in 2008 also included a one-time charge of $223 million for full impairment of the terminated development project *Aurograb*. Cost of goods sold fell 1.6 percentage points to 17.0% of net sales, primarily reflecting the 2007 impairment charge of $320 million for *Famvir*. Excluding the exceptional Forward restructuring charge of $307 million in 2007, operating income rose 19% and the operating margin rose 2.2 percentage points to 28.8%.

Vaccines and Diagnostics Division

Higher vaccine volumes and a better product mix helped support major R&D investments in the Phase III meningitis vaccine candidates *Menveo* and MenB as well as initiatives to improve vaccines manufacturing quality and capacity.

Sandoz Division

Reduced income from the US overshadowed efficiency improvements and solid growth in emerging markets, as the operating margin fell 0.2 percentage points to 14.3% of net sales. Sandoz made major investments in emerging markets and in several R&D projects involving "difficult-to-make" generics such as biosimilars that provide competitive advantages. Cost of goods sold benefited from a more favorable product mix.

Consumer Health Division Continuing Operations

Robust growth in operating income outpaced net sales thanks to the business expansion, particularly in CIBA Vision, and Forward-related productivity gains. Excluding the exceptional Forward restructuring charge of $97 million in 2007, operating income rose 15% and the operating margin rose 1.2 percentage points to 18.0% of net sales.

Corporate Income & Expense, Net

Net expenses in 2007 included charges of $630 million for the environmental provision increase and Corporate-related Forward restructuring charges. Excluding these two factors, the higher net expenses in 2008 came mainly from global IT infrastructure investments, negative currency effects and an increase in provisions for product liabilities.

2007 Environmental Charge

Novartis increased its provisions in 2007 for worldwide environmental liabilities by $614 million following internal and external reviews completed during the year, of which $590 million was recorded as a Corporate charge. This provision included the related share of any potential remediation costs for historical landfills in the Basel region (including Switzerland, France and Germany). Various governments are responsible for the supervision and decision-making process for any remediation actions. A new Swiss foundation has been created to finance the Novartis-related share of the potential regional landfill remediation costs.

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2007 Forward Initiative Restructuring Charge

To help Novartis more rapidly meet the needs of patients and customers, the Forward initiative was launched in December 2007 to improve the Group's competitiveness. This initiative, which has been implemented during 2008 and will continue in 2009, has been simplifying organizational structures, accelerating and decentralizing decision-making processes, redesigning the way Novartis operates and providing productivity gains. Pre-tax annual cost savings of $1.6 billion are expected in 2010, enabling Novartis to maximize resources available to support growth and customer-oriented activities. A pre-tax restructuring charge of $444 million was taken in the fourth quarter of 2007 (Pharmaceuticals: $307 million, Consumer Health: $97 million, Corporate: $40 million). The 2,500 full-time equivalent position reductions announced in 2007 have been completed. Many were handled through normal fluctuation in staffing levels as well as vacancy management and social programs. All reductions were being handled in a socially responsible manner with fair and respectful treatment of associates.

Other Revenues and Operating Expenses

	Year ended December 31,		
	2008	**2007**	**Change**
	($ millions)	**($ millions)**	**(%)**
Net sales from continuing operations	**41,459**	**38,072**	**9**
Other revenues	1,125	875	29
Cost of goods sold	(11,439)	(11,032)	4
Marketing & sales	(11,852)	(11,126)	7
Research & development	(7,217)	(6,430)	12
General & administration	(2,245)	(2,133)	5
Other income & expense, net[1]	(867)	(411)	111
Operating income from continuing operations excluding environmental charge and forward restructuring charge[2]	**8,964**	**7,815**	**15**
Corporate environmental provision increase		(590)	
Forward restructuring charges		(444)	
Operating income from continuing operations	**8,964**	**6,781**	**32**

(1) 2007 excludes exceptional charges totaling $1,034 million for the Corporate environmental provision increase and Forward restructuring charges.

(2) Operating income from continuing operations has been presented excluding the Corporate environmental charge and Forward restructuring charges in 2007 as an additional disclosure since these items were material charges in the year, were of a significant and unusual nature, and are important to quantify for future comparison purposes. Novartis believes it is important to users of our financial statements to highlight these adjustments.

Other Revenues

Other revenues rose 29% to $1.1 billion mainly due to increased royalty income contributions from the blood-testing diagnostics business in Vaccines and Diagnostics. Other revenues also included profit contributions from sales of the asthma medicine *Xolair* in the US, where it is co-marketed and co-developed in collaboration with Genentech.

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Cost of Goods Sold

Cost of goods sold rose 4% to $11.4 billion in 2008, but fell to 27.6% of net sales from continuing operations from 29.0% in 2007. Cost of goods sold fell 0.5 percentage points in 2008 when excluding the impact of a $320 million intangible asset impairment charge in 2007 in Pharmaceuticals following the start of US generic competition for *Famvir*.

Marketing & Sales

Marketing & sales rose 7% to $11.9 billion as productivity gains from the Forward initiative helped support the launch of new products in Pharmaceuticals and geographic expansion across all divisions. As a result, Marketing & Sales fell to 28.6% of net sales from 29.2% in 2007.

Research & Development

Research & development rose 12% to $7.2 billion, supporting significant investments in new product innovation throughout the Group. Pharmaceuticals accounted for nearly 80% of R&D investments and which totaled $5.7 billion. R&D expenses for 2008 included a one-time charge of $223 million for the termination of the *Aurograb* development project in Pharmaceuticals. The Group's R&D investments rose to 17.4% of net sales from continuing operations in 2008 from 16.9% in 2007.

General & Administration

General & administration expenses increased 5% to $2.2 billion in 2008, reflecting the positive impact of the Forward initiative to streamline organizational structures and provide resources to support business expansion.

Other Income & Expense, Net

Other income & expense, net increased to a net expense of $867 million in 2008 from $411 million in 2007. This was principally due to factors including a new global IT infrastructure investment and increases in provisions for product liabilities, both in Corporate. In the operating divisions the higher expenses also included additional restructuring expenses and a lower level of pre-launch inventory provision reversals compared to 2007.

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Non-Divisional Income & Expense

	Year ended December 31,		
	2008 ($ millions)	2007 ($ millions)	Change (%)
Operating income from continuing operations[1]	**8,964**	**6,781**	**32**
Income from associated companies	441	412	7
Financial income	384	531	(28)
Interest expense	(290)	(237)	22
Income before taxes from continuing operations	**9,499**	**7,487**	**27**
Taxes	(1,336)	(947)	41
Net income from continuing operations[1]	**8,163**	**6,540**	**25**
Net income from discontinued operations	70	5,428	
Group net income	**8,233**	**11,968**	**(31)**
Attributable to:			
Shareholders of Novartis AG	*8,195*	*11,946*	*(31)*
Minority interests	*38*	*22*	*73*
Basic earnings per share from continuing operations ($)	**3.59**	**2.81**	**28**

(1) 2007 includes exceptional charges totaling $1,034 million ($788 million after tax) for the Corporate environmental provision increase and Forward restructuring charges.

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 Alcon Inc.

Higher contributions from the Roche investment led to income from associated companies of $441 million in 2008, up from $412 million in 2007.

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 $439 million in 2008 compared to $391 million in 2007. The 2008 contribution reflects an estimated $560 million share of Roche's net income in 2008 and a positive prior-year adjustment of $11 million. This contribution was reduced by $132 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.

Results from the acquisition of the 25% stake in Alcon were included for the first time in 2008, and contributed a loss of $11 million as the anticipated net income contribution since acquisition of $255 million was more than offset by a charge of $266 million for the amortization of intangible assets and other charges.

A survey of analyst estimates is used to predict the Group's share of net income in Roche and Alcon. Any differences between these estimates and actual results will be adjusted in the 2009 financial statements.

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Financial Income and Interest Expense from Continuing Operations

Financing costs to purchase the 25% Alcon stake in July 2008 led to sharply lower average net liquidity, resulting in a decline in net financial income to $94 million in 2008 from $294 million in 2007.

The following table provides an analysis of our sources of financial income:

	Equity options ($ millions)	Forward exchange contracts ($ millions)	Foreign exchange options ($ millions)	Total ($ millions)
2008				
Income on options and forward contracts		22	6	28
Options and forward contracts result, net		22	6	28
Interest income				306
Dividend income				9
Net capital gains				102
Impairment of marketable securities				(169)
Other financial result, net				(48)
Currency result, net				156
Total financial income				**384**
2007				
Expenses on options and forward contracts	(3)	(287)	(2)	(292)
Options and forward contracts result, net	(3)	(287)	(2)	(292)
Interest income				423
Dividend income				10
Net capital gains				374
Impairment of marketable securities				(86)
Other financial result, net				(56)
Currency result, net				158
Total financial income				**531**

Taxes

Tax expenses from continuing operations rose 41% to $1.3 billion from an unusually low level of $0.9 billion in 2007, which benefited from various favorable one-time benefits. The tax rate for continuing operations (taxes as a percentage of pre-tax income) rose to 14.1% in 2008 from the 2007 level of 12.6%. Among factors for the lower level of taxes in 2007 were benefits from the corporate environmental provision, reduced contributions from higher-tax jurisdictions and a reduction in the German corporate tax rate. The Group's expected tax rate for continuing operations (weighted average tax rate based on the result before tax of each subsidiary) was 14.7%, up from 13.9% in 2007. The effective tax rate is different than the expected tax rate due to various adjustments to expenditures and income tax purposes. For further

information on the main elements contributing to the difference, see "Item 18. Financial Statements note 6".

Net Income from Discontinued Operations

The 2007 results include net proceeds of $5.4 billion from the divestments of Medical Nutrition (as of July 1, 2007) and Gerber (as of September 1, 2007) along with the contributions of these businesses before

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their divestments. Results for 2008 include modest income from various adjustments to accruals related to these divestments.

Net Income from Continuing Operations

Net income from continuing operations rose 25% to $8.2 billion. Excluding the after-tax impact of $788 million for the two exceptional charges taken in 2007, net income rose 11%.

Basic Earnings per Share

Basic earnings per share from continuing operations rose 28% to $3.59 in 2008 from $2.81 in 2007, at a faster pace than net income due to fewer outstanding shares.

2007 Compared to 2006

Key Figures Continuing Operations

	Year ended December 31,		
	2007	**2006**	**Change**
	($ millions)	**($ millions)**	**(%)**
Net sales from continuing operations	**38,072**	**34,393**	**11**
Other revenues	875	712	23
Cost of goods sold	(11,032)	(9,411)	17
Marketing & sales	(11,126)	(10,092)	10
Research & development	(6,430)	(5,321)	21
General & administration	(2,133)	(1,882)	13
Other income & expense, net	(1,445)	(757)	91
Operating income from continuing operations[(1)]	**6,781**	**7,642**	**(11)**
Income from associated companies	412	264	56
Financial income	531	354	50
Interest expense	(237)	(266)	(11)
Income before taxes from continuing operations	**7,487**	**7,994**	**(6)**
Taxes	(947)	(1,169)	(19)
Net income from continuing operations[(1)]	**6,540**	**6,825**	**(4)**
Net income from discontinued operations	5,428	377	
Group net income	**11,968**	**7,202**	**66**
Attributable to:			
Shareholders of Novartis AG	*11,946*	*7,175*	*66*
Minority interests	*22*	*27*	*(19)*
Basic earnings per share from continuing operations ($)	**2.81**	**2.90**	**(3)**

(1) Operating and net income in 2007 include exceptional charges of $1,034 million ($788 million after tax) for Corporate environmental provision increase of $590 million and Forward restructuring charges of $444 million.

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Overview of Continuing Operations

Strong contributions from Sandoz and Vaccines and Diagnostics led the overall expansion in net sales from continuing operations, which rose 11% (+6% in local currencies, or lc) to $38.1 billion from $34.4 billion in 2006. Higher sales volumes accounted for five percentage points of the increase in net sales, while acquisitions contributed two percentage points and currencies provided five percentage points. However, net price decreases reduced net sales one percentage point.

Sandoz led the Group with a dynamic performance as net sales advanced 20% (+13% lc) to $7.2 billion, providing an incremental contribution of more than $1 billion to annual net sales in 2007. The Vaccines and Diagnostics and Consumer Health Divisions also generated double-digit expansion in net sales. However, the Pharmaceuticals Division experienced a slowdown as net sales rose 6% (+2% lc) to $24.0 billion from $22.6 billion in 2006. Strong sales performances outside the United States and leading positions for many top ten products were impacted by the entry of generics in the US for four products *Lotrel, Lamisil, Trileptal* and *Famvir* and the suspension of *Zelnorm*.

The US remained the single largest market for Novartis, representing 34% of net sales from continuing operations (39% in 2006) despite a Group-wide decline of 1.3% in US net sales to $13.1 billion. Europe increased its contribution to 42% of Group net sales from continuing operations (38% in 2006) and the rest of the world rose to 24% (23% in 2006).

Operating income from continuing operations fell 11% to $6.8 billion, reflecting the lost contributions from the US pharmaceuticals business as well as significant charges in 2007, primarily the Corporate environmental provision increase of $590 million and the restructuring charge of $444 million for the Forward initiative to improve the Group's competitiveness. Excluding these two charges, which totaled approximately $1.0 billion, operating income rose 2%.

Net income from continuing operations declined a total of 4% to $6.5 billion. This includes an offset by higher contributions from associated companies and a decline in the tax rate to 13% compared to 15% in 2006, which was due to factors that included reduced profits in the US. Earnings per share from continuing operations were $2.81 in 2007, a decline of 3% from $2.90 in 2006.

Net Sales

	Year ended December 31,			
	2007 ($ millions)	2006 ($ millions)	Change (%)	Change in local currencies (%)
Pharmaceuticals	24,025	22,576	6	2
Vaccines and Diagnostics	1,452	956	52	47
Sandoz	7,169	5,959	20	13
Consumer Health continuing operations	5,426	4,902	11	6
Net sales from continuing operations	**38,072**	**34,393**	**11**	**6**
Net sales from discontinued operations	1,728	2,627		
Group net sales	**39,800**	**37,020**	**8**	**3**

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Pharmaceuticals Division

Net sales rose 6% (+2% lc) to $24 billion in 2007 as many geographic regions particularly Europe, Latin America and key emerging markets expanded at double-digit rates. This more than offset a decline in the US, where net sales fell 8% to $8.7 billion following the suspension of *Zelnorm* as well as the entry of generic competition during the year for four products *Lotrel, Lamisil, Famvir* and *Trileptal.* Price increases represented two percentage points of the Division's net sales growth, while currencies added four percentage points and acquisitions contributed one percentage point. Volume changes had a negative impact of one percentage point.

The Oncology franchise expanded at a strong double-digit rate, while the Cardiovascular franchise performed well and advanced 19% lc when excluding *Lotrel*. Many top ten products maintained their leading positions as *Diovan* reached annual net sales of $5.0 billion (+16% lc) for the first time, underpinning its status as the world's No. 1 branded high blood pressure medicine. The top-selling oncology medicine *Gleevec/Glivec* reinforced its leading position in helping patients with various often-fatal forms of cancer, with net sales of $3.1 billion (+14% lc), while the breast cancer medicine *Femara* was another key contributor with above-market growth and net sales of $937 million (+25% lc).

Several new medicines provided important contributions following recent regulatory approvals, including *Exforge* and *Tekturna/Rasilez* (high blood pressure) , *Lucentis* (age-related macular degeneration), *Exjade* (iron overload), *Aclasta/Reclast* (osteoporosis), *Exelon* Patch (Alzheimer's disease) and *Xolair* (asthma), expanded quickly and were rolled out into new markets. These new products provided combined annual net sales of $1.1 billion in 2007, including a significant contribution from *Lucentis* following its first European launch in January 2007.

European net sales rose 19% (+9% lc) to $8.7 billion as Novartis gained market share on strong performances in many markets, particularly France and Germany. Contributions from leading products such as *Diovan, Gleevec/Glivec*, *Femara, Exjade, Xolair* and *Lucentis* more than offset cost-containment measures and generic competition for some products. Latin America net sales expanded 23% (+17% lc) to $1.5 billion thanks mainly to Brazil, Mexico and Venezuela. In Japan, a continuing expansion of the country's hypertension market supported the 6% (+7% lc) increase in net sales to $2.2 billion, while key emerging markets generated net sales of $2.2 billion, an increase of 17% (+12% lc) from 2006.

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Top Twenty Pharmaceuticals Division Product Net Sales 2007

Brands	Therapeutic area	United States ($ millions)	Change in local currencies (%)	Rest of world ($ millions)	Change in local currencies (%)	Total ($ millions)	Change (%)	Change in local currencies (%)
Diovan/Co-Diovan	Hypertension	*2,194*	*18*	*2,818*	*14*	*5,012*	*19*	*16*
Gleevec/Glivec	Chronic myeloid leukemia	*714*	*13*	*2,336*	*14*	*3,050*	*19*	*14*
Zometa	Cancer complications	*649*	*(7)*	*648*	*3*	*1,297*	*1*	*(2)*
Sandostatin (incl. *LAR)*	Acromegaly	*409*	*11*	*618*	*5*	*1,027*	*12*	*7*
Neoral/Sandimmun	Transplantation	*108*	*(14)*	*836*		*944*	*3*	*(2)*
Femara	Breast cancer	*411*	*22*	*526*	*28*	*937*	*30*	*25*
Lotrel	Hypertension	*748*	*(45)*			*748*	*(45)*	*(45)*
Voltaren	Inflammation/pain	*9*	*13*	*738*	*3*	*747*	*8*	*3*
Trileptal	Epilepsy	*500*	*(9)*	*192*	*4*	*692*	*(4)*	*(6)*
Lescol	Cholesterol reduction	*207*	*(19)*	*458*	*(8)*	*665*	*(8)*	*(12)*
Top ten products total		**5,949**	**(4)**	**9,170**	**9**	**15,119**	**7**	**3**
Exelon	Alzheimer's disease	*212*	*13*	*420*	*14*	*632*	*20*	*14*
Lamisil	Fungal infections	*266*	*(54)*	*329*	*(21)*	*595*	*(39)*	*(40)*
Comtan/Stalevo	Parkinson's disease	*178*	*13*	*242*	*23*	*420*	*24*	*18*
*Tegretol (*incl. *CR/XR)*	Epilepsy	*123*	*2*	*290*	*1*	*413*	*6*	*1*
Lucentis	Age-related macular degeneration			*393*	*NM*	*393*	*NM*	*NM*
Ritalin/Focalin	Attention deficit/hyperactive disorder	*299*	*13*	*76*	*9*	*375*	*14*	*12*
Foradil	Asthma	*21*	*50*	*341*	*(1)*	*362*	*9*	*1*
Exjade	Iron chelator	*175*	*43*	*182*	*721*	*357*	*150*	*141*
Miacalcic	Osteoporosis	*147*	*(26)*	*134*	*(11)*	*281*	*(17)*	*(20)*
Tobi	Cystic fibrosis	*174*	*47*	*99*	*60*	*273*	*54*	*51*
Top twenty products total		**7,544**	**(5)**	**11,676**	**13**	**19,220**	**9**	**5**
Rest of portfolio		*1,204*	*(22)*	*3,601*	*1*	*4,805*	*(2)*	*(6)*
Total Division net sales		**8,748**	**(8)**	**15,277**	**10**	**24,025**	**6**	**2**

NM Not meaningful

Pharmaceuticals Division product highlights Selected leading products

Note: Net sales growth data refer to 2007 worldwide performance in local currencies. Growth rates are not provided for some recently launched products since they are not meaningful.

Diovan ($5.0 billion, +16% lc) reached another important milestone in 2007 as net sales reached $5 billion for the first time. *Diovan* has consistently grown thanks to new indications and clinical data underpinning its status as the world's No. 1 branded high blood pressure medicine. Many key countries, particularly the US, Japan and Germany, delivered double-digit growth. *Diovan* held a 40% share among angiotensin receptor blockers (ARBs), the fastest-growing segment of the US antihypertensive market.

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Co-Diovan/Diovan HCT, a single-tablet combination with a diuretic, was driven by growing use of multiple therapies.

Gleevec/Glivec ($3.1 billion, +14% lc), a therapy for certain forms of chronic myeloid leukemia (CML) and gastrointestinal stromal tumors (GIST), reinforced its leadership in helping patients with these and other often-fatal forms of cancer. New data from the landmark IRIS study in patients with newly diagnosed Philadelphia chromosome-positive CML (Ph+ CML) showed *Gleevec/Glivec* halted disease progression to more advanced stages completely in the sixth year of treatment and that 88% of *Gleevec/Glivec* patients in the trial were still alive. *Gleevec/Glivec* has also benefited from wider use in patients with GIST as well as in various rare diseases. Competition in the CML market in 2007 had little impact on underlying demand.

Zometa ($1.3 billion, -2% lc), an intravenous bisphosphonate therapy for patients with cancer that has spread to the bones, delivered a steady performance amid signs that demand stabilized during 2007 in the US and Europe. Overall growth for this class of medicines has slowed with many patients receiving treatment less frequently and for a shorter course of therapy. However, this trend was balanced by increasing use in patients with lung cancer as well as rapid growth in Japan and markets outside the US and Europe. In December, the US Food and Drug Administration granted *Zometa* an additional six months of marketing exclusivity until 2013 following the completion of pediatric studies.

Sandostatin ($1.0 billion, +7% lc), for acromegaly and various neuroendocrine and carcinoid tumors, reached annual net sales of $1 billion for the first time thanks to increasing use of the long-acting-release *Sandostatin LAR* version administered once a month that accounts for 85% of total net sales. The once-daily *Sandostatin* version faces generic competition.

Neoral/Sandimmun ($944 million, -2% lc), for organ transplantation, has maintained generally stable worldwide net sales despite ongoing generic competition thanks to its pharmacokinetic profiles and reliability.

Femara ($937 million, +25% lc), an oral treatment for women with hormone-sensitive breast cancer, delivered ongoing dynamic growth primarily from expanded use in patients immediately after surgery (early adjuvant) in the US and Europe as well as from the 2006 launch in Japan. *Femara* has outpaced competitors and gained market share in the aromatase inhibitor segment due to its unique benefits.

Lotrel ($748 million, -45% lc, only in US) has been negatively affected since May 2007 following the "at risk" launch of a generic copy by Teva Pharmaceuticals despite a valid US patent until 2017. Sandoz also launched an authorized generic version of this high blood pressure medicine. A trial date has not been set for the ongoing lawsuit against Teva, which risks potentially significant damages if Novartis prevails.

Voltaren ($747 million, +3% lc), a therapy for inflammation and pain, showed steady growth, primarily in Latin America and Asia, based on long-term trust in the brand. Patent protection for *Voltaren* in many key markets around the world has expired.

Trileptal ($692 million, -6% lc), a treatment for epilepsy seizures, generated growth until the expected entry of US generic competition in October 2007, which led to a sharp decline in US net sales in the fourth quarter of 2007.

Lescol ($665 million, -12% lc), a statin drug used to reduce cholesterol, was primarily impacted by decisions to reduce reference prices in Europe, while the introduction of generic simvastatin and a highly competitive market for this class weighed on US net sales.

Exelon ($632 million, +14% lc), for mild to moderate forms of Alzheimer's disease and dementia associated with Parkinson's disease, delivered solid growth. Several launches are underway for *Exelon* Patch in the US and Europe following regulatory approvals in 2007. This once-daily skin patch provides a novel treatment approach with a smooth and continuous delivery of *Exelon* to patients. *Exelon* Patch

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provides equivalent efficacy to the highest doses of capsules, but with three times fewer reports of nausea or vomiting.

Lamisil ($595 million, -40% lc), a therapy for fungal nail infections, fell sharply after the entry of US generic competition in July 2007. Basic patent protection for *Lamisil*'s active ingredient has now expired worldwide, with generics already available in Europe and Japan.

Lucentis ($393 million), for treatment of the eye disease "wet" age-related macular degeneration (AMD), experienced dynamic growth in Europe and other markets in its first year after EU approval in January 2007. *Lucentis* is the only treatment proven in clinical trials to maintain and improve vision in these patients with this form of AMD, which is the leading cause of blindness in people over age 50. Genentech holds the US rights.

Exjade ($357 million, +141% lc) delivered strong growth based on its unique status as the first once-daily oral therapy for treating patients with iron overload associated with various blood disorders. Iron overload is a potentially fatal condition, and the previous standard of care was a cumbersome infusion via a pump for up to 12 hours per day. First launched in the US in November 2005 and in Europe starting in August 2006, *Exjade* is now approved in more than 85 countries. In 2007 *Exjade* was submitted in Japan, a year ahead of schedule. About half of patients being given *Exjade* are new to iron chelation.

Xolair ($140 million, +30% lc), a biotechnology drug that offers a new approach for the treatment of moderate to severe allergic asthma, has benefited from rapid acceptance and is now available in 54 countries after EU approval in October 2005. *Xolair* is administered as an injection every two to four weeks and is proven to target a root cause of allergic asthma. Novartis co-promotes *Xolair* with Genentech in the US and shares a portion of operating income. Genentech reported US net sales from *Xolair* of $472 million in 2007.

Zelnorm/Zelmac ($88 million, -84% lc), for irritable bowel syndrome and chronic constipation, was suspended in the US in March 2007, and subsequently in several other countries, to comply with a request from the FDA to review cardiovascular safety data. A treatment access program was started in the US to provide *Zelnorm* to appropriate patients. Novartis is continuing discussions with various health authorities.

Prexige ($91 million), an oral COX-2 inhibitor for osteoarthritic pain, was withdrawn in the European Union and other countries in 2007. These actions were taken after the first withdrawal in August in Australia based on post-marketing reports of serious liver side-effects allegedly associated with long-term use of higher doses, including the deaths of two patients. In September, the FDA issued a "not approvable" letter for the 100 mg once-daily dose, which is the lowest available formulation. Novartis believes *Prexige*, which is available in some countries, is a valuable therapy option for appropriate patients, particularly those at risk of serious gastrointestinal complications, and will continue discussions with health authorities.

Exforge ($103 million), a single-tablet combination of two very successful high blood pressure medicines the angiotensin receptor blocker *Diovan* and the calcium channel blocker amlodipine delivered the strongest launch performance among any Novartis anti-hypertensive medicine thanks to rapid growth in the US and Europe following initial launches in 2007. Clinical data have shown nine of ten patients treated with *Exforge* reached treatment goals, confirming strong efficacy coupled with improved convenience.

Aclasta/Reclast ($41 million) was launched in September 2007 in the US (*Reclast*) as a 15-minute, once-yearly infusion for women with postmenopausal osteoporosis, while initial launches of *Aclasta* were started in Europe in Germany and the UK after European Union approval in October 2007. *The New England Journal of Medicine* published in September the results of the first-ever clinical study involving more than 2,100 men and women with osteoporosis who had suffered a hip fracture, showing that *Aclasta/Reclast* reduces the risk of further fractures.

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Tekturna/Rasilez ($40 million), the first new type of high blood pressure medicine in more than a decade, has performed well in a highly competitive US marketplace following its approval and launch in March 2007. Launches are also underway after European approval in August 2007. Known as *Tekturna* in the US and as *Rasilez* in other markets, key drivers have been broad clinical data demonstrating efficacy in lowering blood pressure, its safety profile and rising reimbursement rates in US formulary plans. Initial results of trials related to the ASPIRE HIGHER program showed potential benefits of *Tekturna/Rasilez* in reducing a key biomarker of kidney disease (AVOID) and in reducing the severity of heart failure (ALOFT). *Rasilez HCT,* a single-tablet combination with a diuretic, was submitted for EU approval in late 2007, while US approval as *Tekturna HCT* is expected in early 2008. This medicine was discovered by Novartis and developed in collaboration with Speedel.

Tasigna was launched during the fourth quarter of 2007 in the US and Europe following regulatory approvals as a new therapy for patients with a certain form of chronic myeloid leukemia (CML) who are resistant or intolerant to treatment with *Gleevec/Glivec* (imatinib). *Tasigna* is now approved in about 40 countries, and was also submitted for approval in Japan in June. *Tasigna* and *Gleevec/Glivec* both inhibit Bcr-Abl, the cause of Philadelphia chromosome-positive chronic myeloid leukemia (Ph+ CML). *Tasigna* was designed to be a more potent and selective inhibitor of Bcr-Abl and its mutations. Separate Phase III studies are underway comparing *Tasigna* and *Gleevec/Glivec* in newly diagnosed CML patients as well as those with sub-optimal responses to previous therapy. A registration study is also underway in patients with gastrointestinal stromal tumors (GIST) who are resistant or intolerant to prior treatment.

Vaccines and Diagnostics Division

Net sales rose 52% (+47% lc) thanks to an excellent performance driven by a rise in sales of TBE (tick-borne encephalitis), pediatric and seasonal influenza vaccines as well as NAT (nucleic acid test) blood testing products. On a comparable 2006 full-year basis, net sales were up 25% (including unaudited net sales from Chiron for four months in the year-ago period before the April 2006 acquisition).

Sandoz Division

Net sales advanced 20% (+13% lc) thanks to dynamic growth in the US and strengthened positions in fast-growing markets, particularly in Eastern Europe. Sandoz provided an incremental contribution of more than $1 billion to annual net sales. Contributions from recently launched products, including "difficult-to-make" generics such as metoprolol succinate ER (Toprol-XL®) and cefdinir (Omnicef®), supported the 27% increase in US net sales, which also benefited from the launch of an authorized generic version of amlodipine/benazepril (*Lotrel)*. Several other countries contributed to growth, led by Russia, France, Canada, Poland, Turkey, China and Brazil.

Consumer Health Division Continuing Operations

Strong performances from OTC and Animal Health underpinned the 11% (+6% lc) increase in net sales, driven by the increased focus on strategic brands, new product launches and expansion in emerging markets and Japan. CIBA Vision net sales were higher, supported by a resumption of contact lens and lens-care product deliveries in 2007 following shortages in 2006.

Discontinued Consumer Health Division Operations

Following recent divestments, the financial results of the Medical Nutrition (including Nutrition & Santé) and Gerber Business Units are reported as "Discontinued operations" in both 2007 and 2006. A combined total of $1.7 billion in net sales was recorded in 2007 prior to the divestments of Medical Nutrition (as of July 1, 2007) and Gerber (as of September 1, 2007).

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Operating Income

	Year ended December 31, 2007	Net sales	Year ended December 31, 2006	Net sales	Change
	($ millions)	(%)	($ millions)	(%)	(%)
Pharmaceuticals	**6,086**	25.3	**6,703**	29.7	(9)
Vaccines and Diagnostics	**72**	5.0	**(26)**		377
Sandoz	**1,039**	14.5	**736**	12.4	41
Consumer Health continuing operations	**812**	15.0	**761**	15.5	7
Corporate income & expense, net	(1,228)		(532)		131
Operating income from continuing operations	**6,781**	**17.8**	**7,642**	**22.2**	(11)

Operating Income Excluding Environmental Provision and Forward Charges

	Year ended December 31, 2007	Net sales	Year ended December 31, 2006	Net sales	Change
	($ millions)	(%)	($ millions)	(%)	(%)
Pharmaceuticals[1]	**6,393**	26.6	**6,703**	29.7	(5)
Vaccines and Diagnostics	**72**	5.0	**(26)**		377
Sandoz	**1,039**	14.5	**736**	12.4	41
Consumer Health continuing operations[1]	**909**	16.8	**761**	15.5	19
Corporate income & expense, net[1][2]	(598)		(532)		12
Operating income from continuing operations excluding Corporate environmental charge and Forward restructuring charge[3]	**7,815**	20.5	**7,642**	22.2	2
Corporate environmental provision increase	(590)				
Forward restructuring charges	(444)				
Operating income from continuing operations	**6,781**	**17.8**	**7,642**	**22.2**	(11)

(1) Operating income in 2007 excludes the respective divisional exceptional restructuring charges for the Forward initiative totaling $444 million (Pharmaceuticals: $307 million, Consumer Health: $97 million and Corporate: $40 million).

(2)

Corporate Income & Expenses, net, in 2007 excludes a $590 million Corporate environmental provision increase.

(3) Operating income from continuing operations has been presented excluding the Corporate environmental charge and Forward restructuring charges in 2007 as an additional disclosure since these items were material charges in the year, were of a significant and unusual nature, and are important to quantify for future comparison purposes. Novartis believes it is important to users of our financial statements to highlight these adjustments.

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Pharmaceuticals Division

Pharmaceuticals operating income fell 9% to $6.1 billion due to a number of factors that included lost operating income in the US due to the entry of generic competition for four products and the suspension of *Zelnorm*, major investments in late-stage development compounds, new product launches and restructuring charges. The operating margin declined to 25.3% of net sales (or to 26.6% of net sales excluding total restructuring charges of $307 million for Forward and other items of $25 million from 29.7% in 2006. Research & development investments rose 19% to $5.1 billion and represented 21% of net sales, mainly to support the rich late-stage pipeline that includes the projects FTY720, QAB149, MFF258, ACZ885, ABF656, RAD001 and *Exforge*. Marketing & sales expenses were up 9% to support many new product launches and rollouts, which was partly offset by productivity initiatives. Cost of goods sold was higher due mainly to a $320 million intangible asset impairment charge for *Famvir* product rights.

Vaccines and Diagnostics Division

Vaccines and Diagnostics reported operating income of $72 million in 2007 compared to an operating loss of $26 million in 2006, which was mainly impacted by acquisition-related charges following the April 2006 purchase of the remaining shares of Chiron. The strong business performance in 2007 supported significant investments in R&D, particularly for late-stage trials involving meningococcal meningitis vaccine candidates and a new strategic alliance with Intercell.

Sandoz Division

Sandoz operating income advanced significantly faster than net sales growth, rising 41% to $1.0 billion due to strong increases in sales volumes thanks to new product launches as well as efficiency improvements throughout the division. As a result, the operating margin in 2007 rose to 14.5% of net sales from 12.4% in 2006.

Consumer Health Division Continuing Operations

Consumer Health operating income rose 7% to $812 million for continuing operations thanks to strong performances of strategic brands in OTC and Animal Health as well as the resumption of contact lens and lens care product deliveries in CIBA Vision. These factors more than offset significant investments throughout the division in R&D and marketing initiatives to support new product launches and geographic expansion. Excluding the restructuring charge in 2007 for Forward, operating income was up 19% and operating margin was 16.8% of net sales.

Corporate Income & Expense, Net

Net corporate expense totaled $1.2 billion, an increase from $532 million in 2006, primarily reflecting the exceptional increase of $590 million in environmental provisions as well as restructuring costs of $40 million for the Forward initiative in 2007.

Environmental Charge

Novartis increased its provisions for worldwide environmental liabilities by $614 million following internal and external reviews completed in 2007, of which $590 million was recorded as a Corporate charge. This provision includes the related share of any potential remediation costs for historical landfills in the Basel region (including Switzerland, France and Germany). Assessments for these landfills are being completed in coordination with various governments, which are responsible for the supervision and decision-making process for any remediation actions. A new Swiss foundation is being created to finance the Novartis-related share of the potential regional landfill remediation costs.

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Forward Initiative Restructuring Charge

To help Novartis more rapidly meet the needs of patients and customers, the Forward initiative was launched in December 2007 to improve the Group's competitiveness. This initiative, which is now underway and will be implemented in 2008 and 2009, will simplify organizational structures, accelerate and decentralize decision-making processes, redesign the way Novartis operates and provide productivity gains. Pre-tax annual cost savings of $1.6 billion are expected in 2010 enabling Novartis to maximize resources available to support growth and customer-oriented activities. A pre-tax restructuring charge of $444 million was taken in the 2007 fourth quarter (Pharmaceuticals: $307 million, Consumer Health: $97 million, Corporate: $40 million). Approximately 2 500 full-time positions are expected to be reduced from among nearly 100 000 full-time positions currently within the Group. Many reductions will be handled through normal fluctuation in staffing levels as well as vacancy management and social programs. All reductions will be handled in a socially responsible manner with fair and respectful treatment of associates. Novartis will consult with works councils and comply with local labor laws.

Other Revenues and Operating Expenses

	Year ended December 31,		
	2007	**2006**	**Change**
	($ millions)	**($ millions)**	**(%)**
Net sales from continuing operations	**38,072**	**34,393**	**11**
Other revenues	875	712	23
Cost of goods sold	(11,032)	(9,411)	17
Marketing & sales	(11,126)	(10,092)	10
Research & development	(6,430)	(5,321)	21
General & administration	(2,133)	(1,882)	13
Other income & expense, net[1]	(411)	(757)	(45)
Operating income from continuing operations excluding environmental charge[2]	**7,815**	**7,642**	**2**
Corporate environmental provision increase	(590)		
Forward restructuring charges	(444)		
Operating income from continuing operations	**6,781**	**7,642**	**-11**

(1) 2007 excludes exceptional charges totaling $1,034 million for the Corporate environmental provision increase and Forward restructuring charges.

(2) Operating income from continuing operations has been presented excluding the Corporate environmental charge and Forward restructuring charges in 2007 as an additional disclosure since these items were material charges in the year, were of a significant and unusual nature, and are important to quantify for future comparison purposes. Novartis believes it is important to users of our financial statements to highlight these adjustments.

Other Revenues

Other revenues rose 23% to $875 million mainly due to increased contributions of royalty income from the diagnostics business of the Vaccines and Diagnostics Division. Other revenues also include profit contributions relating to sales of the asthma medicine *Xolair* in the US, where it is co-marketed and co-developed in collaboration with Genentech.

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Cost of Goods Sold

Cost of goods sold rose 17% to $11.0 billion in 2007, rising to 29.0% as a percentage of net sales from continuing operations from 27.4% in 2006. Excluding an intangible asset impairment charge of $320 million in the Pharmaceuticals Division related to the start of US generic competition for *Famvir*, Cost of Goods Sold rose 14%, which was slightly higher than the 11% increase in net sales from continuing operations.

Marketing & Sales

Marketing & sales expenses rose 10% to $11.1 billion, but remained essentially unchanged at 29.2% as a percentage of net sales from continuing operations.

Research & Development

Research & development expenses rose 21% to $6.4 billion, supporting significant investments in new product innovation throughout the Group. The Pharmaceuticals Division accounted for nearly 80% of the Group's investments in R&D activities. As a percentage of net sales from continuing operations, R&D investments rose to 16.9% from 15.5% in 2006.

General & Administration

General & administration expenses climbed 13% to $2.1 billion in 2007, largely in line with the advance in net sales from continuing operations.

Other Income & Expense

Excluding the Corporate environmental provision increase of $590 million and the Forward restructuring charge of $444 million, Other income & expense fell to a net expense of $411 million in 2007 from a net expense of $757 million in 2006. The reduced expenses include one-time gains of $278 million in the Pharmaceuticals Division from the sale of brands and equity investments and a launch provision reversal following the US and European regulatory approvals of *Tekturna/Rasilez.* Total other income & expense including the Corporate environmental provision increase and Forward restructuring charges increase to $1,445 million from $757 million.

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Non-Divisional Income & Expense

	Year ended December 31,		
	2007	2006	Change
	($ millions)	($ millions)	(%)
Operating income from continuing operations[1]	**6,781**	**7,642**	**(11)**
Income from associated companies	412	264	56
Financial income	531	354	50
Interest expense	(237)	(266)	(11)
Income before taxes from continuing operations	**7,487**	**7,994**	**(6)**
Taxes	(947)	(1,169)	(19)
Net income from continuing operations[1]	**6,540**	**6,825**	**(4)**
Net income from discontinued operations	5,428	377	
Group net income	**11,968**	**7,202**	**66**
Attributable to:			
Shareholders of Novartis AG	*11,946*	*7,175*	*66*
Minority interests	*22*	*27*	*(19)*
Basic earnings per share from continuing operations ($)	**2.81**	**2.90**	**(3)**

(1) 2007 includes exceptional charges totaling $1,034 million ($788 million after tax) for the Corporate environmental provision increase and Forward restructuring charges.

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 investment in Roche Holding AG. Income from the investment in Chiron Corporation was accounted for using the equity method until the full acquisition of the remaining outstanding shares in April 2006.

Income from associated companies rose to $412 million in 2007 compared to $264 million in 2006, with the sharp increase mainly reflecting a higher contribution from the Roche investment as well as the prior year negative impact of exceptional charges incurred by Chiron prior to its acquisition.

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 $391 million in 2007 compared to $290 million in 2006. The 2007 contribution reflects an estimate of the Group's share of full-year income from Roche, of $509 million, including a positive prior-year adjustment of $13 million. This contribution was reduced by a $118 million charge 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.

A survey of analyst estimates is used to predict the Group's share of net income in Roche. Any differences between these estimates and actual results will be adjusted in the 2008 financial statements.

Financial Income and Interest Expense from Continuing Operations

Net financial income more than tripled to $294 million in 2007 from $88 million in 2006, reflecting increased liquidity from divestments and excellent currency management in very challenging conditions.

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The following table provides an analysis of our sources of financial income:

	Equity options ($ millions)	Forward exchange contracts ($ millions)	Foreign exchange options ($ millions)	Interest Rate Swaps/Cross Currency Swaps/ Forward Rate Agreements ($ millions)	Total ($ millions)
2007					
Expenses on options and forward contracts	(3)	(287)	(2)		(292)
Options and forward contracts result, net	(3)	(287)	(2)		(292)
Interest income					423
Dividend income					10
Net capital gains					374
Impairment of marketable securities					(86)
Other financial result, net					(56)
Currency result, net					158
Total financial income					**531**
2006					
Income on options and forward contracts	8	250	13	(223)	48
Expenses on options and forward contracts	(6)	(293)	(17)		(316)
Options and forward contracts result, net	2	(43)	(4)	(223)	(268)
					367

Interest income	
Dividend income	8
Net capital gains	282
Impairment of marketable securities	(25)
Other financial result, net	(48)
Currency result, net	38
Total financial income	**354**

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Taxes

Tax expenses from continuing operations fell 19% to $0.9 billion from $1.2 billion in 2006 as the effective tax rate for continuing operations (taxes as a percentage of pre-tax income) declined to 12.6% in 2007 compared to 14.6% in 2006 due to factors that included the impact of the restructuring and environmental liability charges, reduced profits in higher tax jurisdictions, a reduction of the German corporate tax rate to 28.5% from 37.5% and the deferred tax impact of legal restructurings for the Chiron acquisition. The Group's expected tax rate for continuing operations (weighted average tax rate based on the result before tax of each subsidiary) was 13.9% compared to 15.0% in 2006. The effective tax rate is different than the expected tax rate due to various adjustments to expenditures and income for tax purposes. See "Item 18. Financial Statements note 6" for details of the main elements contributing to the difference.

Net Income from Discontinued Operations

The pre-tax gain of $5.8 billion from the divestments of Medical Nutrition (July 2007) and Gerber (September 2007) resulted in an after-tax $5.2 billion net income from discontinued operations. The remainder of net income from discontinued operations reflects contributions from these Business Units operating income before their divestment. The effective tax rate for discontinued operations in 2007 was 11.8% (2006: 29.1%).

Net Income from Continuing Operations

Net income from continuing operations decreased 4% to $6.5 billion due mainly to the impact of significant charges taken in 2007, which were partially offset by higher income contributions from associated companies and a reduction in the tax rate for 2007.

Basic Earnings per Share

Basic earnings per share from continuing operations experienced a decrease of 3% to $2.81 in 2007 from $2.90 in 2006.

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5.B Liquidity and Capital Resources

Cash Flow

The following table sets forth certain information about our cash flow and net liquidity for each of the periods indicated.

	Year ended December 31,		
	2008 ($ millions)	**2007 ($ millions)**	**2006 ($ millions)**
Cash flow from operating activities of continuing operations	9,769	9,210	8,304
Cash flow used for investing activities of continuing operations	(10,367)	(6,244)	(6,357)
Cash flow used for financing activities of continuing operations	(2,573)	(9,318)	(4,931)
Cash flow from discontinued operations	(105)	7,595	457
Currency translation effect on cash and cash equivalents	(46)	298	25
Cash and cash equivalents of discontinued operations		4	(4)
Net change in cash and cash equivalents of continuing operations	**(3,322)**	**1,545**	**(2,506)**
Change in marketable securities	(3,762)	3,701	(472)
Change in current and non-current financial debts	(1,570)	1,505	1,155
Change in net liquidity	**(8,654)**	**6,751**	**(1,823)**
Net liquidity at January 1	7,407	656	2,479
Net debt/liquidity of continuing operations at December 31	**(1,247)**	**7,407**	**656**
Net debts of discontinued operations at December 31			(3)
Net debt/liquidity at December 31	**(1,247)**	**7,407**	**653**

The analysis of our cash flow is divided as follows:

1. Cash Flow From Operating Activities
2. Cash Flow Used for Investing Activities
3. Cash Flow Used for Financing Activities
4. Net Liquidity
5. Free Cash Flow

1. Cash Flow From Operating Activities and Free Cash Flow

Our primary source of liquidity is cash generated from our operations. Our 2008 cash flow from operating activities of continuing operations rose 6% to $9.8 billion. The additional cash flow generated by the solid business expansion was partially offset by higher tax and Forward restructuring payments.

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In 2007, cash flow from operating activities of continuing operations increased by 11% ($906 million) to $9.2 billion, due mainly to higher sales proceeds despite increased working capital requirements to support the organic business expansion.

In 2006, cash flow from operating activities of continuing operations increased by 7% ($554 million) to $8.3 billion, reflecting the strong business expansion and good working capital management of the divisions.

2. Cash Flow Used for Investing Activities

Cash outflows used for investing activities rose 66% to $10.4 billion in 2008, mainly on the acquisitions involving Alcon, Speedel, Protez and the Nektar pulmonary business totaling $11.5 billion as well as $2.1 billion of investments in property, plant & equipment. These outflows were partially offset by $3.3 billion in net proceeds from the sale of marketable securities.

In 2007, cash outflow due to continuing investing activities was $6.2 billion. Investments in property, plant & equipment amounted to $2.5 billion and in intangible assets to $0.6 billion while a net amount of $3.3 billion was spent on the purchase of marketable securities.

In 2006, cash outflow due to continuing investing activities was $6.4 billion. A total net amount of $4.5 billion was spent on acquisitions principally Chiron Corporation and NeuTec Pharma plc, while investments in property, plant & equipment amounted to $1.8 billion and $0.1 billion was spent on other investing activities.

3. Cash Flow Used for Financing Activities

Cash outflows used for financing activities in 2008 were $2.6 billion as the dividend payment made in 2008 of $3.3 billion and $0.5 billion related to treasury share transactions were partially offset by cash inflows of $1.3 billion related to net additions to financial debt.

Cash flow used for continuing financing activities in 2007 was $9.3 billion, an increase of $4.4 billion from 2006 with $2.6 billion used for dividend payments, $2.2 billion net cash outflow was due to the repayment of current and non-current financial debt and $4.6 billion was due to net purchases of treasury shares.

Cash flow used for continuing financing activities in 2006 was $4.9 billion, an increase of $4.6 billion from 2005. A total of $2.0 billion was spent on dividend payments. Net cash outflow of $2.9 billion was due to the repayment of current and non-current financial debts which included the repayment of $1.1 billion for an outstanding euro bond, the repayment of $0.9 billion of convertible bonds acquired with the Chiron transaction and the repayment of $1.2 billion of current debt taken up to finance the 2005 Hexal AG acquisition.

4. Net liquidity

Overall liquidity fell to $6.1 billion at the end of 2008 from $13.2 billion at the end of 2007. Taking into account additional debt raised in 2008, net liquidity at the end of 2007 of $7.4 billion swung to net debt of $1.2 billion at the end of 2008.

At December 31, 2007 overall liquidity (cash, cash equivalents and marketable securities including financial derivatives) amounted to $13.2 billion. Net liquidity (liquidity less current and non-current financial debt) increased by $6.8 billion to a total of $7.4 billion at December 31, 2007, with the divestments making a significant contribution during the year.

At December 31, 2006 overall liquidity amounted to $8.0 billion. Net liquidity fell by $1.8 billion to a total of $656 million at December 31, 2006, reflecting the acquisitions made during the year.

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Net debt/liquidity constitutes a non-IFRS financial measure, which means that it should not be interpreted as a measure determined under IFRS (International Financial Reporting Standards). 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 are therefore exposed to foreign exchange movements primarily in European, Japanese and other Asian and Latin American currencies. We manage the risk associated with currency movements by entering into various contracts to preserve the value of assets, commitments and anticipated transactions. In particular, we enter into forward contracts and foreign currency option contracts to hedge certain anticipated foreign currency revenues in foreign subsidiaries. See "Item 11. Quantitative and Qualitative Disclosures About Non-Product-Related Market Risk," for additional information.

5. Free Cash Flow

We define free cash flow as cash flow from operating activities less purchase or sale of property, plant & equipment, intangible and financial assets and dividends paid. Cash effects realized in connection with the acquisition or divestment of subsidiaries, associated companies and minority interests are excluded from free cash flow. The following is a summary of the Group's free cash flow:

	Year ended December 31,		
	2008 ($ millions)	**2007 ($ millions)**	**2006 ($ millions)**
Cash flow from operating activities of continuing operations	**9,769**	**9,210**	**8,304**
Purchase of property, plant & equipment	(2,106)	(2,549)	(1,779)
Purchase of intangible assets	(210)	(584)	(451)
Purchase of financial assets	(136)	(311)	(258)
Proceeds from sale of property, plant & equipment	58	134	83
Proceeds from sale of intangible and financial assets	271	459	195
Dividends paid to shareholders of Novartis AG	(3,345)	(2,598)	(2,049)
Free cash flow from continuing operations	**4,301**	**3,761**	**4,045**
Free cash flow from discontinued operations	(237)	(314)	295
Group free cash flow	**4,064**	**3,447**	**4,340**

Our 2008 Group free cash flow from continuing operations rose 14% to $4.3 billion on our solid business expansion as well as lower levels of investments in property, plant & equipment and also intangible assets. Capital expenditure for continuing operations on property, plant & equipment for 2008

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amounted to $2.1 billion, or 5.1% of net sales from continuing operations, down from 6.7% of net sales in 2007.

Our 2007 Group free cash flow from continuing operations, excluding the impact of the acquisitions or divestments of subsidiaries, associated companies and minority investments, decreased by 7% ($284 million) to $3.8 billion in 2007 as the increase in cash flow from operating activities and proceeds from asset disposals were offset by increased payments for property, plant and equipment and intangible assets as well as higher dividend payments.

In 2006 the Group free cash flow from continuing operations, decreased by 13% ($612 million) to $4.0 billion as the increase in cash flow from operating activities was offset by increased payments for property, plant and equipment and intangible assets and lower proceeds from asset disposals.

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.

Free cash flow constitutes a non-IFRS financial measure, which means that it should not be interpreted as a measure determined under IFRS (International Financial Reporting Standards). Free cash flow is not intended to be a substitute measure for cash flow from operating activities (as determined under IFRS).

Capital Resources

Share repurchase program

The sixth share repurchase program was approved at the annual General meeting on February 26, 2008, authorizing the repurchase of up to CHF 10.0 billion in shares. We suspended this share repurchase program in April 2008 after announcing an agreement providing rights to acquire majority ownership in Alcon, the world leader in eye care. Credit rating agencies supported the strategic intentions of this acquisition while reducing their ratings. We have set a priority of using our strong free cash flow to reduce debt to an appropriate level before considering whether to resume the programs.

Before the suspension of the sixth share repurchase program, which was started in early 2008, six million shares were repurchased for $296 million (CHF 297 million) at an average price of CHF 49.42 per share.

We will propose to shareholders at the Annual General Meeting in February 2009 to cancel all shares repurchased during 2008. If approved, a total of six million shares, which corresponds to 0.23% of the registered Novartis share capital, will be cancelled, and the share capital will be reduced accordingly.

In 2007, under the fourth share repurchase program initiated in August 2004, we bought 22.2 million shares for approximately $1.2 billion (CHF 1.5 billion) at an average price of CHF 69.03 per share. Since the start of the fourth program, a total of 47.6 million shares have been repurchased for $2.4 billion (CHF 3.0 billion). In July 2007, we announced the completion of the fourth share-repurchase program and the launch of the fifth program. The fifth share repurchase program, approved at the annual General meeting on March 1, 2005, was completed in November 2007 through the purchase of 63.2 million shares for a total of $3.4 billion (CHF 4.0 billion).

At the General Meeting on February 26, 2008 the cancellation was approved of all shares repurchased in the fifth program as well as the remaining 22.2 million shares from the fourth program. A total of 85.35 million shares, which corresponds to 3.13% of the registered Novartis share capital, were cancelled, and the share capital was reduced in 2008 accordingly.

No shares were repurchased under the fourth program in 2006 and therefore in 2007, our share capital was not reduced. In 2006, our share capital was reduced by 10.2 million shares bought through the

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purchase programs on the second trading line in 2005. In 2005, our share capital was reduced by 38.0 million shares relating to shares bought on the second trading line in 2004.

At December 31, 2008, our holding of treasury shares amounted to 378.8 million shares or 14% of the total number of issued shares. At December 31, 2007, our holding of treasury shares amounted to 464.5 million shares or 17% of the total number of issued shares. At December 31, 2006, our holding of treasury shares amounted to 380.7 million shares or 14% of the total number of issued shares.

Bonds

On June 26, 2008, Novartis AG issued a 3.625% bond, due in 2015 of CHF 800 million. Also on June 26, 2008, our affiliate, Novartis Securities Investment Ltd, Bermuda, issued a 3.5% bond, guaranteed by Novartis AG, due in 2012, of CHF 700 million.

On November 14, 2002, our affiliate, Novartis Securities Investment Ltd, Bermuda, issued a 3.75% bond, guaranteed by Novartis AG which was repaid in 2007, of EUR 1 billion.

On October 17, 2001, our affiliate, Novartis Securities Investment Ltd, Bermuda issued a 4% bond, guaranteed by Novartis AG which was repaid in 2006, of EUR 900 million.

Direct Share Purchase Plans

Since 2001, we have been offering US investors an ADS Direct Plan, which provides these investors an easy and inexpensive way of directly purchasing Novartis shares and of reinvesting dividends. This plan holds Novartis American Depositary Shares, which are listed on the New York Stock Exchange under the trading symbol NVS. At December 31, 2008, the ADS Plan had 700 participants (2007: 659 participants).

Starting in September 2004, we 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 holding them at no cost in a deposit account with SAG SIS Aktienregister AG. At December 31, 2008, a total of 9,162 shareholders were enrolled in this program (2007: 9,052 shareholders).

5.C Research & Development, Patents and Licenses

Our R&D spending totaled $7.2 billion, $6.4 billion, and $5.4 billion for the years 2008, 2007 and 2006, respectively. Each of our Divisions has its own R&D and patents policies. For a description of those research and development and patents policies, see "Item 4. Information on the Company 4.B Business Overview."

5.D Trend Information

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 29" and matters described in "Item 5.F Aggregate Contractual Obligations".

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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, 2008, the aggregate total amount of payments, including potential milestones, which may be required under these agreements, was $3.1 billion. We expect to fund these long-term research agreements with internally generated resources.

As of December 31, 2008, our total financial debt was $7.4 billion, as compared with $5.8 billion as of December 31, 2007, and $7.3 billion as of December 31, 2006. The increase from 2007 to 2008 of $1.6 billion was principally due to the issuance of new bonds. The decrease from 2006 to 2007 of $1.5 billion was principally due to the repayment of an outstanding euro bond, as well as the repayment of current debt and effects of currency translation.

We have $1.4 billion of bonds outstanding at December 31, 2008, whereas we had no bonds outstanding at December 31, 2007. We had bonds of $1.3 billion at December 31, 2006 which were repaid in 2007. For details on the maturity profile of debt, currency and interest rate structure, see "Item 18. Financial Statements note 18".

As of December 31, 2008, we had current debt (excluding the current portion of non-current debt) of $5.2 billion as compared with $5.1 billion as of December 31, 2007, and $5.3 billion as of December 31, 2006. This current debt consists mainly of $3.5 billion (2007: $4.1 billion; 2006: $3.8 billion) in other bank and financial debt, including interest bearing employee accounts; $1.3 billion (2007: $0.8 billion; 2006: $1.4 billion) of commercial paper, and $0.4 billion (2007: $0.2 billion; 2006: $0.1 billion) of other current debt. For further details see "Item 18. Financial Statements note 20".

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 18".

The following table summarizes our contractual obligations and other commercial commitments at December 31, 2008 and the effect such obligations and commitments are expected to have on our liquidity and cash flow in future periods.

	Payments due by period				
Contractual Obligations	**Total ($ millions)**	**Less than 1 year ($ millions)**	**2 3 years ($ millions)**	**4 5 years ($ millions)**	**After 5 years ($ millions)**
Non-current financial debt	2,195	17	711	704	763
Operating leases	1,173	301	394	219	259
Unfunded pension and other post-retirement obligations	1,048	59	127	152	710
Research & development					
Unconditional commitments	305	86	91	58	70
Potential milestone commitments	2,754	284	644	992	834
Purchase commitments					
Property, plant & equipment	674	543	97	25	9
Total contractual cash obligations	**8,149**	**1,290**	**2,064**	**2,150**	**2,645**

We expect to fund the R&D and purchase commitments with internally generated resources.

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For other contingencies, see "Item 4. Information on the Company 4.D Property, Plants and Equipment Environmental Matters" and "Item 8. Financial Information 8.A Consolidated Statements and Other Financial Information 8.A.7 Legal Proceedings."

Item 6. Directors, Senior Management and Employees

6.A Directors and Senior Management

Board of Directors

Daniel Vasella, M.D., Swiss, age 55.

Function at Novartis AG. Dr. Vasella has served as Chief Executive Officer and executive member of the Board of Directors since the merger that created Novartis in 1996. He was appointed Chairman of the Board of Directors in 1999. Dr. Vasella has led Novartis through dynamic growth to rank among the world's most successful healthcare companies with a business strategy focused on a diversified portfolio of pharmaceuticals, vaccines, generics and consumer health. He has also implemented several pioneering initiatives to ensure access to medicines in the areas of malaria, cancer and leprosy, among others, dedicating 2.5% of revenues each year to these programs.

Other activities. Dr. Vasella is a member of the Board of Directors of Pepsico, Inc., New York, and of Alcon, Inc., Switzerland. He is also a member of the Global Health Program Advisory Panel of the Bill & Melinda Gates Foundation, a foreign honorary member of the American Academy of Arts and Sciences, the International Business Leaders Advisory Council for the Mayor of Shanghai, and the International Board of Governors of the Peres Center for Peace in Israel.

Professional background. Dr. Vasella graduated with an M.D. from the University of Bern, Switzerland, in 1979 and was a practicing physician until he joined Sandoz Pharmaceuticals Corporation in 1988, where he held the position of CEO before the merger. Dr. Vasella has been honored with several awards, including the Harvard Business School's Alumni Achievement Award and Appeal of Conscience Award, the AJ Congress Humanitarian Award, the Ordem Nacional do Cruzeiro do Sul (Brazil), and holds the rank of Chevalier in the Ordre national de la Légion d'honneur (France). He was also awarded an honorary doctorate by the University of Basel. In addition, a readership survey by the "*Financial Times*" selected Dr. Vasella as the most influential European businessman of the past quarter century. During Dr. Vasella's tenure as Chairman and CEO, Novartis has been included on Ethisphere Institute's list of the world's most ethical companies, "Fortune" magazine's list of the world's most admired companies and the "Barron's" magazine list of the world's most respected companies.

Ulrich Lehner, Ph.D., German, age 62.

Function at Novartis AG. Ulrich Lehner has been a member of the Board of Directors since 2002. He qualifies as an independent Non-Executive Director. He serves as Vice Chairman, Lead Director and Chairman of the Corporate Governance and Nomination Committee. He is also a member of the Audit and Compliance Committee, the Chairman's Committee and the Compensation Committee. The Board of Directors has appointed him as Audit Committee Financial Expert.

Other activities. Ulrich Lehner is Chairman of the supervisory board of Deutsche Telekom AG and serves as a member of the supervisory board of E.ON AG, of Thyssen Krupp AG, of HSBC Trinkaus & Burkhardt KGaA and of Porsche Automobil Holding SE, all in Germany. He is also a member of the shareholders' committee of Henkel AG & Co. KGaA and of Oetker KG, both in Germany.

Professional background. Ulrich Lehner graduated in business administration and mechanical engineering from the Darmstadt University of Technology 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

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heading the Controlling Department of Fried. Krupp GmbH in Germany from 1983 to 1986, Ulrich Lehner returned to Henkel as Finance Director. From 1991 to 1994, he headed the Management Holding Henkel Asia-Pacific Ltd. in Hong Kong, and from 1995 to 2000, served as Executive Vice President, Finance/Logistics (CFO), of Henkel KGaA. From 2000 to 2008, Ulrich Lehner served as Chairman of the Management Board of Henkel KGaA.

Hans-Joerg Rudloff, German, age 68.

Function at Novartis AG. Hans-Joerg Rudloff has been a member of the Board of Directors since 1996. He qualifies as an independent Non-Executive Director. He is Vice Chairman and Chairman of the Compensation Committee. He is also a member of the Chairman's Committee and the Audit and Compliance Committee. The Board of Directors has appointed him as Audit Committee Financial Expert.

Other activities. Hans-Joerg Rudloff serves on a number of Boards of Directors, including the TBG Group (Thyssen-Bornemisza Group), Monaco, and RBC, Russia. In 2005, Hans-Joerg Rudloff became Chairman of the International Capital Markets Association (ICMA), Switzerland. In 2006, he joined the Board of Directors of Rosneft, a Russian state-controlled oil company, and became Chairman of the audit committee. He serves as the Chairman of the Board of Directors of Bluebay Asset Management Ltd., United Kingdom, and the Marcuard Group, Switzerland. He is also member of the Board of Directors of New World Resources B.V., Netherlands. In addition, Hans-Joerg Rudloff is a member of the advisory boards of Landeskreditbank Baden-Wuerttemberg and EnBW (Energie Baden-Wuerttemberg), both in Germany.

Professional background. Hans-Joerg Rudloff studied economics at the University of Bern. After graduating in 1965, he joined Credit Suisse in Geneva. He moved to the New York-based investment banking firm of Kidder Peabody Inc. in 1968. He later headed Swiss operations and was elected Chairman of Kidder Peabody International. In 1978, he became a member of the Board of Directors of Kidder Peabody Inc., United States. In 1980, he joined Credit Suisse First Boston, Switzerland, was elected Vice Chairman in 1983 and became Chairman and CEO in 1989. From 1986 to 1990, Hans-Joerg Rudloff was also a member of the executive board of Credit Suisse in Zurich, in charge of all securities and capital-market departments. From 1994 to 1998, Hans-Joerg Rudloff was Chairman of MC-BBL in Luxembourg. In 1994, he was appointed to the board of directors of Sandoz AG. In 1998, Hans-Joerg Rudloff joined Barclays Capital, United Kingdom, where he is presently Chairman.

Peter Burckhardt, M.D., Swiss, age 69.

Function at Novartis AG. Dr. Burckhardt 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 Audit and Compliance Committee.

Other activities. From 1982 to 2004, Dr. Burckhardt was Chairman of the Novartis (formerly Sandoz) Foundation for Biomedical Research in Switzerland. Since 1990, he has been the organizer and Chairman of the International Symposia on Nutrition and Osteoporosis. Since 2008, he is chief editor of the scientific review "Osteology."

Professional background. Dr. Burckhardt is a Professor of Medicine. He has an M.D. from the University of Basel and is a trained internal medicine and endocrinology specialist from the University of Lausanne and the Massachusetts General Hospital, Boston. Dr. Burckhardt has been Head of the Department of Internal Medicine at the University Hospital of Lausanne from 1982 to 1989 and Chief of Medical Services at the same hospital from 1988 to 2004. In addition to his clinical activities, Dr. Burckhardt conducts clinical research, mainly in bone diseases and calcium metabolism. He has authored more than 300 scientific publications and is an editorial board member of several international scientific journals. He was president of the Swiss Society of Internal Medicine and a member of the Appeal Committee of Switzerland's National Agency for Drug Controls. He was Chairman of the country

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affiliates and a member of the executive committee of the International Foundation for Osteoporosis and served as treasurer of the foundation until 2006. Other experiences include board memberships in the Swiss Societies of Nutrition, Clinical Chemistry, Endocrinology, Bone and Mineral Research, the Committee for Endocrinology of the European Community and advisory roles to scientific foundations in Switzerland and Germany.

Srikant Datar, Ph.D., American, age 55.

Function at Novartis AG. Srikant Datar 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 Compensation Committee. The Board of Directors has appointed him as Audit Committee Financial Expert.

Other activities. Srikant Datar is a member of the Board of Directors of ICF International Inc., Virginia, and KPIT Cummins Infosystems Ltd., India. He currently holds the Arthur Lowes Dickinson Professorship at Harvard University.

Professional background. In 1973, Srikant Datar graduated with distinction in mathematics and economics from the University of Bombay. He is a Chartered Accountant and holds two master's degrees and a Ph.D. from Stanford University. Srikant Datar has worked as an accountant and planner in industry and as a professor at the Carnegie Mellon University, Stanford University and Harvard University in the United States. Srikant Datar is Senior Associate Dean at the Graduate School of Business Administration of Harvard. 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. Srikant Datar has advised and worked with numerous renowned firms such as General Motors, Mellon Bank and Morgan Stanley in research, development and training.

Ann Fudge, American, age 57.

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.

Other activities. Ann Fudge serves on the Board of Directors of General Electric, Connecticut, and on the Board of Overseers of Harvard University. She is also a Trustee of the Rockefeller Foundation and of Morehouse College, and Chair of the U.S. Programs Advisory Panel of the Gates Foundation.

Professional background. Ann Fudge received her B.A. from Simmons College and her M.B.A. from Harvard University Graduate School of Business. 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.

William W. George, American, age 66.

Function at Novartis AG. William W. George has been a member of the Board of Directors since 1999. He is a member of the Chairman's Committee.

Other activities. William W. George is a member of the Boards of Directors of Goldman Sachs, New York, and Exxon Mobil, Texas. He is Professor of Management Practice at Harvard Business School. He is a trustee of the Carnegie Endowment for International Peace and the World Economic Forum USA.

Professional background. William W. George received a Bachelor of Science in industrial engineering (B.S.I.E.) from Georgia Institute of Technology in 1964 and an M.B.A. from Harvard University in 1966. From 1966 to 1969, he worked in the U.S. Department of Defense as a special assistant to the Secretary of the Navy and as assistant to the Comptroller. After serving as President of Litton Microwave Cooking

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Products, California, William W. George held a series of executive positions with Honeywell, New Jersey, from 1978 to 1989. He then served as President and Chief Operating Officer of Medtronic, Inc., Minnesota and, from 1991 to 2001, as its Chief Executive Officer. From 1996 to 2002, he was Medtronic's Chairman. He has served as Executive-in-Residence at Yale School of Management; Professor of Leadership and Governance at IMD International in Switzerland, and visiting Professor at the École Polytechnique Fédérale Lausanne (EPFL) in Switzerland.

Alexandre F. Jetzer, Swiss, age 67.

Function at Novartis AG. Alexandre F. Jetzer has been a member of the Board of Directors since 1996.

Other activities. Alexandre F. Jetzer is a member of the supervisory board of Compagnie Financière Michelin, Switzerland, and of the board of the Lucerne Festival Foundation, Switzerland. He is a member of the International Advisory Panel on Biotechnology Strategy of the Prime Minister of Malaysia, a member of the Investment Advisory Council of the Prime Minister of Turkey and economic advisor to the Governor of Guangdong Province, China. He is also a member of the Development Committee of the Neuroscience Center of the University of Zurich, Switzerland.

Professional background. Alexandre F. Jetzer graduated with master's degrees in law and economics from the University of Neuchâtel, Switzerland, and is a licensed attorney. From 1967 to 1980, he served as General Secretary of the Swiss Federation of Commerce and Industry (Vorort). Alexandre F. Jetzer joined Sandoz in 1980. In 1981, he was appointed member of the Sandoz Group Executive Committee in his capacity as Chief Financial Officer. In 1990, he became Head of Management Resources and International Coordination. From 1995 to 1996, he was Chairman and Chief Executive Officer of Sandoz Pharmaceuticals Corporation in East Hanover, New Jersey, and at the same time served as President and CEO of Sandoz Corporation in New York. After the merger which created Novartis in 1996 until 1999, he was Head of International Coordination, Legal & Taxes and a member of the Executive Committee of Novartis.

Permanent Novartis management or consultancy engagements. Alexandre F. Jetzer has a consultancy agreement with Novartis International AG (Government Relations Support).

Pierre Landolt, Swiss, age 61.

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. Pierre Landolt is currently Chairman of the Sandoz Family Foundation and a Director of Syngenta AG. He is a partner with unlimited liabilities of the private bank Landolt & Cie. Pierre Landolt serves, in Brazil, as President of the Instituto Fazenda Tamanduá, the Instituto Estrela de Fomento ao Microcrédito, AxialPar Ltda and Moco Agropecuaria Ltda. In Switzerland, Pierre Landolt is the Chairman of Emasan AG and Vaucher Manufacture Fleurier SA and the Vice-Chairman of Parmigiani Fleurier SA. He is a Director of EcoCarbone SA and Amazentis SA and was formerly Chairman of the CITCO Group (1995-2005). He is also Vice-Chairman of the Montreux Jazz Festival Foundation.

Professional background. Pierre 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 Pierre Landolt has been Associate and Chairman of AxialPar Ltda, Brazil, an investment company focused on sustainable development, with investments in fish farming, soybean for human consumption and organic vegetable. In 2000, he

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co-founded EcoCarbone SA, France, a company active in the design and development of carbon-sequestration processes in Asia, Africa, South America and Europe. In 2007, he co-founded Amazentis SA, a start-up company active in the convergence space of medication and nutrition. In addition to his private activities, Pierre Landolt has been President of the Sandoz Family Foundation since 1994 and oversees the development of the foundation in several investment fields, *inter alia* hotel, watch making and telecommunications.

Andreas von Planta, Ph.D., Swiss, age 53.

Function at Novartis AG. Andreas von Planta has been a member of the Board of Directors since 2006. He qualifies as an independent Non-Executive Director. He is a member of the Audit and Compliance Committee and the Corporate Governance and Nomination Committee.

Other activities. Andreas von Planta is Vice Chairman of Holcim Ltd. and of the Schweizerische National-Versicherungs-Gesellschaft AG, both in Switzerland, and is a member of the boards of various Swiss subsidiaries of foreign companies and other non-listed 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. Andreas von Planta is Chairman of the regulatory board of the SIX Swiss Exchange AG.

Professional background. Andreas von Planta holds lic. iur. and Ph.D. degrees from the University of Basel and an LL.M. from Columbia University School of Law, New York. He passed his bar examinations in Basel in 1982. Since 1983, he has been living in Geneva, working for the law firm Lenz & Staehelin where he became a partner in 1988. His areas of specialization include corporate law, corporate finance, company reorganizations, and mergers and acquisitions.

Dr. Ing. Wendelin Wiedeking, German, age 56.

Function at Novartis AG. Wendelin Wiedeking has been a member of the Board of Directors since 2003. He qualifies as an independent Non-Executive Director.

Other activities. Wendelin Wiedeking is Chairman of the executive board of Porsche Automobil Holding SE and of Dr. Ing. h.c. F. Porsche AG, both in Germany. He is also a member of the supervisory board of Volkswagen AG and of AUDI AG, both in Germany.

Professional background. Wendelin 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 Aachen, Germany. His professional career began in 1983 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 Porsche AG as Production Director. A year later, the supervisory board appointed him spokesman of the executive board (CEO), and Chairman in 1993.

Marjorie M. Yang, Chinese, age 56.

Function at Novartis AG. Marjorie M. Yang 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 Compensation Committee.

Other activities. Marjorie M. Yang is Chairman of the Esquel Group, Hong Kong. She currently sits on the Boards of Directors of Swire Pacific Ltd., CLP Holdings and The Hong Kong and Shanghai Banking Corporation Ltd., all in Hong Kong. She is also a member of the National Committee of the Chinese People's Political Consultative Conference, Chairman of the Textile and Clothing Sector Committee, Vice Chairman of the China Association of Enterprises with Foreign Investment and a

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member of the M.I.T. Corporation. Marjorie M. Yang is on the Board of Dean's Advisors of Harvard Business School.

Professional background. Marjorie M. Yang graduated with a B.S. in mathematics from M.I.T. and holds an M.B.A. from Harvard Business School. From 1976 to 1978, she was an associate in Corporate Finance, Mergers and Acquisitions with the First Boston Corporation in New York. In 1979, she returned to Hong Kong and helped create Esquel. She has been Chairman of the Esquel Group since 1995.

Rolf M. Zinkernagel, M.D., Swiss, age 64.

Function at Novartis AG. Dr. Zinkernagel 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 is a member of the Swiss Society of Allergy and Immunology, the American Associations of Immunologists and of Pathologists, member of the Advisory Council of BMS Singapore, and Past President of the executive board of the International Union of Immunological Societies (IUIS). He is also a member of the scientific advisory boards of Bio-Alliance AG, Germany; Aravis General Partner Ltd., Cayman Islands; Telormedix, Switzerland; Esbatech, Switzerland; Novimmune, Switzerland; Cancevir, Switzerland; xbiotech, Canada; Nuvo Research, Inc., Canada; ImVision, Germany, MannKind, California; and Laboratoire Koch, Switzerland. Dr. Zinkernagel is a science consultant to Chilka Ltd., Grand Cayman; Ganymed, Germany; and Zhen-Ao Group, China. He is also a member of the Advisory Panel of Swiss Re, Switzerland.

Professional background. Dr. Zinkernagel graduated from the University of Basel with an M.D. in 1970. From 1992 to 2008, he was Professor and Director of the Institute of Experimental Immunology at the University of Zurich. Dr. Zinkernagel has received many awards and prizes for his work and contribution to science, the most prestigious being the Nobel Prize for Medicine, which he was awarded in 1996.

Executive Officers

Daniel Vasella, M.D., Swiss, age 55. See " Board of Directors."

Raymund Breu, Ph.D., Swiss, age 63. Raymund Breu graduated from the Swiss Federal Institute of Technology (ETH) in Zurich, Switzerland, with a Ph.D. in mathematics. In 1975, he joined the Treasury Department of the Sandoz Group, and in 1982 became Head of Finance for the Sandoz affiliates in the United Kingdom. In 1985, he was appointed Chief Financial Officer of Sandoz Corporation in New York, where he was responsible for all Sandoz Finance activities in the United States. In 1990, he became Group Treasurer of Sandoz Ltd., Basel, Switzerland, and, in 1993, Head of Group Finance and Member of the Sandoz Executive Board. Following the formation of Novartis in 1996, Raymund Breu assumed his current position as Chief Financial Officer and member of the Executive Committee of Novartis. He is also a member of the Board of Directors of Swiss Re and the Swiss takeover commission.

Juergen Brokatzky-Geiger, Ph.D., German, age 56. Juergen Brokatzky-Geiger graduated with a Ph.D. in chemistry from the University of Freiburg, Germany, in 1982. He joined Ciba-Geigy Ltd. in 1983 as a Laboratory Head in the Pharmaceuticals Division. 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, Juergen 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 August 2003. Juergen Brokatzky-Geiger was appointed to his present position as Head of Human Resources on September 1, 2003. He has been a member of the Executive Committee of Novartis since January 1, 2005.

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Mark C. Fishman, M.D., American, age 57. Dr. Fishman graduated with a B.A. from Yale College in 1972 and an M.D. from Harvard Medical School in 1976. He was appointed President of the Novartis Institutes for BioMedical Research (NIBR) in 2002. Before joining Novartis, Dr. Fishman was Chief of Cardiology and Director of the Cardiovascular Research Center at the Massachusetts General Hospital in Boston and Professor of Medicine at Harvard Medical School. Dr. Fishman serves on several editorial boards and has worked with national policy and scientific committees including those of the US National Institutes of Health (NIH) and the Wellcome Trust. He completed his Internal Medicine residency, Chief Residency and Cardiology training at the Massachusetts General Hospital. He has been honored with many awards and distinguished lectureships, and is a member of the Institute of Medicine of the National Academies (US) and Fellow of the American Academy of Arts and Sciences. He has been a member of the Executive Committee of Novartis since 2002.

Joseph Jimenez, American, age 49. Joseph Jimenez graduated with a B.A. degree from Stanford University in 1982 and earned an M.B.A. from the University of California, Berkley in 1984. He began his career at The Clorox Company, California, and later served as president of two operating divisions at ConAgra, Nebraska. In 1998, he joined the H.J. Heinz Company, Pennsylvania, and was named President and Chief Executive Officer of the North America business. From 2002 to 2006 he served as President and Chief Executive Officer of Heinz in Europe. Before joining Novartis, he served as a non-executive director of AstraZeneca plc, United Kingdom, from 2002 to 2007, and was an advisor for the private equity organization Blackstone Group, New York. He joined Novartis in April 2007 as CEO of the Consumer Health Division. He was appointed to his present position as CEO of the Pharmaceuticals Division in October 2007. He has been a member of the Executive Committee of Novartis since November 1, 2007.

Joerg Reinhardt, Ph.D., German, age 52. Joerg Reinhardt graduated with a Ph.D. in pharmaceutical sciences from the University of Saarbruecken, Germany, in 1981. He joined Sandoz Pharma Ltd. in 1982 and held positions of increasing responsibility in Research and Development for the company. In 1994, he was named Head of Development for Sandoz Pharma Ltd. After the merger that created Novartis in 1996, Joerg Reinhardt became Head of Preclinical Development and Project Management for Novartis and assumed the position of Head of Pharmaceutical Development in 1999. From 2006 to 2008, he served as Head of the Vaccines and Diagnostics Division. On December 1, 2008, he was named Chief Operating Officer of Novartis. He chairs the Board of Directors of the Genomics Institute of the Novartis Foundation in La Jolla, California. Joerg Reinhardt has been a member of the Executive Committee of Novartis since January 1, 2007.

Andreas Rummelt, Ph.D., German, age 52. Andreas Rummelt graduated with a Ph.D. in pharmaceutical sciences from the University of Erlangen-Nuernberg, Germany. He joined Sandoz Pharma Ltd. in 1985 and held various positions with increasing responsibility in Development. In 1994, he was appointed Head of Worldwide Technical Research & Development, a position he retained following the merger that created Novartis in 1996. From 1999 to 2004, Andreas Rummelt served as Head of Technical Operations of the Novartis Pharmaceuticals Division and from 2004 to 2008 as Head of Sandoz. On December 1, 2008, he was named Group Head of Quality Assurance and Technical Operations. Andreas Rummelt has been a member of the Executive Committee of Novartis since January 1, 2006.

Thomas Wellauer, Ph.D., Swiss, age 53. Thomas Wellauer graduated with a Ph.D. in systems engineering and an M.S. in chemical engineering from the Swiss Federal Institute of Technology (ETH) in Zurich, Switzerland. He also holds an M.B.A. from the University of Zurich. Thomas Wellauer joined Novartis in 2006 as Head of Corporate Affairs. He started his career with McKinsey and Company, Switzerland, becoming a Partner in 1991 and Senior Partner in 1996. In 1997, he was named CEO of the Winterthur Insurance Group, Switzerland, which later was acquired by Credit Suisse. At Credit Suisse he was a member of the Group Executive Board, initially responsible for the Group's insurance business before becoming CEO of the Financial Services Division. Most recently before joining Novartis, Thomas Wellauer headed and completed the Clariant Performance Improvement Program, a global turnaround project at the specialty chemicals maker. He has been a member of the Executive Committee of Novartis since January 1, 2007.

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Thomas Werlen, Ph.D., Swiss, age 43. Thomas Werlen holds lic.iur. and Ph.D. degrees in law from the University of Zurich and a master's degree in law from Harvard Law School. He is a member of the New York bar and the Zurich bar. Thomas Werlen started his professional career with the law firm Lenz & Staehelin in Zurich in 1990. After graduation from Harvard Law School in 1995, he joined Cravath, Swaine & Moore in New York. In 2001, he was elected a partner in the London office of Allen & Overy. He joined Novartis in January 2006 as General Counsel of Novartis and responsible for the Group's legal affairs. He is also Secretary to the Corporate Governance and Nomination Committee of the Board of Directors. In addition, he is a member of the regulatory board of the SIX Swiss Exchange AG. Thomas Werlen has been a member of the Executive Committee of Novartis since October 16, 2008, after previously serving as Permanent Attendee since September 2007.

Permanent Attendees

David Epstein, American, age 47. David Epstein graduated with a B.S. degree in pharmacy from Rutgers University College of Pharmacy in 1984 and with an M.B.A. in finance and marketing from the Columbia University Graduate School of Business in 1987. Before joining Novartis, he was an associate in the Strategy Practice of the consulting firm Booz Allen Hamilton, United States. David 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. He currently serves as Head of Novartis Oncology. Since December 1, 2008, he also leads the new unit Molecular Diagnostics. David Epstein has been a Permanent Attendee of the Executive Committee of Novartis since December 1, 2008.

Jeffrey George, American, age 35. Jeff George graduated with an M.A. from the Johns Hopkins University's School of Advanced International Studies in 1999, where he studied international economics and emerging markets political economy, and received an M.B.A. from Harvard University in 2001. Before joining Novartis, he was a Senior Director of Strategy & Business Development at Gap Inc. in San Francisco, and from 2001 to 2004 was with McKinsey & Co. in San Francisco. He joined the Novartis Vaccines Division in January 2007 as Head of Commercial Operations for Western & Eastern Europe and then advanced to Head of Emerging Markets for the Middle East, Africa, Southeast Asia & CIS at Novartis Pharma. On December 1, 2008, Jeff George was named Head of Sandoz. He has been a Permanent Attendee of the Executive Committee of Novartis since December 1, 2008.

George Gunn, British, age 58. George Gunn graduated with a Bachelor of veterinary medicine and surgery degree and a diploma in veterinary state medicine from the Royal (Dick) School of Veterinary Studies in Edinburgh, United Kingdom, in 1973. In 2008, he received an honorary doctorate in veterinary medicine and surgery from the University of Edinburgh. Before joining Novartis, George Gunn was President of Pharmacia Animal Health, based in the United States. Prior to Pharmacia, he spent over 15 years in positions of increasing responsibility in healthcare companies. He worked as a veterinary surgeon for nine years before joining industry. George Gunn joined Novartis in 2003 as Head of Novartis Animal Health, North America. In January 2004, George Gunn assumed his present position as Head of the Animal Health business unit. In addition to this role, he was appointed Head of the Consumer Health Division on December 1, 2008. George Gunn has been a Permanent Attendee of the Executive Committee of Novartis since December 1, 2008.

Andrin Oswald, M.D., Swiss, age 37. Dr. Oswald graduated with an M.D. from the University of Geneva, Switzerland, in 1999. Dr. Oswald was a delegate of the International Committee of the Red Cross (ICRC) to Nepal from 2002 to 2003. Before joining Novartis in 2005, he worked with McKinsey & Company, Switzerland. From 2005 to 2008, Dr. Oswald advanced from Assistant to the Chairman and CEO to Head of the Country Pharma Organization (CPO) and Country President for Novartis in South Korea to CEO of Speedel and Global Head of Development Franchises at Novartis Pharma. On December 1, 2008, he was named Head of the Vaccines and Diagnostics Division. Dr. Oswald has been a Permanent Attendee of the Executive Committee of Novartis since December 1, 2008.

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None of the above directors or senior management has any family relationship with any other director or member of our senior management, except that Jeffrey George is the son of William W. George. William W. George will resign from the Board as of the Annual General Meeting to be held on February 24, 2009. None of the above directors or senior management were appointed pursuant to an arrangement or understanding between such officer or director and any third party.

6.B Compensation

GENERAL PRINCIPLES AND PROCESSES

Novartis offers competitive compensation and benefit plans for associates around the world that are transparent, coherent and aligned with the Group's pay-for-performance philosophy. These plans underline the importance placed on superior and sustained performance that supports long-term business objectives in the interest of the Group and its shareholders and does not sacrifice for short-term objectives.

The independent external advisor to the Board's Compensation Committee reviewed this Report and concluded that it addresses required issues adequately to ensure transparency of key elements of the Group's compensation philosophy and executive remuneration.

Performance-Based Compensation

The success of Novartis depends to a large extent on the abilities and dedication of its associates. We aspire to be an employer of choice with the ability to attract, retain and motivate the most talented and performance driven associates around the world.

Our compensation policy applies to all Novartis associates and is designed to:

- Align the objectives of our associates with the interests of our shareholders;
- Incentivize our associates to create sustainable value for Novartis and its shareholders;
- Support a diverse and performance-oriented culture and meritocracy that allows Novartis to reward high-performing individuals who adhere to best business practices and whose commitment and contribution enable the Group to achieve its goal to be one of the world's most admired and respected healthcare companies; and to
- Be competitive with a relevant group of other world-class and industry peer companies who operate and compete for talent on a global basis.

Paying for performance is the guiding principle of the Novartis compensation policy. For superior performance, total compensation awarded to individual associates may reach levels comparable to the top quartile levels of compensation offered by the relevant benchmark companies.

Under the performance-dependent variable compensation plans, Novartis defines target incentive percentages (i.e. a percentage of annual base salary) for each participating associate at the start of a performance period, which is traditionally the start of a new year. In general, these target percentages are multiplied at the end of the performance period with individual payout multipliers for each associate. The size of the multiplier depends on the incentive plan, on the associate's actual performance against individual objectives as agreed to at the beginning of the performance period as well as compliance with the Novartis Values and Behaviors, and on the overall performance of the Group or relevant business area.

Incentive payout multipliers usually range from 0 to 2. For exceptional performance, higher payout multipliers may apply. Such cases require the approval of the Chairman and Chief Executive Officer and, for certain executives, the approval of the Compensation Committee. All compensation plans and levels are reviewed regularly based on publicly available data as well as on analyses by independent

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compensation research companies and external compensation advisors. Trends and developments in the field of compensation and corporate governance are carefully analyzed, reviewed and discussed on an ongoing basis with outside experts, accountants and consultants.

Source of the Shares Awarded

Novartis continues to use shares repurchased in the market to fulfill obligations to deliver shares as required for the variable compensation plans.

Performance Management Process

Each Novartis associate is subject to a formal performance appraisal process that promotes a culture of continuous improvement, supports individuals in meeting their development aspirations and strengthens organizational capabilities. It is a core process for improving individual, team and overall business performance.

For each performance year, line managers and their direct reports jointly determine and agree upon performance measures and business objectives. These objectives are derived from the cascading of business objectives established at the Group, division, function or business area levels.

Two performance assessments are carried out each year a mid-year and a year-end review. The reviews consist of formal meetings between each associate and his or her line manager to evaluate the associate's performance, both in light of the business objectives defined at the beginning of the year and of the Groupwide Novartis Values and Behaviors. 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.

Share Ownership

The Novartis Board maintains share ownership guidelines to realize the ownership philosophy among senior executives and Directors. These guidelines require a group of approximately 30 key executives to own at least a certain multiple of their annual base salary in Novartis shares or options, and for all Directors to own at least a certain number of Novartis shares.

COMPENSATION TO NOVARTIS ASSOCIATES

Competitive compensation packages are designed with reference to total compensation levels for comparable positions at relevant benchmark companies.

The benchmark companies for compensation differ with and are dependent upon the nature of specific positions. For specific pharmaceutical positions, a peer group of industry competitors is considered that consists of Abbott Laboratories, Amgen, Astra-Zeneca, Bristol-Myers Squibb, Eli Lilly, GlaxoSmithKline, Johnson & Johnson, Merck, Pfizer, Roche, Sanofi-Aventis, Schering-Plough and Wyeth. For other positions, a wider group of relevant benchmark companies is considered from a variety of different industry sectors, such as fast moving consumer goods and general industry. Benchmark information is adjusted as necessary to reflect the size and scope of the respective business and the specific requirements of a particular position. Benchmark data are obtained from multiple sources and data providers, depending on the quality of their data in the relevant industries and geographies.

The Compensation Committee scrutinizes compensation data from various external compensation advisors to remain well informed about developments and best practices in the compensation area. Since 2007, Pearl Meyer & Partners LLC acts as independent external advisor to the Committee. Pearl Meyer & Partners LLC reports directly to the Committee and provides no other services to Novartis.

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As long as an associate achieves his or her performance targets, the total amount of compensation awarded is generally comparable to the median level of compensation provided by relevant benchmark companies. In case of over- or under-performance by an associate, the actual total compensation delivered is adjusted up or down, as appropriate.

The compensation package of Novartis associates consists of an annual base compensation along with variable compensation components as described below.

The independent external advisor reviewed the contents of this Item 6.B and concluded that the report covers the required issues in sufficient depth to ensure transparency of the key elements of executive reward.

Base Compensation

Base compensation is intended to give each associate a fixed salary. These levels depend upon job characteristics, market competitiveness and the associate's skills. The salary evolution depends on the associate's individual performance and the level vis-à-vis the benchmark.

Variable Compensation

Novartis has three main variable compensation plans: annual incentive plans, the Novartis Equity Plan "Select" and the Long-Term Performance Plan.

Under the Novartis Equity Plan "Select" and the Long-Term Performance Plan, all awards must be delivered in the form of equity in Novartis, except in the United States where awards from the Long-Term Performance Plan may also be delivered in cash under the Deferred Compensation Plan.

Annual Incentive Plans

Most associates participate in annual incentive plans. Under these plans, awards are made each year based on the associate's individual year-end performance rating as well as on the Group's or business area's performance. If an associate receives a rating below a certain threshold, or if other circumstances so require, no awards are granted under these plans.

Associates in certain countries and certain key executives worldwide are encouraged to receive their incentive awards fully or partially in Novartis shares instead of cash. To that end, Novartis maintains several leveraged share savings plans under which Novartis matches investments in shares after a holding period. In principle, participating associates may only participate in one of these plans in any given year.

Shares invested in the Swiss Employee Share Ownership Plan (ESOP), which is available in Switzerland to approximately 11,000 associates, have a three-year blocking period and are matched at the end of the blocking period with one share for every two shares invested. Approximately 4,900 associates chose to participate in this plan related to incentives paid for performance in 2008.

In the United Kingdom, associates can invest up to 5% of their monthly salary, up to a maximum of GBP 125, in shares and may also be invited to invest all or part of their net incentive in shares. Two invested shares are matched with one share, which will vest after three years. During 2008, approximately 1,500 associates in the United Kingdom participated in these plans.

Approximately 30 key executives worldwide were invited to participate in a five-year Leveraged Share Savings Plan (LSSP) as part of compensation for performance in 2008. Shares are invested in this plan for five years. At the end of the investment period, Novartis matches the invested shares at a ratio of 1:1 (i.e. one share awarded for each invested share).

In general, no shares are matched under these plans if an associate leaves Novartis prior to expiration of the blocking period for reasons other than retirement, disability or death.

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Novartis Equity Plan "Select"

Awards under this plan may be granted each year based on the associate's individual year-end performance rating, talent rating and Group or business area performance. No awards are granted for ratings below a certain threshold.

Participants in this plan can elect to receive their incentive in the form of shares, share options, or a combination of both. Each share option is tradable, expires on its tenth anniversary and is exercisable to receive one share (1:1). The exercise price equals the market price of the underlying share at the grant date.

If associates in North America choose to receive the Select incentive amount (or part of it) in tradable share options on American Depositary Shares (ADS), then the resulting number of share options is determined by dividing the respective Select incentive amount by a value that equals 95% of the IFRS value of the options on ADS. For associates in other countries, the divisor equals 90% of the IFRS value of options on shares.

Shares and tradable share options have a vesting period of two years in Switzerland and three years in other countries. As a result, if a participant leaves Novartis for reasons other than retirement, disability or death, unvested shares and share options are forfeited, unless determined otherwise by the Compensation Committee (for example, in connection with a reorganization or divestment).

A total of 10,633 participants received a total of 29.6 million tradable share options and 4,609,853 restricted shares under the Novartis Equity Plan "Select", for their performance in 2008, representing a participation rate of approximately 11% of all full-time equivalent associates worldwide. Approximately 9% of the total equity value awarded under the plan was granted to members of the Executive Committee.

As of December 31, 2008, a total of 70.6 million share options granted to associates were outstanding, covered by an equal number of shares and corresponding to 2.9% of the total number of outstanding Novartis shares (excluding treasury shares).

Long-Term Performance Plan

The Novartis Long-Term Performance Plan rewards key executives who have a significant impact on the long-term success of the Group.

Performance is measured against annual Economic Value Added targets (EVA, as defined in the Novartis accounting manual). Any award depends on the Group's overall accumulated performance over a three-year period. If the actual performance of the Group is below a threshold level or the participant leaves during the performance period for reasons other than retirement, disability or death, then generally no shares are awarded.

The Compensation Committee amended the Long-Term Performance Plan in 2005 to make Group EVA, as opposed to division or business area EVA, the relevant criterion and to make the performance period three years. The first delivery of shares under the amended plan occurred in January 2009 based on Group EVA achievement over the performance period 2006 to 2008. For this performance period, approximately 105 key executives were awarded performance shares.

Approximately 110 key executives (for the performance period 2007 to 2009), 110 key executives (for the performance period 2008 to 2010) and 105 key executives (for the performance period 2009 to 2011) have been granted Novartis performance share units. Grants are dependent upon Group EVA achievements and may or may not lead to actual awards in January 2010, January 2011 and January 2012, respectively.

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Special Share Awards

In addition to base and variable compensation described above, selected associates may receive extraordinary or annual awards of restricted or unrestricted shares. These special share awards are discretionary, providing flexibility to reward particular achievements or exceptional performance and retain key contributors.

Restricted special share awards generally have a five-year vesting period. If a participant leaves Novartis for reasons other than retirement, disability or death, the participant will generally forfeit unvested shares. Approximately 310 associates at different levels in the organization were awarded restricted shares in 2008.

CONTRACTS WITH MEMBERS OF THE EXECUTIVE COMMITTEE

In accordance with best practices in corporate governance, it is Novartis' principle that new employment contracts with members of the Executive Committee should contain:

No unusually long notice periods;

No change-of-control clauses; and

No severance payments.

Two existing contracts with members of the Executive Committee are not in line with this principle since they provide for a notice period of 36 months (in both cases) or a change-of-control clause (in one case). To align these contracts, Novartis gave notice in 2007 to these two members of the Executive Committee.

The employment contract of Dr. Daniel Vasella in his current roles as Chairman and Chief Executive Officer, which includes a severance payment of $57 million (based on the year-end spot exchange rate of CHF 1.055 = $1.00) and a payment in case of a change-of-control event of $142 million (based on the same year-end spot exchange rate), will expire at the Annual General Meeting in 2009. These two payments are mutually exclusive. In October 2008, the Board and Dr. Vasella have reached an agreement on the terms of a new contract extending his current roles as Chairman and Chief Executive Officer of Novartis. The new contract will be finalized before the existing contract expires.

EXECUTIVE COMMITTEE COMPENSATION

General Principles

The compensation policies, performance management process and incentive plans described above apply equally to members of the Executive Committee, including the Chairman and Chief Executive Officer.

Decisions concerning the compensation of Executive Committee members are based on an evaluation of the individual performance of the member as well as on the performance of their respective business area or function. The Compensation Committee considers the achievement of both short-term and long-term performance targets, including net sales growth, economic value creation (operating and net income, earnings per share and economic value added) and market share growth as well as ongoing efforts to optimize organizational effectiveness and productivity.

During the year, the Compensation Committee reviewed the General Principles underpinning executive compensation and confirmed these as appropriate for Novartis.

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Compensation of the Chairman and Chief Executive Officer

General Process

At the end of each year, the Chairman and Chief Executive Officer presents his proposed individual objectives and targets for the coming year to the Board. The Board reviews and discusses this proposal, and, after any desired amendments, gives its approval. In particular, the Board ensures that the Chairman and Chief Executive Officer's objectives are in line with the Group's goals of fostering sustainable long-term performance and that they are not sacrificed by short-term financial objectives but support long-term business objectives in the interest of the Group and its shareholders.

Toward the end of each year, the Chairman and Chief Executive Officer prepares a self-appraisal, which is discussed with the Lead Director and the rest of the Board. The Lead Director also holds individual discussions with all Non-Executive Directors about the Chairman and Chief Executive Officer's performance.

In January, the Board approves the audited financial results, evaluates the extent to which targeted financial objectives for the past year have been achieved and compares these results with peer industry companies, taking into account general financial criteria and industry developments. In a private session, limited to the independent Non-Executive Directors, the overall performance of the Chairman and Chief Executive Officer is discussed, after which the independent Non-Executive Directors share their appraisal with him.

Afterwards, the Compensation Committee decides upon the total remuneration package for the previous year and the target compensation (base and variable compensation as well as special share awards) for the coming year, taking into account all relevant factors including available benchmark information and the advice of the independent external advisor.

Targets for the Variable Compensation of the Chairman and Chief Executive Officer

For short-term performance measurement, the financial criteria typically include net sales growth, operating income, net income, earnings per share and market share. For long-term performance measurement, the financial target criterion is Economic Value Added (EVA, as defined in the Novartis accounting manual). The Compensation Committee measures the Chairman and Chief Executive Officer's performance relative to predetermined targets for these short- and long-term criteria.

Non-financial targets may typically include the following objectives: successful acquisitions, disposals and licensing transactions, Research and Development performance, product launches, successful implementation of growth or cost containment initiatives, or the successful launch of new sites or operations.

Compensation of the Chairman and Chief Executive Officer for 2008

The Compensation Committee met in a separate session with external advisors on January 20, 2009, to determine the compensation for 2008 for the Chairman and Chief Executive Officer (he does not attend this meeting and is not a member of the Compensation Committee).

The Compensation Committee based its decision on its assessment of the Chairman and Chief Executive Officer's performance versus his financial and non-financial targets set by the Board, taking into account the year-end feedback collected by the Lead Director from each independent Director. The results were assessed from both quantitative and qualitative perspectives. Moreover, given its conviction that judgment should be applied in addition to focusing on metrics when assessing a senior executive's performance, the Compensation Committee also applied discretion in its assessment.

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Taking the above into consideration, the Compensation Committee concluded that, with the exception of certain targets related to the Sandoz Division, the Chairman and Chief Executive Officer exceeded all his financial and non-financial targets including the progress of the Forward initiative.

Outside the Sandoz Division, the Compensation Committee particularly welcomed the substantial growth in all other divisions (Pharmaceuticals, Vaccines and Diagnostics and Consumer Health), each of them exceeding their respective financial targets. Further, with the investment in Alcon Inc., Novartis continued to strengthen its position as a leading healthcare company while at the same time improving its financial strength. In addition, the Compensation Committee noted the excellent retention rate within Novartis of high performers and high-potential associates.

The compensation granted by the Compensation Committee to the Chairman and Chief Executive Officer for 2008 is detailed in the table below. Compared to the compensation awarded for 2007, which decreased 33% compared to 2006, the amount for 2008 increased 21% from 2007 (when including shares matched under the Leveraged Share Savings Plans).

Compensation of Other Executive Committee Members

General Process

In January, the Board meets with the Chairman and Chief Executive Officer to review and discuss the performance of other members of the Executive Committee for the previous year, taking into account the audited financial results as well as the level of achievement of individual financial and non-financial targets.

In a separate session, the Compensation Committee decides, in the presence of the Chairman and Chief Executive Officer and based on his recommendations, on the variable compensation for other members of the Executive Committee and other key executives for the previous year. At the same meeting, the Compensation Committee decides on the target compensation packages for these executives for the coming year.

In addition to the full-year assessment, the mid-year performance of other members of the Executive Committee is reviewed in June. At the same time, the Board also carries out a mid-year review of the performance of the individual businesses.

At any point during the year, special share awards may be granted for performance or retention reasons.

Compensation of Other Executive Committee Members for 2008

At its meeting on January 20, 2009, the Compensation Committee decided on the amounts of variable compensation for 2008 for the other members of the Executive Committee by applying the principles described above. The specific compensation decisions made for the members of the Executive Committee reflect their achievements against the financial and non-financial performance targets established for each of them at the beginning of the year.

Disclosure Principles for Executive Committee Compensation

The compensation table below discloses the compensation granted to members of the Executive Committee for 2008. The following paragraphs describe the principles underlying the data in the table.

Alignment of Reporting and Performance

The compensation table below synchronizes the reporting of annual compensation with the performance in that specific year, i.e. all amounts awarded for performance in 2008 are included in full.

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Valuation Principles

Shares and share options under the compensation plans are generally granted with a vesting[(1)] period. In addition, associates in Switzerland, including members of the Executive Committee, may block[(2)] shares received under any compensation plan for up to 10 years.

(1) Vesting refers to the waiting period under an equity-based incentive plan that must expire before the associate becomes irrevocably entitled to the shares or share options involved. If an associate leaves before the end of the vesting period for reasons other than retirement, disability or death, the associate will generally forfeit his or her rights to such shares or share options.

(2) Blocking refers to the ability of associates in Switzerland to opt for an extended trading restriction period (including vesting) of up to 10 years from the date of grant. Novartis encourages associates to block their shares because doing so aligns the associates' interests with those of shareholders.

The Compensation Committee believes that such restrictions affect the value of the shares and share options.

The Swiss Federal Tax Administration, in its Kreisschreiben Nr. 5, 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.

In the Compensation Committee's view, this is the appropriate methodology to report the economic value of shares and share options for executive compensation under Swiss law because, unlike IFRS, it takes into account the trading restrictions due to vesting and blocking. The application of this methodology to determine the value of the shares and share options granted for the year 2008 is explained in footnote 9 to the Executive Committee Compensation table below and applies to all members of the Executive Committee.

See "Item 18. Financial Statements note 28" for information on executive officer and Director compensation as calculated under IFRS.

Loans and Other Payments to Members of the Executive Committee

Loans to Members of the Executive Committee

No loans were granted to current or former members of the Executive Committee during 2008. No such loans were outstanding as of December 31, 2008.

Other Payments to Members of the Executive Committee

During 2008, no payments (or waivers of claims) other than those set out in the compensation table below were made to members of the Executive Committee or to "persons closely linked"[(3)] to them.

Payments to Former Members of the Executive Committee

During 2008, no payments (or waivers of claims) were made to former members of the Executive Committee or to "persons closely linked"[(3)] to them.

(3) "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.

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Executive Committee Compensation for performance in 2008[1]

			Variable compensation							Other compensation				
			Annual incentive		Equity Plan "Select"		Long-Term Performance Plan	Special share awards						Total including future LSSP[11][12]
Name	Currency	Base compensation cash (Amount)	Cash (Amount)	Shares (Number)[2]	Shares (Number)[3]	Options (Number)[4]	Shares (Number)[5]	Shares (Number)[6]	Pension benefits (Amount)[7]	Other (Amount)[8]	Total (Amount)[9]	Future LSSP[10] match Shares (Number)	match (Amount)
Daniel Vasella (Chairman and Chief Executive Officer)	CHF	3,000,000	0	115,768	167,754	1,132,076	79,945	31,226	140,293	175,485	17,075,898	115,768	20,544,032
Raymund Breu	CHF	1,103,004	0	21,589	0	582,717	14,699	0	110,689	0	3,204,007	21,589	3,687,310
Juergen Brokatzky-Geiger	CHF	633,504	0	11,220	11,219	75,705	8,442	0	162,919	42,022	2,394,207	11,220	2,844,022
Thomas Ebeling[13] (until December 1, 2008)	CHF	1,035,837	634,554	0	59,138	0	14,785	0	127,976	502,708	6,267,044	0	6,267,044
Mark C. Fishman	USD	938,333	11,586	16,963	86,063	0	16,327	0	169,920	104,366	5,924,833	16,963	6,513,242
Joseph Jimenez	CHF	941,670	1,197,000	0	0	552,076	12,662	0	227,009	202,152	3,993,916	0	3,993,916
Joerg Reinhardt	CHF	943,337	0	20,045	33,409	225,453	12,261	0	153,563	8,687	4,089,586	20,045	4,764,312
Andreas Rummelt	CHF	918,338	0	4,631	15,436	0	12,261	0	160,430	31,441	2,585,218	4,631	2,723,952
Thomas Wellauer	CHF	636,674	0	8,947	21,473	0	8,530	0	147,663	9,632	2,355,494	8,947	2,714,184
Thomas Werlen[14] (as of October 16, 2008)	CHF	135,417	0	2,263	0	36,648	942	0	33,221	4,519	371,229	2,263	421,897
Total[15]	CHF	10,364,480	1,844,108	201,426	394,492	2,604,675	180,854	31,226	1,447,874	1,089,728	48,756,250	201,426	55,017,871

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(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 incentives in the five-year Leveraged Share Savings Plan (LSSP) rather than to receive cash or to invest in the Swiss three-year Employee Share Ownership Plan (ESOP; if eligible). Daniel Vasella and Raymund Breu have voluntarily extended the five-year blocking period of these shares to ten years.

(3) Daniel Vasella has voluntarily blocked these shares (including the two-year vesting period) for ten years. Joerg Reinhardt and Thomas Wellauer have voluntarily blocked these shares (including the two-year vesting period) for five years.

(4) Novartis employee share options are tradable. Share options granted under the Novartis Equity Plan "Select" outside North America will expire on January 18, 2019, have a two-year vesting period in Switzerland (three years in other countries) and have an exercise price of CHF 53.65 per share (the closing price of Novartis shares on the grant date of January 20, 2009). Options on ADSs granted to participants in North America will expire on January 18, 2019, have a three-year vesting period and an exercise price of $46.42 per ADS (the closing price of Novartis ADSs on the grant date of January 20, 2009).

(5) Awarded under the Long-Term Performance Plan based on the achievement of Economic Value Added (EVA) objectives over the performance period ended December 31, 2008. Daniel Vasella and Raymund Breu have voluntarily blocked these shares for ten years, Joerg Reinhardt and Thomas Wellauer for five years, and Joseph Jimenez and Andreas Rummelt for three years.

(6) Consists of an unrestricted share award to Daniel Vasella, granted at January 11, 2008, against the prevailing share price of CHF 64.05. Daniel Vasella has voluntarily blocked these shares for ten years.

(7) Service costs of pension and post-retirement healthcare benefits accumulated in 2008, and employer contributions to defined contribution pension plans in 2008.

(8) Includes perquisites and other compensation paid during the year; does not include cost allowances and tax-equalization payments regarding the international assignment of Joerg Reinhardt.

(9) Values of shares 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 two-year vesting/blocking period calculated in accordance with the methodology described in the Kreisschreiben Nr. 5 equals 89% 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 20, 2009) was CHF 53.65 per Novartis share and $46.42 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 two years have a value of CHF 1.55 per option at grant.

(10) Reflects shares to be awarded in the future if the associate remains with the Group. The members of the Executive Committee were invited to invest their incentive awards for 2008 in the leveraged share saving plans either the three-year Swiss Employee Share Ownership Plan (ESOP) or the five-year Leveraged Share Savings Plan (LSSP) to further align their interest with those of the shareholders. Under the plan rules, participants will receive additional shares ("matching shares") after the expiration of either the three- or five-year vesting period. Under the five-year LSSP plan, each share invested entitles the participant to receive one matching share. Under the three-year ESOP plan, for every two shares invested, the participant receives one matching share. If a participant leaves prior to the expiration of the vesting period, in general no matching shares will be awarded. Raymund Breu and Thomas Werlen have voluntarily blocked these matching share units for 15 years (including the five-year vesting period). Daniel Vasella and Andreas Rummelt have voluntarily blocked these matching share units for ten years (including the five-year vesting period). Joerg Reinhardt has voluntarily blocked these matching share units for eight years (including the five-year vesting period).

(11) The values of shares and share options reflected in this column have been calculated using the valuation methodology described in footnote 9. Regarding the valuation of matching shares (please see footnote 10) the following applies: if a member of the Executive Committee has chosen to block the shares to be received in the future under the five-year Leveraged Share Savings Plan for an additional 10 years, leading to a combined vesting/blocking period of 15 years, then the value of the matching shares reflected in the table will be 41.727% of the share price on the grant date. The closing share price on the grant date (January 20, 2009) was CHF 53.65 per Novartis share and $46.42 per ADS.

(12) All amounts are gross amounts (i.e. including social security due by the associate). The employer's share of social security contributions is not included.

(13) Thomas Ebeling decided to leave Novartis by the end of February 2009. The base compensation, variable compensation and pension benefits in the table relate to the period during which he was a member of the Executive Committee. His share awards under the Equity Plan "Select" and the Long-Term Performance Plan were replaced by equivalent cash payments at the discretion of the Compensation Committee. The other compensation

("Other") includes the contractual salary payments from December 1, 2008, to the end of February 2009 and the pension benefit costs over this period.

(14)

The base compensation in the table reflects the salary over the period from October 16, 2008, to the end of the year 2008. The granted equity and other compensation reflect the compensation that is attributable to the period as an Executive Committee member. This means that for these compensation components 2.5/12 of the annual compensation is disclosed.

(15)

Amounts in USD for Mark Fishman were converted at a rate of CHF 1.083516 = $1.00, which is the same average exchange rate used in the Group's consolidated financial statements.

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NON-EXECUTIVE DIRECTOR COMPENSATION

General Principles

Based on a proposal made by the Compensation Committee, the Board determines the compensation of Non-Executive Directors. They receive an annual fee in an amount that varies with the responsibilities of each Director. They do not receive additional fees for attending meetings or acting as committee chairs.

Directors can choose to receive the annual fee in cash, shares or a combination. Directors do not receive share options.

Contracts with Non-Executive Directors

There are no service contracts with any Non-Executive Director other than with Alexandre F. Jetzer. The contract with Alexandre F. Jetzer does not provide for any severance payments or for benefits upon termination.

Loans and Other Payments to Non-Executive Directors

Loans to Non-Executive Directors

No loans were granted to current or former Non-Executive Directors during 2008. No such loans were outstanding as of December 31, 2008.

Other Payments to Non-Executive Directors

During 2008, no payments (or waivers of claims) other than those set out in the table below were made to current Non-Executive Directors or to "persons closely linked" to them (see definition on page 157).

Payments to Former Non-Executive Directors

During 2008, no payments (or waivers of claims) were made to former Non-Executive Directors or to "persons closely linked" to them (see definition on page 157), except for an amount of CHF 62,298 that was paid to the Honorary Chairman.

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Compensation to Non-Executive Directors for 2008[1]

	Annual cash compensation (CHF)	Shares (number)	Total[2] (CHF)
Ulrich Lehner Vice Chairman Lead Director Chairman's Committee (Member) Corporate Governance and Nomination Committee (Chair) Compensation Committee (Member) Audit and Compliance Committee (Member)	1,050,000	0	1,050,000
Hans-Joerg Rudloff Vice Chairman Chairman's Committee (Member) Compensation Committee (Chair) Audit and Compliance Committee (Member)	736,337	0	736,337
Peter Burckhardt Audit and Compliance Committee (Member)	319,517	2,342	403,278
Srikant Datar Audit and Compliance Committee (Chair) Compensation Committee (Member)	356,875	1,845	475,047
Ann Fudge Corporate Governance and Nomination Committee (Member)	243,750	2,050	375,053
William W. George[3] Chairman's Committee (Member)	375,000	3,513	600,008
Alexandre F. Jetzer[4]	14,738	5,465	308,633
Pierre Landolt[5] Corporate Governance and Nomination Committee (Member)	128,604	4,591	422,658
Andreas von Planta Audit and Compliance Committee (Member) Corporate Governance and Nomination Committee (Member)	426,578	1,562	501,338
Wendelin Wiedeking	112,694	4,017	369,983
Marjorie M. Yang Compensation Committee (Member)	422,601	0	422,601
Rolf M. Zinkernagel Corporate Governance and Nomination Committee (Member)	685,898	0	685,898
Total	4,872,592	25,385	6,350,834

(1) Does not include reimbursement for travel and other necessary business expenses incurred in the performance of their services as these are not compensation. All shares were granted at January 11, 2008 against the prevailing share price of CHF 64.05.

(2) A Non-Executive Director who is tax resident in Switzerland can voluntarily choose to block the shares. In 2008, Peter Burckhardt blocked his shares for ten years, Alexandre F. Jetzer for three years and Andreas von Planta for five years. The value of the shares reflected in this table has been calculated using the valuation methodology described under Remuneration Report Disclosure Principles for Executive Committee Compensation Valuation Principles.

(3)

William W. George resigned from the Compensation Committee (Member) and the Corporate Governance and Nomination Committee (Chair) as of December 1, 2008.

(4) In addition, Alexandre F. Jetzer was paid CHF 350,004 for consulting services.

(5) According to Pierre Landolt, the Sandoz Family Foundation is the economic beneficiary of the compensation.

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OWNERSHIP OF NOVARTIS SHARES AND SHARE OPTIONS BY EXECUTIVE COMMITTEE MEMBERS

Ownership Guidelines

The Board requires Executive Committee members to own at least a certain multiple of their base salary in Novartis shares or vested tradable share options. The multiple is five for the Chairman and Chief Executive Officer and three for other Executive Committee members. Executive Committee members are given three years from the date of nomination to comply with the minimum shareholding requirements.

In the event of a substantial drop in the share price, the Board may, at its discretion, extend that time period. As of December 31, 2008, all Executive Committee members who have served at least three years on the Executive Committee, complied with the share ownership guidelines.

Shares and Share Options Owned

The total number of vested and unvested Novartis shares (including share units yet excluding unvested matching share units from leveraged share savings plans) and share options owned by members of the Executive Committee as of January 20, 2009, is shown in the tables below.

As of January 20, 2009, no member of the Executive Committee together with "persons closely linked" to them (see definition on page 157) owned 1% or more of the outstanding shares of Novartis, either directly or through share options.

Shares Owned by Executive Committee Members

	Number of shares owned[1]
Daniel Vasella	2,504,724
Raymund Breu	445,845
Juergen Brokatzky-Geiger	110,369
Mark C. Fishman	286,167
Joseph Jimenez	25,826
Joerg Reinhardt	389,541
Andreas Rummelt	232,210
Thomas Wellauer	72,202
Thomas Werlen	38,388
Total	4,105,272

(1) Includes holdings of "persons closely linked" to members of the Executive Committee (see definition on page 157).

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Share Options Owned by Executive Committee Members

	Number of Share Options Owned[1]						
	2009	**2008**	**2007**	**2006**	**2005**	**Other**	**Total**
Daniel Vasella	1,132,076	1,290,631	802,855	0	887,790	0	4,113,352
Raymund Breu	582,717	421,798	479,929	416,667	496,381	324,556	2,722,048
Juergen Brokatzky-Geiger	75,705	109,016	55,130	47,620	34,127	9,559	331,157
Mark C. Fishman	0	184,870	142,724	124,876	151,659	367,680	971,809
Joseph Jimenez	552,076	157,266	0	0	0	0	709,342
Joerg Reinhardt	225,453	0	158,787	0	0	488,620	872,860
Andreas Rummelt	0	0	0	0	0	0	0
Thomas Wellauer	0	106,693	0	0	0	0	106,693
Thomas Werlen	175,912	0	0	0	0	141,215	317,127
Total	2,743,939	2,270,274	1,639,425	589,163	1,569,957	1,331,630	10,144,388

(1) Share options disclosed for a specific year were granted under the Novartis Equity Plan "Select." The column "Other" refers to share options granted in 2004 or earlier, to share options granted to these executives while they were not members of the Executive Committee, and to share options bought by the members of the Executive Committee or "persons closely linked" to them (see definition on page 157) on the market.

Terms of Share Options Granted to Members of the Executive Committee

The share options granted to the members of the Executive Committee under the share-based compensation plans are exercisable for one share each (1:1). The terms of the share options granted since 2005 are shown in the table:

Grant year	**Exercise price (CHF/$)**	**Vesting (years) (CH/US)**	**Term (years)**
2009	53.65/46.42	2/3	10
2008	64.05/57.96	2/3	10
2007	72.85/58.38	2/3	10
2006	71.30/54.70	2/3	10
2005	57.45/47.84	2/3	10

OWNERSHIP OF NOVARTIS SHARES AND SHARE OPTIONS BY NON-EXECUTIVE DIRECTORS

Ownership Guidelines

Non-Executive Directors are required to own at least 5,000 Novartis shares within three years after joining the Board. As of December 31, 2008, all Non-Executive Directors who have served at least three years on the Board complied with these share ownership guidelines.

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Shares and Share Options Owned

The total number of vested and unvested shares and share options owned by Non-Executive Directors and "persons closely linked" to them (see definition on page 157) as of January 20, 2009, is shown in the following tables:

As of January 20, 2009, none of the Non-Executive Directors together with "persons closely linked" to them (see definition on page 157) owned 1% or more of the outstanding shares of Novartis, either directly or through share options.

Shares owned by Non-Executive Directors

	Number of shares owned[1]
Ulrich Lehner	22,193
Hans-Joerg Rudloff	61,917
Peter Burckhardt	19,754
Srikant Datar	13,797
Ann Fudge	2,203
William W. George	128,555
Alexandre F. Jetzer	80,800
Pierre Landolt[2]	24,304
Andreas von Planta	105,800
Wendelin Wiedeking	23,135
Marjorie M. Yang	18,000
Rolf M. Zinkernagel	22,800
Total	523,258

(1) Includes holdings of "persons closely linked" to Non-Executive Directors (see definition on page 157).

(2) According to Pierre Landolt, of the total number, 24,093 shares are held by the Sandoz Family Foundation.

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Share options owned by Non-Executive Directors

	Number of share options owned		
	Granted by Novartis in 2002 or earlier[1]	Other share options acquired in the market[2]	Total
Ulrich Lehner	0	0	0
Hans-Joerg Rudloff	24,570	0	24,570
Peter Burckhardt	0	0	0
Srikant Datar	10,000	0	10,000
Ann Fudge	0	0	0
William W. George	44,835	0	44,835
Alexandre F. Jetzer	32,214	0	32,214
Pierre Landolt[3]	24,191	0	24,191
Andreas von Planta	0	0	0
Wendelin Wiedeking	0	0	0
Marjorie M. Yang	0	0	0
Rolf M. Zinkernagel	23,597	0	23,597
Total	159,407	0	159,407

(1) The last year in which Novartis granted share options to Non-Executive Directors was in 2002. In 2002, Novartis granted 79,087 share options to Non-Executive Directors at an exercise price of CHF 62 and a term of nine years.

(2) Includes holdings of "persons closely linked" to Non-Executive Directors (see definition on page 157).

(3) According to Pierre Landolt, the Sandoz Family Foundation is the economic beneficiary of all share options.

PENSION AND HEALTHCARE PLANS

General Policy

Pension benefits at Novartis are generally designed to provide a safety net against financial hardship that may result from disability or death as well as to provide a reasonable level of retirement income reflecting the number of years of service with Novartis. As a general policy, the level of pension benefits provided to associates is country-specific and is influenced by local market practice and regulations. Since a significant number of associates are employed either in Switzerland or the United States, the pension and healthcare benefits in those countries are described in more detail below.

Swiss Pension Plans

Swiss Pension Fund

The Swiss Pension Fund of Novartis operates a defined benefit plan that provides retirement benefits and risk insurance for death and disability. It is funded by contributions from Group companies and the insured associates. The Swiss Pension Fund insures remuneration up to a maximum base salary of CHF 220,000 per year, reduced with an offset of 30% of salary up to a maximum of CHF 24,120. Annual incentives of associates with base salaries below CHF 220,000 are insured through a defined contribution Incentive/Bonus Insurance plan, which is financed

through contributions by Novartis and the insured associates.

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Swiss Management Pension Fund

The Swiss Management Pension Fund is essentially a defined contribution plan that also provides retirement benefits and risk insurance for death and disability for components of remuneration in excess of the maximum insurable amount of base salary described in the previous paragraph. The Swiss Management Pension Fund insures base salary above CHF 220,000, and annual incentives, up to an aggregate maximum of CHF 795,600; it is funded through contributions by Novartis and the insured associates.

US Pension Plans

US Defined Benefit Plan

The pension plan for certain US-based associates of Novartis Corporation and its US affiliates is a funded, tax-qualified, non-contributory defined benefit pension plan. The amount of annual earnings covered by the pension plan is generally equal to the associate's base salary and annual incentive. The amount of annual earnings that may be considered in calculating benefits under this pension plan is limited by law (in 2008: $230,000). Novartis Corporation and its US affiliates also maintain various unfunded supplemental pension plans to cover associates for amounts over and above this limitation. Prior to January 1, 2006, the defined benefit pension plans were closed to new entrants at various dates specific to certain companies. Coinciding with eliminating new eligibility to the defined benefit plans, our US subsidiaries implemented defined contribution plan structures for new associates.

US Defined Contribution Plans

US-based associates generally are eligible to participate in tax-qualified defined contribution plans in which they may contribute a portion of their annual compensation (subject to the annual limitation described above) and receive a matching contribution from the company that is generally $1.00 for each $1.00 contributed by the participant. Associates can receive up to 6% of their base salary and annual incentive as employer contributions.

In addition, certain Group companies in the United States sponsor defined contribution plans, with contributions ranging from 3% to 10% of annual covered compensation. Associates who still accrue service years in US defined benefit plans do not receive such company contributions.

Novartis Corporation and its US subsidiaries also maintain various unfunded supplemental defined contribution plans to cover associates for amounts over and above the $230,000 limitation.

Healthcare Plans

In Switzerland, Novartis does not provide healthcare benefits to associates. In other countries, healthcare plans have been established in accordance with local market practices.

In the United States, all Group companies offer associates healthcare benefits that are subsidized by the company. Certain Group companies also provide contributory post-retirement medical plans that complement US government-provided Medicare.

Benefits to the Members of the Executive Committee

The members of the Executive Committee (with the exception of Mark C. Fishman) participate in the same Swiss pension plans as other Swiss-based associates. The Swiss Pension Fund aims to provide a maximum pension of 60% of the insured remuneration under its plan. For participants in the Swiss Management Pension Fund, Novartis pays 20% of the insured remuneration as an additional contribution.

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The US defined benefit pension formula that applies to Mark C. Fishman is a pension equity plan (PEP) formula that applies to other participating US associates. Benefits under the PEP formula are based on:

- The associate's highest average earnings for a consecutive five-calendar-year period during the last 10 calendar years of service with Novartis; and
- The associate's accumulated PEP credits (expressed as a percentage of final average earnings, and ranging from 2% to 15% for each year of service based on the associate's attained age and accumulated service in a particular year).

Benefits accrued under the PEP plan are payable after retirement in the form of an annuity or a lump sum. The US defined contribution plan that applies to Mark C. Fishman is the same plan that applies to other participating US associates; however, the additional company contribution does not apply to him.

In 2008, no contributions to defined benefit plans were made for Mark C. Fishman and CHF 152,837 were made for other members of the Executive Committee. For defined contribution plans, the employer contribution amounted to $56,559 for Mark C. Fishman and CHF 963,130 for other members of the Executive Committee.

Executive Committee Accumulated Pension Benefits

The pension benefits accumulated by Executive Committee members in the defined benefit plans as of December 31, 2008, as well as the employer pension contributions in 2008, are summarized in the following table:

	Currency	Accumulated benefit in defined benefit plans[1]	Employer contributions to defined benefit plans	Employer contributions to defined contribution plans
Daniel Vasella	CHF	89,244	18,632	125,340
Raymund Breu	CHF	109,836	18,632	125,340
Juergen Brokatzky-Geiger	CHF	93,408	18,608	120,863
Mark C. Fishman	USD	113,190	0	56,559
Joseph Jimenez	CHF	4,908	18,608	115,120
Joerg Reinhardt	CHF	81,636	18,632	115,120
Andreas Rummelt	CHF	90,108	18,608	115,120
Thomas Wellauer	CHF	422,112	18,608	114,620
Thomas Werlen[2]	CHF	53,868	3,877	16,485

(1) Accumulated benefits may include voluntary employee contributions or transfers of portability sums from previous employers' pension funds.

(2) The employer contributions reflect the contributions attributable to the period as an Executive Committee member (2.5/12 of the annual contributions).

Benefits to Non-Executive Directors

No pension benefits are granted to Non-Executive Directors.

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APPROVAL OF THE EXECUTIVE COMPENSATION

The Board is of the opinion that Novartis shareholders should be involved in the debate on the remuneration system and should have the right to express their views on remuneration. The content of this Item 6.B will be continued to be presented and discussed at the Annual General Meeting under the agenda item "Approval of the Annual Financial Statements." The Board is convinced that the contents of this Item 6.B should not be submitted to a consultative vote by shareholders. This view is based on the fact that the individual performance assessment and the determination of compensation of the members of the Executive Committee is the responsibility of the Compensation Committee and the Board.

6.C Board Practices

BOARD OF DIRECTORS

Composition of the Board of Directors as of December 31, 2008:

	Age	Board Member Since	Term Expires
Daniel Vasella	55	1996	2010
Ulrich Lehner	62	2002	2011
Hans-Joerg Rudloff	68	1996	2010
Peter Burckhardt	69	1996	2009[1]
Srikant Datar	55	2003	2009
Ann Fudge	57	2008	2011
William W. George	66	1999	2009
Alexandre F. Jetzer	67	1996	2011
Pierre Landolt	61	1996	2011
Andreas von Planta	53	2006	2009
Wendelin Wiedeking	56	2003	2009
Marjorie M. Yang	56	2008	2010
Rolf M. Zinkernagel	64	1999	2009

(1) Peter Burckhardt was re-elected at the Annual General Meeting of February 26, 2008, for a one-year term as he will reach the age limit established in the Articles of Incorporation in 2009.

Independence of Directors

The independence of Directors 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 a proposal concerning the determination of the independence of each Director. For this assessment, the Committee considers all relevant facts and circumstances of which it is aware.

In its meeting on December 11, 2008, the Board determined that all of its members, except for Daniel Vasella, Alexandre F. Jetzer and William W. George were independent.

Daniel Vasella, the Chief Executive Officer, is the only Director who is also an executive of Novartis. Alexandre F. Jetzer acts for Novartis under a consultancy agreement to support various government

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relations activities. An immediate family member of William W. George became an executive officer of Novartis as of December 1, 2008.

The Board 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). The Board concluded that these activities are supervisory, and not consultatory, in nature and do not affect Rolf M. Zinkernagel's independence as Director.

Election and Term of Office

All Directors are elected individually.

Directors are elected to terms of office of three years or less by shareholders at General Meetings. The terms of office among Directors are to be coordinated so that approximately one-third of all Directors are subject each year to re-election or election. Under Swiss law, a General Meeting of shareholders is entitled to remove any Director at any time, regardless of his or her remaining term of office.

The average tenure of Directors is seven years and the average age is 61. In principle, a Director must retire after reaching age 70. Under certain circumstances, shareholders may grant an exemption from this rule and re-elect a Director for additional terms of office of no more than three years at a time.

Chairman and Chief Executive Officer

The Board regularly reviews the position of the Chairman and Chief Executive Officer. The Board is currently of the firm opinion that it is in the best interest of Novartis and its shareholders that Daniel Vasella serves as Chairman and Chief Executive Officer of the Group.

A number of leading corporate governance codes recognize that the combination of the chairman and chief executive officer roles can be advantageous for a company if combined with an appropriate set of checks and balances. These checks and balances include an independent Lead Director, a majority of independent Directors, regular private meetings of the independent Directors chaired by the Lead Director and separate Board committees (Corporate Governance and Nomination Committee, Audit and Compliance Committee and Compensation Committee) that all are composed exclusively of independent Directors. Novartis has instituted all of these checks and balances.

Lead Director

In 2006, the Board appointed Ulrich Lehner as Lead Director. His responsibilities include ensuring an orderly evaluation of the performance of the Chairman and Chief Executive Officer, chairing the Board's private sessions (i.e. meetings of the independent Directors) and leading the independent Directors in the event of a crisis or in matters requiring their separate consideration or decision. The Lead Director is also a member of all Board committees.

In 2008, the independent Directors held two private sessions chaired by the Lead Director.

Role and Functioning of the Board

The Board holds the ultimate decision-making authority for Novartis AG in all matters, except for those decisions reserved to the shareholders by law.

The Chairman sets the agendas of Board meetings. Any Director may request a Board meeting or the inclusion of an item on the agenda. Directors are provided, in advance of Board meetings, with materials intended to prepare them to discuss the items on the agenda. Decisions are made by the Board as a whole, with the support of its four committees (Chairman's Committee, Compensation Committee, Audit and Compliance Committee, and Corporate Governance and Nomination Committee).

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The primary functions of the Board include:

- Providing the strategic direction of the Group;
- Determining the organizational structure and the manner of governance of the Group;
- Supervising the business operations overall;
- Approving major acquisitions or divestments;
- Structuring the accounting system, financial controls and financial planning;
- Reviewing and approving the annual financial statements and results release of Novartis AG and the Group;
- Appointing and dismissing members of the Executive Committee, the Head of Internal Audit and other key executives;
- Promulgating and overseeing compliance with fundamental corporate policies, in particular on financial matters, corporate governance and citizenship, personnel and environmental matters;
- Preparing matters to be presented at General Meetings, including Novartis AG's financial statements and the consolidated financial statements for the Group;
- Regularly evaluating the performance of the Chairman and Chief Executive Officer and reviewing the performance of the members of the Executive Committee;
- Preparing and annually reviewing succession plans for the Chairman and Chief Executive Officer; and
- Performing an annual self-evaluation.

These details are regulated in the Regulations of the Board of Directors, its Committees and the Executive Committee of Novartis AG (Board Regulations), which are published on the Novartis website:

www.novartis.com/investors/en/corporate_governance

Role and Functioning of the Board Committees

Each Board committee has a written charter outlining its duties and responsibilities and is led by a Chair elected by the Board. The Board committees meet regularly to consider the items on the agenda determined by the Chair. Board committee members are provided, in advance of meetings, with materials intended to prepare them to discuss the items on the agenda.

The Chairman's Committee

The Chairman's Committee is composed of four Directors. This Committee makes decisions on financial and other matters delegated by the Board to the Chairman's Committee in accordance with the Board Regulations. In addition, in urgent cases, the Chairman's Committee also makes decisions and takes preliminary actions on behalf of the Board.

The Charter of the Chairman's Committee is published on the Novartis website:

www.novartis.com/investors/en/corporate_governance

The Compensation Committee

The Compensation Committee is composed of four independent Directors. This Committee reviews Group-wide compensation policies and plans, including share and share option plans and other incentive-based compensation, for approval by the Board. The Compensation Committee advises the Board on the

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compensation of Non-Executive Directors, decides on the compensation of the Chairman and Chief Executive Officer, the members of the Executive Committee and other key executive officers, and approves the employment contracts of these executives. The Compensation Committee has the authority to retain external compensation consultants and other advisors.

The Charter of the Compensation Committee is published on the Novartis website:

www.novartis.com/investors/en/corporate_governance

The Audit and Compliance Committee

The Audit and Compliance Committee is composed of five independent Directors. This Committee has determined that Srikant Datar, Ulrich Lehner and Hans-Joerg Rudloff 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 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.

The Audit and Compliance Committee's main duties include:

- Evaluating and selecting the external auditors to be nominated for election at a General Meeting;
- Reviewing the external auditors' terms of engagement;
- Determining the scope and the review of the results of external and internal audits;
- Reviewing (together with the Group's external and internal auditors and financial and accounting management) whether the accounting policies and financial controls are appropriate, effective and compliant with the applicable accounting and internal control standards;
- Reviewing and approving the quarterly financial statements of the Group for the first three quarters of each year and the corresponding financial results releases;
- Reviewing internal control and compliance processes and procedures, including those for the management of business risks; and
- Reviewing processes and procedures to ensure compliance with laws and internal regulations.

The Charter of the Audit and Compliance Committee is published on the Novartis website:

www.novartis.com/investors/en/corporate_governance

The Corporate Governance and Nomination Committee

The Corporate Governance and Nomination Committee is composed of five independent Directors. This Committee develops corporate governance principles and recommends these to the Board for approval. Its duties include regular reviews of the Articles of Incorporation with a view to reinforcing shareholder rights, and of the composition and size of the Board and its committees. The Corporate Governance and Nomination Committee annually reviews the independence status of each Director. In addition, the Corporate Governance and Nomination Committee identifies candidates for election as Directors.

The Charter of the Corporate Governance and Nomination Committee is published on the Novartis website:

www.novartis.com/investors/en/corporate_governance

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Board and Committees Attendance, Number and Duration of Meetings in 2008

	Full Board	Chairman's Committee	Compensation Committee	Audit and Compliance Committee	Corporate Governance and Nomination Committee
Number of meetings in 2008	**8**	**9**	**5**	**8**	**3**
Approximate duration of each meeting (hours)	**7**	**1.5**	**2**	**2.5**	**2**
Daniel Vasella	8(1)	9(1)			
Ulrich Lehner	8	9	5	7(2)	3(3)
Hans-Joerg Rudloff	7	9	5(1)	8	
Peter Burckhardt	8			8	
Srikant Datar	8		0(4)	8(3)	
Ann Fudge	4(5)				1(4)
William W. George	8	8	5(6)		2(2),(6)
Alexandre F. Jetzer	8				
Pierre Landolt	8				3
Andreas von Planta	8			8	3
Wendelin Wiedeking	6				
Marjorie M. Yang	5		1(7)		
Rolf M. Zinkernagel	7				3

(1) Chair.

(2) Chair until November 2008.

(3) Chair since December 2008.

(4) Since December 2008.

(5) Since February 2008.

(6) Until November 2008.

(7) Since January 2008.

INFORMATION AND CONTROL SYSTEMS OF THE BOARD VIS-À-VIS MANAGEMENT

The Board

The Board 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. The authority of the Board 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 obtains the information required to perform its duties through several means:

Since the Chairman is also the Chief Executive Officer of Novartis, who heads the meetings of the Executive Committee, he is fully informed on all current developments;

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The Chairman and Chief Executive Officer informs all Directors regularly about current developments, including by regularly submitting written reports;

The minutes of Executive Committee meetings are made available to the Directors;

Informal teleconferences are held as required between Directors and the Chairman and Chief Executive Officer or the Lead Director;

A session is held at each Board meeting with all members of the Executive Committee;

The Board is updated in detail by each Division Head on a quarterly basis;

By invitation, members of management are invited to attend Board meetings to report on areas of the business within their responsibility; and

Directors 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 management in meeting the requirements and expectations of stakeholders.

In particular, the Chief Financial Officer and representative of the external auditors are invited to meetings of the Audit and Compliance Committee. Furthermore, the Heads of Internal Audit, Financial Reporting and Accounting, Risk Management and Compliance, as well as the Business Practices Officer, 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. 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 Chief Operating Officer, the Heads of the Divisions, the Heads of Finance of the Divisions and the Heads of the following Corporate Functions: Legal, Treasury, Financial Reporting & 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.

Internal Audit

The Internal Audit function carries out operational and system audits in accordance with an audit plan adopted 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 of the Board.

The Audit and Compliance Committee regularly reviews the scope of Internal Audit, the audit plans and the results of the internal audits.

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Corporate Risk Management

The Corporate Risk Management function reports to the Board on a regular basis on risk assessment and risk management. Organizational and process measures have been designed to identify and mitigate risks at an early stage. Organizationally, the responsibility for risk and risk mitigation is allocated to the divisions, with specialized corporate functions such as Group Finance; Group Quality Operations; Corporate Health, Safety and Environment; and Business Continuity providing support and controlling the effectiveness of the risk management by the divisions.

MANAGEMENT OF THE GROUP

The Board has delegated to the Executive Committee the coordination of the Group's day-to-day business operations. The Executive Committee is headed by the Chief Executive Officer.

The primary functions of the Executive Committee include:

Implementing the strategies and policies adopted by the Board;

Regularly assessing the achievement of targets set for the businesses;

Drawing up corporate policies, strategies and strategic plans for approval by the Board;

Submitting to the Board and its committees any proposed changes in management positions of material significance, capital investments, financial measures, acquisitions or divestitures of companies, participations and businesses, contracts of material significance and budgets;

Implementing matters that have been approved by the Board or its committees;

Preparing and submitting quarterly and annual reports to the Board or its committees;

Informing the Board of all matters of fundamental significance to the businesses;

Appointing and promoting senior management as well as the selection and promotion of new and potential management personnel;

Implementing modifications to the Group's organization;

Ensuring the efficient operation of the Group and achievement of optimized results;

Promoting an active internal and external communications policy;

Ensuring that management capacity, financial and other resources are provided and used efficiently;

Promulgating guidelines; and

Dealing with any other matters as are delegated by the Board to the Executive Committee.

The Chief Executive Officer may appoint or remove non-voting Permanent Attendees to attend the meetings of the Executive Committee. As of December 31, 2008, four Permanent Attendees attend 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.

The Board has not concluded any contracts with third parties to manage the business.

For biographical information of the members of the Executive Committee and the Permanent Attendees, please see under Corporate Governance Executive Committee and Permanent Attendees Biographical Information.

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GROUP STRUCTURE

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 "Item 18. Financial Statements note 32".

Divisions

The Novartis Group conducts its business through four Divisions: Pharmaceuticals, Vaccines and Diagnostics, Sandoz and Consumer Health.

Majority Holdings in Publicly Traded Group Companies

The shares of Idenix Pharmaceuticals, Inc. and Novartis India Limited are publicly traded. Novartis owns:

56% of Idenix Pharmaceuticals, Inc. The shares of Idenix Pharmaceuticals are listed for trading on NASDAQ (Valor No. 1630029, ISIN US45166R2040, symbol: IDIX).

51% of Novartis India Limited. The remaining shares are registered for trading on the Bombay Stock Exchange (ISIN INE234A01025, symbol: HCBA).

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, 2008, was USD 8.5 billion. Novartis does not exercise control over Roche Holding AG, which is independently governed, managed and operated.

24.8% of the bearer shares of Alcon Inc., with its registered office in Hünenberg, Switzerland, and listed on the NYSE (symbol: ACL). The market value of the Group's interest in Alcon Inc., as of December 31, 2008, was USD 6.6 billion. Novartis does not exercise control over Alcon Inc., which is independently governed, managed and operated.

SHAREHOLDERS OF NOVARTIS AG

Significant Shareholders

According to the share register, on December 31, 2008, the following shareholders (including nominees and the American Depositary Share (ADS) depositary) held more than 2% of the total share capital of Novartis:[1]

(1) Excluding Novartis AG, together with Novartis affiliates, holding treasury shares.

Shareholders: Novartis Foundation for Employee Participation, with its registered office in Basel, Switzerland (holding 4.2% of the share capital); Emasan AG, with its registered office in Basel, Switzerland (holding 3.3%);

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Nominees: JPMorgan Chase Bank, New York (holding 8.9%); Mellon Bank, Everett, Massachusetts (holding 2.6%); Nortrust Nominees, London (holding 2.3%); and

ADS depositary: JPMorgan Chase Bank, New York (holding 11.8%).

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

As of December 31, 2008, Novartis had more than 152,000 registered shareholders. The following table provides information about the distribution of shareholders by number of shares held:

As of December 31, 2008 Number of Shares Held	Number of Registered Shareholders	% of Registered Share Capital
1 100	20,903	0.04
101 1,000	88,589	1.49
1,001 10,000	38,997	4.09
10,001 100,000	3,708	3.65
100,001 1,000,000	476	5.40
1,000,001 5,000,000	90	7.33
5,000,001 or more[1]	39	55.09
Total registered shareholders/shares	152,802	77.09
Unregistered shares		22.91
Total		**100.00**

(1) Including Significant Shareholders listed above.

The following table provides information about the distribution of shareholders by type and geographic region. This information relates only to registered shareholders and does not include holders of unregistered shares. Also, the information provided in the table below cannot be assumed to be fully 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.

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Registered Shareholders by Type and Geographic Region

As of December 31, 2008	Shareholders in %	Shares in %
Individual shareholders	95.80	12.51
Legal entities	4.06	40.77
Nominees, fiduciaries	0.14	46.72
Total	**100.00**	**100.00**
Switzerland[1]	89.26	43.82
Europe	9.29	13.98
United States	0.51	40.10
Other countries	0.94	2.10
Total	**100.00**	**100.00**

(1) Excluding 7.4% of the share capital held by Novartis AG, together with Novartis affiliates, as treasury shares.

CAPITAL STRUCTURE

Share Capital of Novartis AG

The share capital of Novartis AG is CHF 1,321,811,500, fully paid-in and divided into 2,643,623,000 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 on the SIX Swiss Exchange and traded on SWX Europe (Valor No. 001200526, ISIN CH0012005267, symbol: NOVN.VX) as well as on the NYSE in the form of American Depositary Shares (ADSs) (Valor No. 567514, ISIN US66987V1098, symbol: NVS).

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 to launch a sixth program to repurchase shares up to a maximum amount of CHF 10 billion via a second trading line on SWX Europe. In 2008, a total of six million shares were repurchased at an average price of CHF 49.42 per share. The share repurchase program is currently suspended in favor of debt repayment.

Changes in Share Capital

Novartis has not increased its share capital during the last three years.

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As part of various share repurchase programs, Novartis has reduced its share capital as follows:

Capital Reductions

Year of Reduction	Number of Shares Cancelled	Amount of Capital Reduced (in CHF)
2006	10,200,000	5,100,000
2007	0	0
2008	85,348,000	42,674,000

A table with additional information on changes in the Novartis share capital can be found in "Item 18. Financial Statements note 5."

Convertible or Exchangeable Securities

Novartis has not issued convertible or exchangeable bonds, warrants, options or other securities granting rights to Novartis shares, other than securities granted to associates as a component of compensation.

SHAREHOLDER RIGHTS

One Share, One Vote

Each share registered with the right to vote entitles the holder to one vote at General Meetings.

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 a proxy and hold such other rights as are granted under Swiss law.

Registration as Shareholder

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 may register nominees with the right to vote. For restrictions on registration of nominees, please see under "Item 6.C. Board Practices Shareholder Rights Restriction on Registration of Nominees."

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Restriction on Registration with the Right to Vote

The Articles of Incorporation provide that no shareholder shall be registered with the right to vote shares composing more than 2% of the Novartis registered share capital. The Board may, upon request, grant an exemption from this restriction. Exemptions are in force for the Significant Shareholders listed under Corporate Governance Shareholders of Novartis AG Significant Shareholders. In 2008, no exemptions were requested.

Given that shareholder representation at General Meetings has traditionally been low, Novartis considers the restriction on registration necessary to prevent a minority shareholder from dominating a General Meeting.

Restriction on Registration of Nominees

The Articles of Incorporation provide that no nominee shall be registered with the right to vote shares composing 0.5% or more of the Novartis registered share capital. The Board 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 "Item 6.C. Board Practices Shareholders of Novartis AG Significant Shareholders."

Removal of Restrictions on Registration

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.

American Depositary Share Holders

The same restrictions apply to holders of American Depositary Shares (ADSs) as 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, as described above).

ADS holders may vote by instructing JPMorgan Chase Bank, the ADS depositary bank, 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.

Circumvention of Restrictions on Registration

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 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 transferability of Novartis shares or ADSs. No restrictions are imposed on the trading of registered Novartis shares or ADSs by Novartis or JPMorgan Chase Bank. 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.

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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, 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 of options to subscribe;

A change of location of the registered office of Novartis AG; or

The dissolution of Novartis AG.

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 33$^{1}/_{3}$% 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.

Change-of-Control Clauses in Employment Contracts

Please see " 6.B Compensation Contracts with Members of the Executive Committee."

STANDARDS APPLICABLE TO NOVARTIS

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 US law, shareholders under Swiss law do not receive written reports from committees of the Board of Directors; in addition, the Group's external auditors are appointed by shareholders at the Annual General Meeting, as opposed to being appointed by the Audit and Compliance Committee.

Swiss Code of Best Practice for Corporate Governance

Novartis applies the Swiss Code of Best Practice for Corporate Governance.

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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 of Novartis AG.

The Corporate Governance and Nomination Committee regularly reviews these standards and principles in 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 (Board).

Additional corporate governance information can be found on the Novartis website:

www.novartis.com/investors/en/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, CH-4056 Basel, Switzerland.

INFORMATION AND COMMUNICATIONS POLICY

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 comply 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). A press release archive is available on the Novartis website:

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 team is also 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.

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Further Information

Topic	Website information
SHARE CAPITAL	
Information on the Novartis capital structure	Articles of Incorporation of Novartis AG www.novartis.com/investors/en/corporate_governance Novartis key share data www.novartis.com/investors/en/share-data-analysis/index.shtml
SHAREHOLDER RIGHTS	
Information on Novartis shares and shareholder participation rights	Articles of Incorporation of Novartis AG www.novartis.com/investors/en/corporate_governance Investor Relations information www.novartis.com/investors
BOARD OF DIRECTORS AND EXECUTIVE COMMITTEE	
Internal organization and allocation of responsibilities	Board Regulations www.novartis.com/investors/en/corporate_governance
SENIOR MANAGEMENT	
	Senior Leadership Team www.novartis.com/about-novartis/people/executive-committee.shtml
NOVARTIS CODE FOR SENIOR FINANCIAL OFFICERS	
	Novartis Code of Ethical Conduct for CEO and Senior Financial Officers www.novartis.com/investors/en/corporate_governance
ADDITIONAL INFORMATION	
Overview of investor information	Novartis Investor Relations 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, 2008 (full time equivalents)	Research & Development	Production & Supply	Marketing & Sales	General & Administration	Total
USA	5,856	3,659	8,740	2,074	20,329
Canada and Latin America	525	2,410	4,665	887	8,487
Europe	9,824	16,749	16,267	5,549	48,389
Asia/Africa/Australasia	2,105	4,293	11,794	1,320	19,512
Total	**18,310**	**27,111**	**41,466**	**9,830**	**96,717**

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For the year ended December 31, 2007 (full time equivalents)	Research & Development	Production & Supply	Marketing & Sales	General & Administration	Total
USA	5,782	4,161	9,747	2,041	21,731
Canada and Latin America	495	2,510	4,776	983	8,764
Europe	9,619	16,958	16,620	5,743	48,940
Asia/Africa/Australasia	1,861	4,455	11,092	1,357	18,765
Total	**17,757**	**28,084**	**42,235**	**10,124**	**98,200**

For the year ended December 31, 2006 (full time equivalents)	Research & Development	Production & Supply	Marketing & Sales	General & Administration	Total
USA	5,603	6,703	10,693	2,561	25,560
Canada and Latin America	491	3,691	5,167	1,079	10,428
Europe	9,107	16,400	16,468	5,930	47,905
Asia/Africa/Australasia	1,561	3,537	10,379	1,365	16,842
Total	**16,762**	**30,331**	**42,707**	**10,935**	**100,735**

Movements in full time equivalents	2008	2007
Associates as of January 1	**98,200**	**100,735**
Separations	(4,644)	(3,934)
Retirements	(919)	(781)
Resignations	(9,262)	(8,674)
External hiring's	13,342	17,348
Effect of divestments/acquisitions, net		(6,494)
Associates as of December 31	**96,717**	**98,200**

A relatively small number of our associates are represented by unions. 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 (including persons closely linked to them) as of January 20, 2009 was 4,628,530 shares.

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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 as of January 20, 2009 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
Novas09 Options	1	51.33	0	March 10, 2009	39,400
Novas10 Options	1	70.00	0	March 7, 2010	30,920
Novas11 Options	1	62.00	0	March 7, 2011	79,087
Novas12 Options	1	48.86	0	February 3, 2012	0
Novas14 Options	1	57.45	0	February 3, 2014	383,048
Novas15 Options	1	57.45	0	February 3, 2015	1,418,298
Novas16 Options	1	71.30	0	February 5, 2016	569,974
Novas17 Options	1	72.85	0	February 3, 2017	1,551,902
Novas18 Options	1	64.05	0	January 10, 2018	2,171,418
Novas19 Options	1	53.65	0	January 18, 2019	2,743,939
Total Novartis Share Options					**8,987,986**
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	121,100
Novartis ADS Options Cycle VII	1	$ 36.31	0	February 4, 2013	133,648
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	142,724
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	0
Novartis ADS Options Others	1	$ 37.86	0	October 26, 2011	10,000
Total Novartis ADS Options					**981,809**

(1) Exercise price indicated is per share, and denominated in Swiss francs except where indicated.

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.

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According to the share register, on December 31, 2008, no person or entity was registered as the owner of more than 5% of our shares. As of that date, the following shareholders (including nominees and the ADS depositary) held more than 2% of the total share capital of Novartis (excluding Novartis AG, together with Novartis affiliates, holding treasury shares):

Shareholders: Novartis Foundation for Employee Participation, with its registered office in Basel, Switzerland (holding 4.2% of the share capital); Emasan AG, with its registered office in Basel, Switzerland (holding 3.3%);

Nominees: JPMorgan Chase Bank, New York (holding 8.9%); Mellon Bank, Everett, Massachusetts (holding 2.6%); Nortrust Nominees, London (holding 2.3%); and

ADS depositary: JPMorgan Chase Bank, New York (holding 11.8%).

As of December 31, 2007, these entities' holdings were as follows:

Shareholders: Novartis Foundation for Employee Participation, with its registered office in Basel, Switzerland (holding 3.6% of the share capital); Emasan AG, with its registered office in Basel, Switzerland (holding 3.2%);

Nominees: JPMorgan Chase Bank, New York (holding 7.6%); Mellon Bank, Everett, Massachusetts (holding 2.3%); Nortrust Nominees, London (holding 2.4%); and

ADS depositary: JPMorgan Chase Bank, New York (holding 12.4%).

As of December 31, 2006, these entities holdings were as follows:

Shareholders: Novartis Foundation for Employee Participation, with its registered office in Basel, Switzerland (holding 2.8% of the share capital); Emasan AG, with its registered office in Basel, Switzerland (holding 3.2%);

Nominees: JPMorgan Chase Bank, New York (holding 7.6%); Mellon Bank, Everett, Massachusetts (holding 2.0%); Nortrust Nominees, London (holding 2.7%); and

ADS depositary: JPMorgan Chase Bank, New York (holding 12.1%).

As of December 31, 2008, 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.

7.B Related Party Transactions

Roche/Genentech: Novartis has two agreements with Genentech, Inc., USA, a subsidiary of Roche Holdings AG (Roche) which is indirectly included in the consolidated financial statements using equity accounting since Novartis holds 33.3% of the outstanding voting shares of Roche.

Novartis Ophthalmics, part of the Novartis Pharmaceuticals Division, 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 an initial milestone and reimbursement fee 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 $886 million (2007: $393 million; 2006: $19 million) have been recognized by Novartis.

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* in the US. On August 2, 2007, Genentech, Inc. completed the acquisition of Tanox, Inc. and has taken over its rights and

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obligations. The Novartis shares held in Tanox were sold to Genentech and realized a gain of $117 million. Novartis and Genentech are co-promoting *Xolair* in the US where Genentech records all sales.

Novartis markets the product and records all sales and related costs in Europe as well as co-promotion costs in the US. Genentech and Novartis share the resulting profits from sales in the US, Europe and some East Asia countries, according to agreed profit-sharing percentages. Novartis recognized total sales of *Xolair* of $211 million (2007: $140 million: 2006: $102 million) including sales to Genentech for the US market.

The net cash outflow for royalties, cost sharing and profit sharing arising out of the *Lucentis* and *Xolair* agreements with Genentech totaled $85 million in 2008 (2007: $4 million inflow: 2006: $116 million inflow).

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. 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 2.00 per share to the shareholders for approval at the Annual General Meeting to be held on February 24, 2009. 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."

8.B Significant Changes

None.

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Item 9. The Offer and Listing

9.A Listing Details

Our shares are listed in Switzerland on the SIX Swiss Exchange (SIX). The principal trading market for our shares is the SWX Europe (SWX), formerly virt-x, a virtual exchange created by, among others, the SIX. Prior to the creation of virt-x in June 2001, our shares were traded on the SWX Swiss Exchange. Since 1996, our shares were quoted on London's SEAQ International and now on the International Retail Service of the London Stock Exchange.

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 SWX during the day as well as for inter-dealer trades completed off the SWX and certain inter-dealer trades completed during trading on the previous business day.

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The following share data was taken from SWX; 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				
2004	59.95	52.10	50.62	41.30
2005	71.50	55.35	54.70	45.75
2006	76.80	64.20	61.24	51.90
2007	74.60	58.05	59.70	51.60
2008	65.45	46.14	61.06	43.85
Quarterly information for the past two years				
2008				
First Quarter	65.45	46.14	59.05	47.05
Second Quarter	56.05	46.66	55.04	46.26
Third Quarter	63.65	56.10	61.06	52.62
Fourth Quarter	61.15	48.10	53.57	43.85
2007				
First Quarter	74.60	66.85	59.70	54.63
Second Quarter	71.00	67.10	59.03	54.34
Third Quarter	68.40	62.75	56.38	51.85
Fourth Quarter	64.80	58.05	57.53	51.60
Monthly information for most recent six months				
August 2008	63.65	60.20	61.06	54.71
September 2008	61.75	57.00	55.28	52.62
October 2008	61.15	48.10	53.57	43.85
November 2008	60.00	53.05	51.65	44.70
December 2008	57.85	51.60	50.01	45.15
January 2009 (through January 21)	54.05	51.95	49.62	45.81

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 SWX (ON/OFF exchange) for the years 2008, 2007 and 2006 were 11,827,619, 13,059,367, and 10,303,676 respectively. These numbers are based on total annual turnover statistics supplied by the SWX 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 2008, 2007 and 2006 were 2,046,796, 2,071,834, and 1,182,895 respectively.

The Depositary has informed us that as of January 21, 2009, there were 305,453,450 ADSs outstanding, each representing one Novartis share (approximately 11.6% of total Novartis shares issued). On January 21, 2009, the closing sales price per share on the virt-x was CHF 51.95 and $45.81 per ADS on the NYSE.

9.B Plan of Distribution

Not applicable.

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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), 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 or of Swiss law. This summary is qualified in its entirety by reference to the Articles, 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.

10.B.2 ***Directors***

(a) According to our Regulations of the Board (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, while the Swiss Code does not have a specific provision on conflicts of interests, 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) Directors may not vote that they receive compensation unless at least a majority of the Directors are present.

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(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 effective as of the next Ordinary General Meeting of Shareholders when they reach age 71. The General Meeting of Shareholders may, under special circumstances, grant exemption from this rule and may elect a Director for further terms of office of no more than three years.

(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. A shareholder may exercise its right to vote its shares only after the shareholder has been recorded in the share register as being entitled to such rights at least 5 days prior to a General Meeting of Shareholders. In order to do so, the shareholder must file a share registration form with us at least 5 days prior to a General Meeting of Shareholders, 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 the 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

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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.

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.

ADS holders have the same voting rights as those holding Novartis shares. ADS holders may not, however, attend Novartis General Meetings in person. ADS holders exercise their voting rights by instructing JPMorgan Chase Bank, the ADS depositary bank, to exercise the voting rights attached to the registered shares underlying the ADSs. Each ADS represents one Novartis share. 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 appointed by Novartis pursuant to paragraph 13 of the Deposit Agreement governing ADSs. The same voting restrictions apply to ADS 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).

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.

(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

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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.

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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 ADS holder's right to vote at a shareholder meeting.

10.B.7 ***Change in Control***

According to our Articles and 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 33 1/3% 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 SWX 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%, 33 1/3%, 50% and 66 2/3% of our registered share capital. Following receipt of such notification we are required to inform the public by publishing the information in the official Swiss Commercial Gazette and in at least one of the principal electronic media that disseminate stock exchange information.

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 October 2005, we entered into an Agreement and Plan of Merger with Chiron Corporation to acquire all of the remaining shares of Chiron beyond the 42.5% stake we already owned at the time, for $45.00 per share. Subsequently, pursuant to a pre-existing agreement with Chiron, we purchased an additional 6.9 million shares of Chiron common stock for an aggregate price of $300 million. This additional purchase increased our stake in Chiron to 44.1%. In April 2006, we agreed to amend the Agreement and Plan of Merger to increase our offer to $48.00 per share. We subsequently completed our acquisition in April 2006. The amount paid for the shares, related options of associates and transaction costs totaled approximately $5.7 billion.

In December 2006, we entered into an agreement with Nestlé S.A. of Switzerland to divest the remainder of our Medical Nutrition Business Unit for $2.5 billion. This transaction was completed in July 2007.

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In April 2007, we entered into an agreement with Nestlé S.A. of Switzerland to divest our Gerber Business Unit for $5.5 billion. This transaction was completed in September 2007.

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 potential value of these two steps is approximately $39 billion. 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 $143.18 per share. In the optional second step, we have 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. During this period, Nestlé has the right to require Novartis to buy its remaining stake at a 20.5% premium to Alcon's share price at the time of exercise, but not exceeding $181.00 per share. We have no obligation to purchase the remaining 23% of shares held by Alcon minority shareholders at any time.

10.D Exchange controls

There are no Swiss governmental laws, decrees or regulations that restrict 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 subject to a Swiss federal withholding tax (the "Withholding Tax") at a current rate of 35%. 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. 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 2 million.

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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 20% 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, 2009, 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):

Armenia	Germany	Lithuania	Singapore
Albania	Greece	Luxembourg	Slovak Republic
Australia	Hungary	Macedonia	Slovenia
Austria	Iceland	Malaysia	South Africa
Azerbaijan	India	Mexico	Spain
Bahrain	Indonesia	Moldavia	Sri Lanka
Belarus	Iran	Mongolia	Sweden
Belgium	Israel	Morocco	Thailand
Bulgaria	Italy	Netherlands	Trinidad and Tobago
Canada	Ivory Coast	New Zealand	Tunisia
China	Republic of	Norway	Ukraine
Croatia	Ireland	Pakistan	United Kingdom
Czech	Jamaica	Philippines	United States of
Republic	Japan	Poland	America
Denmark	Kazakhstan	Portugal	Uzbekistan
Ecuador	Republic of	Romania	Venezuela
Egypt	Korea	Russia	Vietnam
Estonia	(South Korea)	Serbia and	Commonwealth of
Finland	Kuwait	Montenegro	Independent States[1]
France	Kyrgyzstan		
	Latvia		

(1) Excluding Estonia, Latvia, Lithuania and Russia.

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Tax treaty negotiations are under way, or have been concluded, with Algeria, Argentina (treaty not yet in force but provisionally applicable as from January 1, 2001), Azerbaijan, Bangladesh, Brazil, Chile, Colombia, Costa Rica, Georgia, Ghana, Malta, North Korea, Oman, Peru, Syria, Tajikistan, Turkey and Turkmenistan, United Arab Emirates, 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 more than 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 SWX, and (ii) the sale takes place on the SWX. In addition to this Stamp Duty, the sale of shares by or through a member of the SWX 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

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Swiss and other foreign tax consequences, of the ownership and disposition of our shares or ADSs. In particular, additional 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 our outstanding share capital or voting power. 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) a citizen or individual 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, (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.

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, and thereafter will be treated as capital gain. 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 foreign taxes as a deduction for the taxable year within which they are paid or accrued, provided a deduction is claimed for all of the foreign taxes the US Holder pays 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 analysis above of the creditability of the Withholding Tax could be affected by future actions that may be taken by the US Treasury.

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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 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 in 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. The deductibility of capital losses is subject to significant limitations under the Code.

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 United States Internal Revenue Service ("IRS") and possible US backup withholding at a current rate of 28%. Certain exempt recipients (such as corporations) are not subject to these information reporting 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 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 filing the appropriate claim for refund with the IRS and furnishing any required information.

10.F Dividends and paying agents

Not applicable.

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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, 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 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.

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

	Local Currencies	$
2008		
Currency impact on continuing operations:		
Net sales	5%	9%
Operating income	20%	32%
Net income	13%	25%

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	Net sales	Operating expenses
2008		
Net sales and operating costs by currency from continuing operations:		
$	34%	31%
Euro	32%	28%
CHF	2%	16%
Yen	7%	5%
Other	25%	20%
	100%	100%

	Liquid funds	Financial debt
2008		
Liquid funds and financial debt by currency (as of December 31):		
$	71%	22%
Euro	7%	18%
CHF	19%	36%
Yen	0%	21%
Other	3%	3%
	100%	100%

	Local Currencies	$
2007		
Currency impact on continuing operations:		
Net sales	6%	11%
Operating income	(14)%	(11)%
Net income	(7)%	(4)%

	Net sales	Operating expenses
2007		
Net sales and operating costs by currency from continuing operations:		
$	39%	36%
Euro	30%	28%
CHF	2%	14%
Yen	6%	5%
Other	23%	17%
	100%	100%

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	Liquid funds	Financial debt
2007		
Liquid funds and financial debt by currency (as of December 31):		
$	70%	13%
Euro	18%	40%
CHF	9%	19%
Yen	0%	22%
Other	3%	6%
	100%	100%

Market Risk

We are exposed to market risk, primarily related to foreign exchange, interest rates and the market value of our 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 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 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.

At December 31, 2008, we had long and short forward exchange and currency option contracts with corresponding values of $7.2 billion and $0.3 billion, respectively. At December 31, 2007, we had long and short forward exchange and currency option contracts with equivalent values of $12.6 billion and $3.1 billion, respectively.

Net investments in subsidiaries in foreign countries are long-term investments. Their fair value changes through movements of the currency exchange rates. In the very long term, however, the difference in the inflation rate should match the currency exchange rate movement, so that the market value of the foreign non-monetary assets should compensate for the change due to 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

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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 manage our net exposure to interest rate risk through the proportion of fixed rate financial debt and variable rate financial debt 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. We aim to have as a maximum no more than half of our debt with fixed interest rates. Our percentage of fixed rate debt to total financial debt was 29% at December 31, 2008, was 11% at December 31, 2007 and 27% at December 31, 2006.

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 of their past financial track record (mainly cash flow return on investment), their market potential, their management and their competitors. Call options are written on equities which 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 the financial position, past experience and other factors. Three customers account for approximately 8%, 7% and 6%, respectively (2007: 9%, 8% and 6%; 2006: 10%, 9% and 7%), of our net sales from continuing operations in 2008. No other customer accounts for 2% or more of our net sales from continuing operations. The highest amounts of trade receivables are the ones for the largest customers and are approximately 9%, 5% and 6% respectively (2007: 9%, 6% and 6%) of our trade receivables at December 31, 2008, and 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 minimized 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 statements and capital adequacy ratio reviews. In addition, net settlement agreements are contracted with significant counterparties.

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 would 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 liquidity position through rolling forecasts on the basis of expected cash flows. Our cash and cash equivalents are held with major regulated financial institutions, the largest one holding approximately 34% and the next two other largest ones holding approximately 28% and 11%, respectively (2007: largest one holding 17% and the next three other largest ones holding approximately 16%, 15%, 14%, respectively; 2006: largest one 10% and the next five largest ones hold between 9% and 8% each).

Capital risk management: We strive to maintain strong debt ratings. In managing our capital, we focus on a sound debt/equity ratio. Credit agencies reduced their ratings for Novartis in 2008 in response to the announcement of the agreement to acquire a majority interest in Alcon, while supporting the strategic intentions of the Alcon acquisition. Moody's rated the Group as Aa2 for long-term maturities and P-1 for

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short-term maturities and Standard & Poor's had a rating of AA- and A-1+ for long-term and short-term maturities respectively. Fitch had given a long-term rating of AA and a short-term rating of F1+. All three agencies maintained a "stable" outlook. The changes to these ratings took into account completion of the agreement with Nestlé that includes an optional second step between January 2010 and July 2011 involving Nestlé's remaining 52% Alcon stake. We do not have to comply with regulatory capital adequacy requirements as known in the financial services industry.

Our year-end debt/equity ratio increased to 0.15:1 from 0.12:1 in 2007 principally due to financing programs. Our 2007 year-end debt/equity ratio decreased to 0.12:1 from 0.18:1 in 2006 principally due to the divestments.

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 it is assumed that not all positions could be undone in a single 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 currency rate movements over a 60 day period for the calculation of VAR amounts.

The estimated potential ten day loss in pre-tax earnings 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,	
	2008	**2007**
	($ millions)	
All financial instruments	318	230
Analyzed by components:		
Instruments sensitive to foreign currency rates	278	165
Instruments sensitive to equity market movements	181	110
Instruments sensitive to interest rates	21	12

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The average, high, and low VAR amounts are as follows:

	Average	High	Low
	($ millions)		
2008			
All financial instruments	196	318	135
Analyzed by components:			
Instruments sensitive to foreign currency rates	158	278	74
Instruments sensitive to equity market movements	162	291	95
Instruments sensitive to interest rates	73	233	10

	Average	High	Low
	($ millions)		
2007			
All financial instruments	108	230	52
Analyzed by components:			
Instruments sensitive to foreign currency rates	56	165	30
Instruments sensitive to equity market movements	80	135	33
Instruments sensitive to interest rates	25	40	8

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 2008 and 2007, the worst case loss scenario was configured as follows:

	At December 31,	
	2008	2007
	($ millions)	
All financial instruments	300	474
Analyzed by components:		
Instruments sensitive to foreign currency rates	144	60
Instruments sensitive to equity market movements	128	342
Instruments sensitive to interest rates	28	72

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

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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. Only residual risks and some currency risks are managed in the subsidiaries. However the collective amount of the residual risks is below 10% of the global risks.

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.

Item 12. Description of Securities other than Equity Securities

Not applicable.

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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, 2008. 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, 2008, 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, Ulrich Lehner and Hans-Joerg Rudloff 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

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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 ethics 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/downloads/investors/Novartis_Code_of_Ethical_ Conduct_CEO_Senior_Financial_Officers.pdf.

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. The lead auditor responsible for the mandate, Robert P. Muir, began serving in his role in 2005. The Audit and Compliance Committee ensures that the lead auditor partner is 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, 2008 and December 31, 2007:

	2008	2007
	($ thousands)	
Audit Services	24,963	21,245
Audit-Related Services	3,200	904
Tax Services	400	222
Other Services	558	331
Total	**29,121**	**22,702**

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.

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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 2008, the Audit and Compliance Committee held eight 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 important 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, 2008.

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.

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

2008	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) (CHF millions)	Maximum Approximate Value of Shares that may yet be purchased under the Plans or Programs in $[3] (e) ($ millions)
Jan. 1-31	5,897,504	52.40			
Feb. 1-28	6,923,104	50.37		10,000	9,542
Mar. 1-31	12,250,294	48.89	4,000,000	9,805	9,840
Apr. 1-30	9,545,114	50.36	2,000,000	9,704	9,351
May 1-31	14,757,637	51.65		9,704	9,242
Jun. 1-30	13,201,946	52.00		9,704	9,532
Jul. 1-31	1,635,619	55.35		9,704	9,287
Aug. 1-31	146,480	57.90		9,704	8,854
Sep. 1-30	179,310	55.20		9,704	8,864
Oct. 1-31	149,283	53.00		9,704	8,434
Nov. 1-30	178,909	49.27		9,704	8,108
Dec. 1-31	58,190	48.52		9,704	9,199
Total	**64,923,390**	**51.05**	**6,000,000**		

Notes

(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 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. In addition, our external auditors are appointed by shareholders at the Annual General Meeting, as opposed to being appointed by the Audit and Compliance Committee.

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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.

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Item 19. Exhibits

1.1	Articles of Incorporation, as amended February 26, 2008 (English translation).
1.2	Regulations of the Board and Committee Charters of Novartis AG, as amended December 12, 2007.
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 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 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 as filed with the SEC on January 28, 2008).
4.1	Agreement and Plan of Merger, dated as of October 30, 2005, by and among Novartis Corporation, Novartis Biotech Partnership, Inc., Chiron Corporation and, for purposes of Section 10.14 only, Novartis AG (incorporated by reference to Exhibit 4.8 to the Form 20-F as filed with the SEC on January 30, 2006).
4.2	Amendment No. 1, dated as of April 3, 2006, to the Agreement and Plan of Merger dated as of October 30, 2005, by and among Novartis Corporation, Novartis Biotech Partnership, Inc., Chiron Corporation and, for purposes of Section 10.14 thereof only, Novartis AG (incorporated by reference to Exhibit 4.5 to the Form 20-F as filed with the SEC on January 31, 2007).
4.3	Agreement as of 14 December, 2006 between Novartis AG and Nestlé S.A. concerning the sale and purchase of the seller's Medical Nutrition business (incorporated by reference to Exhibit 4.6 to the Form 20-F as filed with the SEC on January 31, 2007).
4.4	Agreement as of 11 April 2007 between Novartis AG and Nestlé S.A. concerning the sale and purchase of the seller's Gerber business (incorporated by reference to Exhibit 4.7 to the Form 20-F as filed with the SEC on January 28, 2008).
4.5	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.
4.6	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.
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 32."

12.1 Certification of Daniel Vasella, Chairman and Chief Executive Officer of Novartis AG, pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.

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12.2	Certification of Raymund Breu, Chief Financial Officer of Novartis AG, pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
13.1	Certification of Daniel Vasella, Chairman and Chief Executive Officer of Novartis AG and Raymund Breu, 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 (File No. 333-153696) as filed with the SEC on September 26, 2008, on Form F-3 filed on May 11, 2001 (File No. 333-60712), on Form F-3 (File No. 333-81862) filed on January 31, 2002, on Form S-8 filed on September 5, 2006 (File No. 333-137112) and on Form S-8 filed on October 1, 2004 (File No. 333-119475).

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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/ RAYMUND BREU

Name: Raymund Breu
Title: *Chief Financial Officer, Novartis Group*

By: /s/ THOMAS WERLEN

Name: Thomas Werlen
Title: *General Counsel, Novartis Group*

Date: January 28, 2009

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NOVARTIS GROUP

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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, 2008. Our opinions, based on our integrated audits, are presented below.

Consolidated financial statements

We have audited the consolidated financial statements of the Novartis Group as of December 31, 2008 and 2007, and for each of the three years in the period ended December 31, 2008 (comprising consolidated balance sheets, income statements, cash flow statements, statements of recognized income and expense, statements of changes in equity and notes) as set out on pages F-4 through F-104 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 audit 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, 2008 and 2007, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2008 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, 2008, 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, 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.

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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 the applicable accounting standards. 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 the applicable accounting standards, 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, 2008, based on criteria established in *Internal Control Integrated Framework* issued by the COSO.

PricewaterhouseCoopers AG

/s/ R. P. MUIR	/s/ U. HONEGGER
R. P. Muir Audit Expert Auditor in Charge	U. Honegger Audit Expert

Basel, January 27, 2009

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NOVARTIS GROUP CONSOLIDATED FINANCIAL STATEMENTS

CONSOLIDATED INCOME STATEMENTS

(for the years ended December 31, 2008, 2007 and 2006)

	Note	2008 $ millions	2007 $ millions	2006 $ millions
Net sales from continuing operations	3/4	**41,459**	**38,072**	**34,393**
Other revenues		1,125	875	712
Cost of goods sold		(11,439)	(11,032)	(9,411)
Gross profit from continuing operations		**31,145**	**27,915**	**25,694**
Marketing & sales		(11,852)	(11,126)	(10,092)
Research & development		(7,217)	(6,430)	(5,321)
General & administration		(2,245)	(2,133)	(1,882)
Other income & expense, net		(867)	(1,445)	(757)
Operating income from continuing operations	3	**8,964**	**6,781**	**7,642**
Income from associated companies	10	441	412	264
Financial income	5	384	531	354
Interest expense	5	(290)	(237)	(266)
Income before taxes from continuing operations		**9,499**	**7,487**	**7,994**
Taxes	6	(1,336)	(947)	(1,169)
Net income from continuing operations		**8,163**	**6,540**	**6,825**
Net income from discontinued operations	3	70	5,428	377
Group net income		**8,233**	**11,968**	**7,202**
Attributable to:				
Shareholders of Novartis AG		*8,195*	*11,946*	*7,175*
Minority interests		*38*	*22*	*27*
Basic earnings per share ($)	7			
Continuing operations		3.59	2.81	2.90
Discontinued operations		0.03	2.34	0.16
Total		3.62	5.15	3.06
Diluted earnings per share ($)	7			
Continuing operations		3.56	2.80	2.88
Discontinued operations		0.03	2.33	0.16
Total		3.59	5.13	3.04

The accompanying notes form an integral part of the consolidated financial statements.

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NOVARTIS GROUP CONSOLIDATED FINANCIAL STATEMENTS

CONSOLIDATED BALANCE SHEETS

(at December 31, 2008 and 2007)

	Note	2008 $ millions	2007 $ millions
Assets			
Non-current assets			
Property, plant & equipment	8	13,100	12,633
Goodwill	9	11,285	11,110
Other intangible assets	9	9,534	10,139
Investment in associated companies	10	17,712	6,945
Deferred tax assets	11	4,423	3,567
Financial and other non-current assets	12	1,364	3,628
Total non-current assets		**57,418**	**48,022**
Current assets			
Inventories	13	5,792	5,455
Trade receivables	14	7,026	6,648
Marketable securities & derivative financial instruments	15	4,079	7,841
Cash and cash equivalents		2,038	5,360
Other current assets	16	1,946	2,126
Total current assets		**20,881**	**27,430**
Total assets		**78,299**	**75,452**
Equity and liabilities			
Equity			
Share capital	17	959	990
Treasury shares	17	(139)	(175)
Reserves		49,468	48,408
Issued share capital and reserves attributable to Novartis AG shareholders		**50,288**	**49,223**
Minority interests		149	173
Total equity		**50,437**	**49,396**
Liabilities			
Non-current liabilities			
Financial debts	18	2,178	677
Deferred tax liabilities	11	4,144	4,466
Provisions and other non-current liabilities	19	5,036	4,272
Total non-current liabilities		**11,358**	**9,415**
Current liabilities			
Trade payables		3,395	3,018
Financial debts and derivative financial instruments	20	5,186	5,117
Current income tax liabilities		1,376	1,719
Provisions and other current liabilities	21	6,547	6,787

Total current liabilities	**16,504**	**16,641**
Total liabilities	**27,862**	**26,056**
Total equity and liabilities	**78,299**	**75,452**

The accompanying notes form an integral part of the consolidated financial statements.

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NOVARTIS GROUP CONSOLIDATED FINANCIAL STATEMENTS

CONSOLIDATED CASH FLOW STATEMENTS

(for the years ended December 31, 2008, 2007 and 2006)

	Note	2008	2007	2006
		$ millions	$ millions	$ millions
Net income from continuing operations		**8,163**	**6,540**	**6,825**
Reversal of non-cash items	22.1	4,514	4,857	3,530
Dividends from associated companies		248	155	114
Dividends received from marketable securities		9	10	8
Interest and other financial receipts		402	374	397
Interest and other financial payments		(268)	(255)	(277)
Taxes paid		(1,939)	(1,581)	(1,715)
Cash flow before working capital and provision changes of continuing operations		**11,129**	**10,100**	**8,882**
Restructuring payments and other cash payments from provisions		(730)	(355)	(303)
Change in net current assets and other operating cash flow items	22.2	(630)	(535)	(275)
Cash flow from operating activities of continuing operations		**9,769**	**9,210**	**8,304**
Purchase of property, plant & equipment		(2,106)	(2,549)	(1,779)
Proceeds from disposals of property, plant & equipment		58	134	83
Purchase of intangible assets		(210)	(584)	(451)
Proceeds from disposals of intangible assets		169	107	113
Purchase of financial assets		(136)	(311)	(258)
Proceeds from disposals of financial assets		102	352	82
Acquisition of interest in associated company		(10,447)		
Acquisitions and divestments of businesses (excluding discontinued operations)	22.3	(1,079)	(52)	(4,522)
Acquisition of minority interests			(10)	(1)
Proceeds from disposals of marketable securities		7,302	3,901	5,112
Purchase of marketable securities		(4,020)	(7,232)	(4,736)
Cash flow used for investing activities of continuing operations		**(10,367)**	**(6,244)**	**(6,357)**
Acquisition of treasury shares		(3,348)	(6,448)	(399)
Disposal of treasury shares		2,875	1,849	652
Proceeds from issuance of share capital to third parties by subsidiaries				1
Increase in non-current financial debts		1,481	11	540
Repayment of non-current financial debts		(68)	(59)	(182)
Change in current financial debts		(118)	(2,111)	(3,227)
Withholding tax recoverable and related cash flows, net			78	(232)
Dividend payments and cash contributions to minority interests		(50)	(40)	(35)
Dividends paid to shareholders of Novartis AG		(3,345)	(2,598)	(2,049)

Cash flow used for financing activities of continuing operations		**(2,573)**	**(9,318)**	**(4,931)**
Cash flow from discontinued operations	22.4	(105)	7,595	457
Net effect of currency translation on cash and cash equivalents		(46)	298	25
Net change in cash and cash equivalents at year-end of discontinued operations			4	(4)
Net change in cash and cash equivalents of continuing operations		**(3,322)**	**1,545**	**(2,506)**
Cash and cash equivalents at the beginning of the year of continuing operations		5,360	3,815	6,321
Cash and cash equivalents at year-end of continuing operations		**2,038**	**5,360**	**3,815**

The accompanying notes form an integral part of the consolidated financial statements.

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NOVARTIS GROUP CONSOLIDATED FINANCIAL STATEMENTS

CONSOLIDATED STATEMENTS OF RECOGNIZED INCOME AND EXPENSE

(for the years ended December 31, 2008, 2007 and 2006)

	Note	2008 $ millions	2007 $ millions	2006 $ millions
Net income from continuing operations		**8,163**	**6,540**	**6,825**
Fair value adjustments on financial instruments	24.1	(510)	1	108
Actuarial (losses) gains from defined benefit plans, net	24.2	(2,140)	450	116
Novartis share of equity recognized by associated companies and related party entities	24.3	(201)	150	(76)
Revaluation of previously owned minority interest	24.4	38	55	592
Currency translation effects	24.5	(1,122)	2,188	1,495
Amounts related to discontinued operations				
Net income		70	5,428	377
Other			18	7
Total recognized income and expense		**4,298**	**14,830**	**9,444**
Attributable to shareholders of Novartis AG		*4,275*	*14,800*	*9,416*
Attributable to minority interests		*23*	*30*	*28*

The accompanying notes form an integral part of the consolidated financial statements.

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NOVARTIS GROUP CONSOLIDATED FINANCIAL STATEMENTS

CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY

(for the years ended December 31, 2008, 2007 and 2006)

	Note	Share capital $ millions	Treasury shares $ millions	Share premium $ millions	Retained earnings $ millions	Total fair value adjustments attributable to Novartis $ millions	Total reserves $ millions	Fair value adjustments of discontinued operations $ millions	Minority interests $ millions	Total equity $ millions
Total equity at January 1, 2006		**994**	**(146)**	**199**	**33,929**	**(1,986)**	**32,142**		**174**	**33,164**
Total recognized income and expense					**7,099**	**2,317**	**9,416**		**28**	**9,444**
Dividends	25.1				(2,049)		(2,049)			(2,049)
Sale of treasury shares, net	25.2		2		246		246			248
Reduction of share capital	25.3	(4)	4							
Equity-based compensation	25.4				506		506			506
Changes in minority interests									(19)	(19)
Transfers	25.5			(1)	1	(4)	(4)	4		
Total of other equity movements		**(4)**	**6**	**(1)**	**(1,296)**	**(4)**	**(1,301)**	**4**	**(19)**	**(1,314)**
Total equity at December 31, 2006		**990**	**(140)**	**198**	**39,732**	**327**	**40,257**	**4**	**183**	**41,294**
Transfer of fair value of discontinued operations						**123**	**123**	**(123)**		
Total recognized income and expense					**12,062**	**2,720**	**14,782**	**18**	**30**	**14,830**
Dividends	25.1				(2,598)		(2,598)			(2,598)
Acquisition of treasury shares, net	25.2		(35)		(4,652)		(4,652)			(4,687)
Equity-based compensation	25.4				597		597			597
Changes in minority interests									(40)	(40)
Transfers	25.5				(110)	9	(101)	101		
Total of other equity movements			**(35)**		**(6,763)**	**9**	**(6,754)**	**101**	**(40)**	**(6,728)**
Total equity at December 31, 2007		**990**	**(175)**	**198**	**45,031**	**3,179**	**48,408**		**173**	**49,396**
Total recognized income and expense					**8,009**	**(3,734)**	**4,275**		**23**	**4,298**
Dividends	25.1				(3,345)		(3,345)			(3,345)

Acquisition of treasury shares, net	25.2				(435)		(435)	(435)
Reduction of share capital	25.3	(31)	36					5
Equity-based compensation	25.4				565		565	565
Changes in minority interests							(47)	(47)
Total of other equity movements		**(31)**	**36**		**(3,215)**		**(3,215)**	**(47)**	**(3,257)**
Total equity at December 31, 2008		**959**	**(139)**	**198**	**49,825**	**(555)**	**49,468**	**149**	**50,437**

The accompanying notes form an integral part of the consolidated financial statements.

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NOTES TO THE NOVARTIS GROUP

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 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 (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 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 minority interests.

Principles of consolidation

The annual closing date of the individual financial statements is December 31.

The purchase method of accounting is used to account for business combinations by the Group in transactions where Novartis takes control of another entity. 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 exchange, plus costs directly attributable to the acquisition. Identifiable acquired assets as well as assumed liabilities and contingent liabilities obtained in a business combination are measured initially at their full fair values as of the acquisition date, irrespective of the extent of any minority interest. The excess of the cost of acquisition over the fair value of the Group's share of the identifiable acquired net assets is recorded as goodwill. 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 expressed in US dollars ($). The functional currency of certain Swiss and foreign finance companies used for preparing the 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

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NOTES TO THE NOVARTIS GROUP

CONSOLIDATED FINANCIAL STATEMENTS (Continued)

1. Accounting policies (Continued)

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 recognized income and expense. Translation gains and losses accumulated in the consolidated statement of recognized income and expense are included in the income statement when the foreign operation is completely or partially liquidated or is sold.

Derivative financial instruments and hedging

Derivative financial instruments are initially recognized in the balance sheet at fair value, and they are remeasured to their current fair value at the end of each subsequent 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 income statement. To qualify for hedge accounting, the hedging relationship must meet several strict conditions with respect to documentation, probability of occurrence, hedge effectiveness and reliability of measurement. At the inception of a transaction, the Group documents the relationship between hedging instruments and hedged items as well as its risk management objective and strategy for undertaking various hedge transactions. This process includes linking all derivatives designated as hedges to specific assets and liabilities, to specific firm commitments or to forecasted transactions. The Group also documents its assessment, both at the inception of a hedge and on an ongoing basis, as to whether the derivatives used in hedging transactions are highly effective in offsetting changes in fair values or cash flows of hedged items. On the date a derivative contract is effective, 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 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 recognized income and expense. Gains or losses relating to the ineffective portion is recognized immediately in the income statement. In determining whether the impact of a cash flow hedge can be deferred in the consolidated statement of recognized income and expense, management assesses the probability of the forecasted transaction occurring. Amounts are only deferred when management judges the forecasted transaction to be highly probable. Where a forecasted transaction or firm commitment relating to a non-financial asset or non-financial liability is hedged, the gains or losses previously recorded in the consolidated statement of recognized income and expense are included in the initial measurement

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CONSOLIDATED FINANCIAL STATEMENTS (Continued)

1. Accounting policies (Continued)

of the asset or liability. Otherwise, amounts recorded in the consolidated statement of recognized income and expense are transferred to the income statement and classified as income or expense in the same period in which the forecasted transaction affects the income statement.

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 recognized income and expense. Gains and losses accumulated in this statement are included in the 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 the financial result in the 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 recognized income and expense at that time is recognized in the income statement when the committed or forecasted transaction is ultimately recognized in the income statement. However, if a forecasted or committed transaction is no longer expected to occur, the cumulative gain or loss recognized in the consolidated statement of recognized income and expense is immediately transferred to the income statement.

Property, plant & equipment

Land is valued 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 valued at acquisition cost or production cost and are depreciated on a straight-line basis to the 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

Additional costs that enhance the future economic benefit of property, plant & equipment are capitalized. Borrowing costs associated with the construction of property, plant & equipment are not 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

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1. Accounting policies (Continued)

the ownership risks and rewards are retained by the lessor are classified as operating leases. These are charged to the income statement over the life of the lease, generally, on a straight-line basis.

Intangible assets

Goodwill

The excess of the purchase price over the fair value of net identifiable assets acquired in a business combination is recorded as goodwill in the balance sheet and is denominated in the local currency of the related acquisition. Goodwill is allocated to an appropriate cash-generating unit which is the smallest group of assets that generates cash inflows. These units are largely independent of the cash inflows from other assets or group of assets. All goodwill is considered to have an indefinite life and is tested for impairment at least annually. Goodwill is tested for impairment at the level at which it is monitored with any goodwill impairment charge recorded under Other Income and Expense, net in the consolidated income statement.

When evaluating goodwill for a potential impairment, the Group estimates the recoverable amount based on the "fair value less costs to sell" of the cash-generating unit containing the goodwill. The Group uses the estimated future cash flows a market participant could generate from the cash-generating unit. In certain circumstances, its "value in use" to the Group, is estimated if this value is higher than the "fair value less costs to sell". If the carrying amount exceeds the recoverable amount, an impairment loss for the difference is recognized. Considerable management judgment is required to estimate discounted future cash flows and appropriate discount rates. Accordingly, actual cash flows and values could vary significantly from forecasted cash flows and related values derived using discounting techniques.

Other intangible assets

All identifiable intangible assets acquired in a business combination are recognized at their fair value. Furthermore, all acquired Research & Development (R&D) assets, including upfront and milestone payments on licensed or acquired compounds, are capitalized as intangible assets, even if uncertainties exist as to whether the R&D projects will ultimately be successful in producing a commercial product.

All Novartis intangible assets are allocated to cash-generating units and amortized over their estimated useful life once they are available for use. In-Process Research & Development (IPR&D) is the only class of separately identified intangible assets that is not amortized, but IPR&D is tested for impairment on an annual basis or when facts and circumstances warrant an impairment test. Any impairment charge is recorded in the income statement under "Research & Development expenses." 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 income statement under "Cost of Goods Sold," where any related impairment charges are also recorded.

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

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1. Accounting policies (Continued)

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
Product and marketing rights	5 to 20 years
Core development technologies	Over their estimated useful life, typically 15 to 30 years
Software	3 years
Others	3 to 5 years

Amortization of trademarks, product and marketing rights is charged in the income statement to "Cost of Goods Sold" over their useful lives. Core development technologies, which represent identified and separable acquired know-how used in the development process, is amortized in the income statement under "Cost of Goods Sold" or "Research & Development." Any impairment charges are recorded in the income statement in the same functional cost lines as the related amortization charges.

Intangible assets other than IPR&D are reviewed for impairment whenever facts and circumstances indicate their carrying value may not be recoverable. When evaluating an intangible asset for a potential impairment, the Group estimates the recoverable amount based on the intangible asset's "fair value less costs to sell" using the estimated future cash flows a market participant could generate with that asset or, in certain circumstances, the "value in use" of the intangible asset to the Group, whichever is higher. If the carrying amount of the asset exceeds the recoverable amount, an impairment loss for the difference is recognized. For purposes of assessing impairment, assets are grouped at the lowest level for which there are separately identifiable cash-generating units. Considerable management judgment is necessary to estimate discounted future cash flows and appropriate discount rates. Accordingly, actual cash flows and values could vary significantly from forecasted cash flows and related values derived using discounting techniques.

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 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 market data and rely as little as possible on entity-specific information. Exchange rate gains and losses on loans are recorded in the income statement. All other changes in the fair value of financial assets are deferred as a fair value adjustment in the consolidated statement of recognized income and expense and recycled to the income statement when the asset is sold. Impairments in value are immediately expensed.

Loans are carried at amortized cost, less any allowances for uncollectable amounts.

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1. Accounting policies (Continued)

Novartis uses the equity method to account for investments in associated companies (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. Where there is an indicator that separately identified assets of the associated company other than its implicit goodwill might be impaired, an impairment test is performed. Any impairment charge is recorded in the income statement under "Income from associated companies".

If the balance sheet carrying amount of the asset exceeds the higher of its value in use or fair value less costs to sell, an impairment loss is recognized for the difference. Value in use is defined as the present value of the future cash flows expected to be derived from an asset or cash-generating unit. For investments in associated companies, Novartis typically uses the Discounted Cash Flow method (DCF). The discounted cash flow method is based on a forecast of all expected future net cash flows generated by the business utilising external and Novartis internal projections. As an alternative methodology the discounted dividend method may be used. The Discounted Dividend Method (DDM) is the value of all future dividends plus the residual value of the investment less costs of disposal. These cash flows, which reflect the risks and uncertainties associated with the investment, are discounted at an appropriate rate to net present value.

Inventories

Purchased products are valued at acquisition cost while own-manufactured products are valued at manufacturing cost including related production expenses. In the 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 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 estimated market value or original cost. Inventory produced ahead of regulatory approval is provided for with the provision being released on obtaining approval. Unsaleable inventory is fully written off.

Trade receivables

Trade receivables are initially recognized at fair value which represent 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 income statement within Marketing & Sales expenses. When a trade receivable becomes uncollectible, it is written off against the doubtful trade receivables provisions.

Cash and cash equivalents

Cash and cash equivalents include highly liquid investments with original maturities of three months or less. This position is readily convertible to known amounts of cash. Bank overdrafts are presented within other bank and financial debt within current financial debts on the balance sheet.

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1. Accounting policies (Continued)

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 on debt securities are recorded in the income statement. All other changes in the fair value of unhedged securities are deferred as a fair value adjustment in the consolidated statement of recognized income and expense and recycled to the 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 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 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 sold but agreed to be repurchased securities are recognized gross and included in short-term financial debts. Income and expenses are recorded net in interest 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 income statement in tax expense or in the consolidated statement of recognized income and expense, if they relate to an item directly recorded in this statement. Deferred tax assets on an entity's taxable loss are recognized to the extent future taxable profits will probably be available against which they can be utilized.

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

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1. Accounting policies (Continued)

attributable to the service of associates in the current and prior periods. The charge for such pension plans, represented by the net periodic pension cost, is included in the personnel expenses of the various functions where the associates are employed. Plan assets are recorded at their fair value. Unvested past service costs arising from amendments to pension plans are charged or credited to income over the associates' remaining vesting period. Vested past service costs, including such costs for retired associates are immediately recognized in the 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 assets and liabilities of defined benefit plans are immediately recognized in the balance sheet with a corresponding movement in the consolidated statement of recognized income and expense.

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 and included in the personnel expenses of the various functions where the associates are located. 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 mandated by 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, Novartis American Depositary Shares (ADS) and related options granted to associates as compensation is recognized as an expense over the related vesting or service period. The market maker calculates the fair value of the options at the grant date using the trinomial valuation method, which is a variant of the lattice binomial approach. Shares and ADSs are valued using the market value on the grant date. The amounts for shares and options are charged to income over the relevant vesting or service periods, adjusted to reflect actual and expected levels of vesting. The charge for equity-based compensation is included in the personnel expenses of the various functions where the associates are located.

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 fixed and determinable and collectability is reasonably assured. 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

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1. Accounting policies (Continued)

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. 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. In the Vaccines and Diagnostics Division, where there is a historical experience of Novartis agreeing to customer returns, Novartis records a provision for estimated sales returns by applying historical experience of customer returns to the amounts invoiced and 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 sale or return basis, without sufficient historical experience for estimating sales returns, revenue is only recorded when there is evidence of consumption. Provisions for revenue deductions are adjusted to actual amounts as rebates, discounts and returns are processed.

Research & development

Internal Research & Development (R&D) expenses and also payments made to clinical research organizations for contracted research are fully charged to the income statement. The Group considers that regulatory and other uncertainties inherent in the development of new products preclude the capitalization of these development costs.

Initial upfront payments and subsequent milestone payments made in the course of collaborations and alliances are capitalized once the required criteria are met and are amortized once a saleable product results out of the R&D activity or over the R&D activity period if the intellectual property associated with the intangible asset is utilized in R&D activity. Expenses for R&D contracts with external parties that do not qualify for capitalization are recognized in the income statement based on their percentage of completion.

Laboratory buildings and equipment included in property, plant & equipment are depreciated in the income statement over their estimated useful lives. Also, acquired core development technologies included in intangible assets are amortized in the income statement over their estimated useful lives.

Government grants

Government grants are deferred and recognized in the income statement over the period necessary to match them with the related costs which they are intended to compensate.

Contingencies

Novartis records provisions for contingencies 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.

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NOTES TO THE NOVARTIS GROUP

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1. Accounting policies (Continued)

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 at the net present value of expected cash outflows including anticipated inflation, discounted at a rate based on the market yields for high quality corporate 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.

Restructuring charges

Restructuring charges are accrued against operating income in the period in which management has committed to a plan, the liability has raised the valid expectation in 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.

Restructuring charges or releases of provisions are included in Other Income & Expense in the income statement.