

# Financial Section

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## Financial Review

### Description of Merck's Business

Merck is a global research-driven pharmaceutical company that discovers, develops, manufactures and markets a broad range of innovative products to improve human and animal health, directly and through its joint ventures. Merck sells its products primarily to drug wholesalers and retailers, hospitals, clinics, government agencies and managed health care providers such as health maintenance organizations and other institutions. The Company's professional representatives communicate the effectiveness, safety and value of our products to health care professionals in private practice, group practices and managed care organizations.

### Overview

The decision announced on September 30, 2004 to voluntarily withdraw *Vioxx* from the market, as discussed further below, reflects the depth and sincerity of Merck's commitment to patients. The Company made the decision to withdraw *Vioxx* based on the science available at that time and given the availability of alternative therapies and the questions raised by the data. Throughout Merck's history, it has been the Company's rigorous adherence to scientific investigation, openness and integrity that has enabled it to bring new medicines to people who need them. Having responded swiftly and effectively to the voluntary withdrawal of *Vioxx*, Merck has turned its focus to the future.

Merck's efforts to expand its pipeline by moving into new therapeutic categories, increasing its licensing activities and accelerating early- and late-stage development, are producing positive results. With the exception of the delay in approval of *Arcoxia* in the United States, the Company is on or ahead of schedule with its planned regulatory submissions and Phase III development programs. In 2004, Bristol-Myers Squibb Company (BMS) submitted an application to the Food and Drug Administration (FDA) for muraglitazar, a new class of oral agents for the treatment of Type 2 diabetes. Merck and BMS will jointly commercialize muraglitazar on a global basis. In addition, Merck submitted an application for *ProQuad*, a new childhood vaccine that adds chickenpox to the existing measles, mumps and rubella vaccine. Merck currently has five product candidates in Phase III development: three vaccines; MK-431, Merck's DPP-IV inhibitor for the treatment of Type 2 diabetes; and gaboxadol, an insomnia compound licensed from H. Lundbeck A/S. Merck plans to submit its three Phase III vaccines for FDA approval in 2005.

Merck plans to drive sales through new and established products, new indications and formulations, and clinical trials that bolster products' safety and efficacy profiles. *Vytorin*, developed and marketed by the Merck/Schering-Plough partnership, has gained rapid acceptance among patients, physicians and payers since its July 2004 U.S. approval and is being rapidly adopted for first-line use. The Company is seeking new indications for *Singulair*, its asthma and seasonal allergy medicine. Also, Merck expects to enhance its osteoporosis franchise with the addition of *Fosamax* plus vitamin D, a compound that combines alendronate (the active ingredient in *Fosamax*) and vitamin D. The Company disagrees with the January 2005 court ruling that found Merck's U.S. patent claims for *Fosamax* Once Weekly to be invalid, and will request reconsideration by the Court of Appeals.

Merck is in the process of redesigning many of its critical business processes. By improving efficiencies in many areas, including procurement, manufacturing, capital investment and inventory management, Merck is positioned to realize significant cost reductions in the future. The new U.S. wholesaler distribution program launched in 2003 has succeeded in leveling the quarterly volume fluctuations that once made it difficult to streamline production and reduce inventory levels.

Also, by the end of 2004, Merck eliminated 5,100 positions exceeding the target of 4,400 positions announced in October 2003. This action is expected to result in about \$300 million in savings in 2005 without impacting either key productivity initiatives or Merck's ability to meet its business objectives.

Earnings per common share assuming dilution for 2004 were \$2.61, including the impact of the withdrawal of *Vioxx* and reserves established solely for future legal defense costs for *Vioxx* Litigation (as defined in Note 11 to the financial statements). The Company anticipates full-year 2005 earnings per common share assuming dilution of \$2.42 to \$2.52. This guidance does not reflect the establishment of any reserves for any potential liability relating to the *Vioxx* Litigation or any additional reserves for legal defense costs. This guidance also does not reflect any changes in the way Merck accounts for stock-based compensation as a result of recently issued accounting standards. Furthermore, this guidance does not include any one-time impacts that may result from the repatriation of permanently reinvested off-shore earnings under the American Jobs Creation Act of 2004.

### Voluntary Product Withdrawal

On September 30, 2004, Merck announced a voluntary worldwide withdrawal of *Vioxx*, its arthritis and acute pain medication. (See Notes 3 and 11 to the financial statements for further information.) The Company's decision, which was effective immediately, was based on new three-year data from a prospective, randomized, placebo-controlled clinical trial, APPROVe (Adenomatous Polyp Prevention on *Vioxx*).

The trial, which was stopped, was designed to evaluate the efficacy of *Vioxx* 25 mg in preventing the recurrence of colorectal polyps in patients with a history of colorectal adenomas and to further assess the cardiovascular safety of *Vioxx*. In this study, there was an increased relative risk for confirmed cardiovascular events, such as heart attack and stroke, beginning after 18 months of treatment in the patients taking *Vioxx* compared to those taking placebo. The results for the first 18 months of the APPROVe study did not show any increased risk of confirmed cardiovascular events on *Vioxx*, and in this respect, were similar to the results of two placebo-controlled studies described in the most recent U.S. labeling for *Vioxx*.

Merck presented data from APPROVe at the American College of Rheumatology (ACR) Annual Scientific Meeting in San Antonio on October 18, 2004. The Company had requested the opportunity to present the data at the ACR meeting.

The Company estimates that there were 105 million U.S. prescriptions written for *Vioxx* from May 1999 through August 2004. Based on this estimate, the Company estimates that the number of patients who have taken *Vioxx* in the United States since its 1999 launch is approximately 20 million. The number of patients outside the United States who have taken *Vioxx* is undetermined at this time.

In October 2004, the Company received a letter from Senator Charles Grassley, chairman of the Senate Committee on Finance, requesting certain documents and information related to *Vioxx*. The Company also received requests for information from other Congressional committees. The Company intends to cooperate with these inquiries so that the Company can continue to describe the reasons for the Company's voluntary withdrawal of *Vioxx* and to answer any questions related to the Company's development and extensive testing of the medicine and its disclosures of the results of its studies.

Also, in October 2004, the Company received a letter from a group of five state Attorneys General raising concerns that the Company's return and refund program for unused *Vioxx* will not provide consumers with adequate notice and will be unduly burdensome. The Company is cooperating with the Attorneys General to respond to their concerns.

On February 16-18, 2005, the FDA held a joint meeting of the Arthritis Advisory Committee and the Drug Safety and Risk Management Advisory Committee. The committees discussed the overall benefit to risk considerations (including cardiovascular and gastrointestinal safety concerns) for COX-2 selective nonsteroidal anti-inflammatory drugs and related agents. On February 18, the members of the committees were asked to vote on whether the overall risk versus benefit profile for *Vioxx* supports marketing in the United States. The members of the committees voted 17 to 15 in support of the marketing of *Vioxx* in the United States. The Company looks forward to discussions with the FDA and other regulatory authorities about *Vioxx*.

As previously announced, the Board of Directors of the Company appointed a Special Committee to review the Company's actions prior to its voluntary withdrawal of *Vioxx*, to act for the Board in responding to shareholder litigation matters related to the withdrawal of *Vioxx* and to advise the Board with respect to any action that should be taken as a result of the review.

### Competition and the Health Care Environment

The markets in which the Company conducts its business are highly competitive and often highly regulated. Global efforts toward health care cost containment continue to exert pressure on product pricing and access.

In the United States, the government made significant progress in expanding health care access by enacting the Medicare Prescription Drug, Improvement and Modernization Act of 2003, which was signed into law in December 2003. This statute added a voluntary drug discount card for Medicare beneficiaries in June 2004 and will add prescription drug coverage on January 1, 2006. Implementation of the new benefit will support the Company's goal of improving access to medicines by expanding insurance coverage, while preserving market-based incentives for pharmaceutical innovation. At the same time, the benefit is designed to assure that prescription drug costs will be controlled by competitive pressures and by encouraging the appropriate use of medicines. The Company has taken a leadership role in contributing to the success of the new Medicare-endorsed discount cards by providing its medicines free for low-income Medicare beneficiaries who exhaust their \$600 transitional assistance allowance in Medicare-endorsed drug discount cards. This action is consistent with the Company's long-standing Patient Assistance Program, which provides free medicines to patients in the United States who lack drug coverage and cannot afford their medicines. During 2005, the Company will be negotiating with prescription drug plans under the new Medicare drug benefit to offer Merck products to Medicare beneficiaries beginning January 1, 2006 under the terms of the new benefit.

In addressing cost containment outside of Medicare, the Company has made a continuing effort to demonstrate that its medicines can help save costs in overall patient health care. In addition, pricing flexibility across the Company's product portfolio has encouraged growing use of its medicines and mitigated the effects of increasing cost pressures.

Outside the United States, in difficult environments encumbered by government cost-containment actions, the Company has worked in partnership with payers on allocating scarce resources to optimize health care outcomes, limiting the potentially detrimental effects of government policies on sales growth and supporting the discovery and development of innovative products to benefit patients. The Company also is working with governments in many emerging markets in Eastern Europe, Latin America and Asia to encourage them to increase their investments in health and thereby improve their citizens' access to medicines. Countries within the European Union (EU), recognizing the economic importance of the research-based pharmaceutical industry and the value of innovative medicines to society, are working with industry representatives and the

European Commission on proposals to complete the "Single Market" in pharmaceuticals and improve the competitive climate through a variety of means including market deregulation.

The Company is committed to improving access to medicines and enhancing the quality of life for people around the world. Merck's African Comprehensive HIV/AIDS Partnerships (ACHAP) in Botswana, in collaboration with the government of Botswana and the Bill & Melinda Gates Foundation, is striving to develop a comprehensive and sustainable approach to HIV prevention, care and treatment. To further catalyze access to HIV medicines in developing countries, in October 2002 the Company introduced a new 600 mg tablet formulation of its antiretroviral medicine *Stocrin* at a price of less than one dollar per day in the least developed countries and those hardest hit by the HIV/AIDS epidemic. By the end of 2004, more than 190,000 patients in 68 developing countries were being treated with antiretroviral regimens containing either *Crixivan* or *Stocrin*. Through these and other actions, Merck is working with partners in the public and private sectors alike to focus on the most critical barriers to access to medicines in the developing world: the need for sustainable financing, increased international assistance and additional investments in education, training and health infrastructure and capacity in developing countries.

There has been an increasing amount of focus on privacy issues in countries around the world, including the United States and the EU. In the United States and the EU, governments have pursued legislative and regulatory initiatives regarding privacy, including federal privacy regulations and recently enacted state privacy laws concerning health and other personal information, which have affected the Company's operations.

Although no one can predict the outcome of these and other legislative, regulatory and advocacy initiatives, the Company is well positioned to respond to the evolving health care environment and market forces.

The Company anticipates that the worldwide trend toward cost-containment will continue, resulting in ongoing pressures on health care budgets. As the Company continues to successfully launch new products, contribute to health care debates and monitor reforms, its new products, policies and strategies should enable it to maintain a strong position in the changing economic environment.

## Operating Results

### Sales

Worldwide sales for 2004 increased 2% in total over 2003, reflecting a 3% favorable effect from foreign exchange, a 1% favorable effect from price changes and a volume decline of 2%. In connection with the Company's voluntary worldwide withdrawal of *Vioxx* on September 30, sales for 2004 were unfavorably impacted by \$491.6 million for estimated customer returns of product previously sold and approximately \$700 to \$750 million in foregone sales in the fourth quarter. (See Note 3 to the financial statements for further information.) The overall increase in sales over 2003 reflects strong growth of *Singulair* for asthma and seasonal allergic rhinitis, *Fosamax* for osteoporosis, and *Cozaar/Hyzaar* for high blood pressure. Sales growth for 2004 also includes a favorable comparison to 2003, which was affected by \$565 million of wholesaler buy-out. Following the implementation of the new distribution program for U.S. wholesalers in the fourth quarter of 2003, fluctuations in 2004 sales caused by wholesaler investment buying have significantly moderated. The overall growth was offset in part by lower revenues from the Company's relationship with AstraZeneca LP (AZLP) primarily driven by generic and over-the-counter competition of *Prilosec*.

Domestic sales growth was 1%, while foreign sales grew 3%, including an eight percentage point favorable effect from foreign exchange. Domestic and foreign sales include the unfavorable effect associated with the voluntary

worldwide withdrawal of *Vioxx* and foreign sales were negatively affected by the impact of patent expirations for *Zocor* in 2003 in certain countries in Europe, including the United Kingdom and Germany, Japan and Canada. Foreign sales represented 41% of total sales in 2004.

Worldwide sales for 2003 increased 5% in total over 2002, reflecting a 4% favorable effect from foreign exchange and a 1% favorable effect from price changes. Foreign sales represented 41% of total sales in 2003.

Sales<sup>(1)</sup> by category of the Company's products were as follows:

(\$ in millions)	2004	2003	2002
Atherosclerosis	\$ 5,223.0	\$ 5,077.9	\$ 5,552.1
Hypertension/heart failure	3,646.7	3,421.6	3,477.8
Osteoporosis	3,159.6	2,676.6	2,243.1
Respiratory	2,622.0	2,009.4	1,489.8
Anti-inflammatory/analgesics	1,779.6	2,677.3	2,587.2
Anti-bacterial/anti-fungal	1,200.9	1,028.5	821.0
Vaccines/biologicals	1,036.1	1,056.1	1,028.3
Urology	733.1	605.5	547.3
Ophthalmologicals	726.5	675.1	621.5
Human immunodeficiency virus (HIV)	255.5	290.6	294.3
Other	2,555.6	2,967.3	2,783.4
	<b>\$22,938.6</b>	<b>\$22,485.9</b>	<b>\$21,445.8</b>

<sup>(1)</sup> Presented net of discounts and returns.

The Company's products include therapeutic and preventive agents, generally sold by prescription, for the treatment of human disorders. Among these are atherosclerosis products, of which *Zocor* is the largest-selling; hypertension/heart failure products, the most significant of which are *Cozaar*, *Hyzaar*, and *Vasotec*; an osteoporosis product, *Fosamax*, for treatment and prevention of osteoporosis; a respiratory product, *Singulair*, a leukotriene receptor antagonist for treatment of asthma and for relief of symptoms of seasonal allergic rhinitis; anti-inflammatory/analgesics, which include *Vioxx*, which was voluntarily withdrawn worldwide on September 30, 2004, and *Arcoxia*, agents that specifically inhibit the COX-2 enzyme, which is responsible for pain and inflammation (coxib); anti-bacterial/anti-fungal products, which includes *Primaxin*, *Candidas* and *Invarez*; vaccines/biologicals, of which *Varivax*, a live virus vaccine for the prevention of chickenpox, *M-M-R II*, a pediatric vaccine for measles, mumps and rubella, *Pneumovax*, a vaccine for the prevention of pneumococcal, and *Recombivax HB* (hepatitis B vaccine recombinant) are the largest-selling; a urology product, *Proscar*, for treatment of symptomatic benign prostate enlargement; ophthalmologicals, of which *Cosopt* and *Trusopt* are the largest-selling; and HIV products, which include *Stocrin* and *Crixivan* for the treatment of human immunodeficiency viral infection in adults.

Other primarily includes sales of other human pharmaceuticals, pharmaceutical and animal health supply sales to the Company's joint ventures and revenue from the Company's relationship with AZLP, primarily relating to sales of *Nexium* and *Prilosec*. Revenue from AZLP was \$1.5 billion, \$1.9 billion and \$1.5 billion in 2004, 2003 and 2002, respectively.

*Singulair*, Merck's once-a-day oral medication indicated for the treatment of chronic asthma and the relief of symptoms of seasonal allergic rhinitis (hay fever), continued its strong performance in 2004. *Singulair* is the No. 1 asthma controller in terms of total prescriptions in the United States as patients, physicians and managed care organizations continue to recognize the value *Singulair* offers to those who suffer from asthma or seasonal allergic rhinitis. Total 2004 sales of *Singulair* were \$2.6 billion, an increase of 30% over 2003. *Singulair* performance includes a favorable comparison to 2003, which was affected by U.S. wholesaler

buy-out. U.S. mail-order-adjusted prescription levels for *Singulair* increased by approximately 21% in 2004.

Merck is seeking new indications for *Singulair*. A new indication for perennial allergic rhinitis was filed with the FDA in the second half of 2004. Merck also plans to file for additional indications for *Singulair* for the prevention of exercise-induced bronchospasm in 2005, for acute asthma during the second half of 2006 and for respiratory syncytial viral bronchiolitis in 2008.

*Fosamax*, the most prescribed medicine worldwide for the treatment of postmenopausal, male and glucocorticoid-induced osteoporosis, continued its strong growth in 2004 with sales of \$3.2 billion, an increase of 18% over 2003. *Fosamax* performance includes a favorable comparison to 2003, which was affected by U.S. wholesaler buy-out. U.S. mail-order-adjusted prescription levels for *Fosamax* increased by approximately 1% in 2004.

In April, the *Journal of Internal Medicine* published findings from the first international head-to-head study that compared the efficacy of *Fosamax* Once Weekly (alendronate) 70 mg to Evista (raloxifene) 60 mg once daily, which showed that *Fosamax* provided significantly greater increases in bone mineral density (BMD) at the lumbar spine and total hip.

Results from the *Fosamax* Actonel Comparison Trial (FACT) were presented in October at the American Society for Bone and Mineral Research meeting. This is the first head-to-head study conducted in the United States comparing FDA-approved once-weekly osteoporosis treatments in postmenopausal women with osteoporosis. FACT showed that *Fosamax* demonstrated significantly greater increases in BMD at all sites measured as early as six months and greater reductions in markers of bone-turnover than once-weekly Actonel. *Fosamax* increased BMD 62 percent more than Actonel at the hip trochanter (hip bone), with similar tolerability. BMD is a major determinant of bone strength. The lower the BMD score, the greater the risk of fracture.

Merck expects to enhance its osteoporosis franchise with the addition of *Fosamax* plus vitamin D, a compound that combines alendronate (the active ingredient in *Fosamax*) and vitamin D. The Company submitted a New Drug Application (NDA) to the FDA for the product in 2004. Vitamin D is critical for calcium absorption, which aids bone strength. An estimated 50 percent of osteoporosis patients have inadequate levels of vitamin D, and compliance among those prescribed supplements is poor. Combining *Fosamax* and vitamin D could help ensure an adequate weekly dose of vitamin D in a convenient manner for patients with osteoporosis.

In 2003, the FDA granted an additional six months of market exclusivity in the United States to *Fosamax* until February 2008 and *Fosamax* Once Weekly until January 2009. However, on January 28, 2005, the U.S. Court of Appeals for the Federal Circuit in Washington, D.C. found the Company's patent claims for once-weekly administration of *Fosamax* to be invalid. Based on the Court of Appeals' decision, *Fosamax* will lose its market exclusivity in the United States in February 2008 and the Company expects a decline in U.S. *Fosamax* sales at that time. Prior to the decision, Merck's patent for once-weekly administration of *Fosamax* was set to expire in July 2018. Merck disagrees with the decision of the Court of Appeals and will request reconsideration by the Court of Appeals.

Global sales for *Cozaar*, and its companion agent, *Hyzaar* (a combination of *Cozaar* and the diuretic hydrochlorothiazide), for the treatment of hypertension were strong in 2004, reaching \$2.8 billion, a 14% increase over 2003. U.S. mail-order-adjusted prescription levels for *Cozaar* and *Hyzaar* increased by approximately 5% in 2004.

*Cozaar* and *Hyzaar* compete in the fastest-growing class in the antihypertensive market, angiotensin II antagonists (AIIA). *Cozaar* continues to be the largest-selling branded AIIA in Europe and the second-most-frequently prescribed AIIA in the United States.

A new formulation is expected to help drive future growth for *Cozaar/Hyzaar*. *Hyzaar* 100/12.5 mg was submitted for approval to the FDA in December to better address the need for titration flexibility as an intermediate step between *Cozaar* 100 mg and *Hyzaar* 100/25 mg. Filings for this new formulation in markets outside the United States are anticipated throughout 2005.

*Zocor*, Merck's statin for modifying cholesterol, achieved worldwide sales of \$5.2 billion in 2004, an increase of 4% from 2003. *Zocor* performance includes a favorable comparison to 2003, which was affected by U.S. wholesaler buy-out. Excluding this effect, *Zocor* experienced a volume decline. Sales of *Zocor* were affected by patent expirations outside the United States and increased competition in the U.S. cholesterol-modifying market. Mail-order-adjusted prescription levels in the United States for *Zocor* increased by approximately 2% in 2004. *Zocor* is available for 93 percent of managed care lives; and 79 percent of the targeted managed care contracts have been renewed through 2006. In June 2006, *Zocor* will lose its market exclusivity in the United States and the Company expects a decline in U.S. *Zocor* sales.

The Company continues to promote the landmark Heart Protection Study (HPS) to physicians and consumers. The HPS demonstrated that *Zocor* 40 mg, along with diet, is proven to reduce the risk of heart attacks and stroke in people with heart disease, regardless of cholesterol level.

In July, the National Cholesterol Education Program (NCEP) issued a report recommending modifications to the Adult Treatment Panel III (ATP III) guidelines. The report, which was based on five major studies, including the HPS, was endorsed by the American Heart Association, the American College of Cardiology, and the National Heart, Lung and Blood Institute. The new report may lead to an increase in the number of people for whom cholesterol-lowering medicines should be considered. Under the NCEP ATP III guidelines, an estimated 36 million people would be eligible for cholesterol-lowering medication such as *Zocor* for cholesterol management. According to the new report, in high risk persons, the recommended LDL-C goal is <100 mg/dL. The report also indicates that when risk is very high, such as for a patient with established cardiovascular disease plus multiple major risk factors (especially diabetes), an LDL-C goal of <70 mg/dL is a reasonable clinical strategy for physicians.

Sales of *Arcoxia*, the Company's once-a-day coxib, reached \$230.2 million outside the United States in 2004. *Arcoxia* has been launched in 51 countries in Europe, Latin America and Asia. In October, the Company received an "approvable" letter from the FDA for the Company's NDA for *Arcoxia*. The FDA informed the Company in the letter that before approval of the NDA can be issued, additional safety and efficacy data for *Arcoxia* are required.

Also in October, the European Medicines Evaluation Agency (EMA) announced that it would conduct a review of all COX-2 inhibitors, including *Arcoxia*, in light of the worldwide withdrawal of *Vioxx*. The EMA said that it had been asked to conduct the review by the European Commission as a "precautionary measure" and that it would look at all aspects of the cardiovascular safety of COX-2 inhibitors, including thrombotic and cardio-renal events. On January 18, 2005, the EMA's Committee on Medicinal Products for Human Use (CHMP) held hearings in connection with its review. Additional meetings were held by CHMP in mid-February to continue its review to determine whether there is a need to make EU-wide changes to the products' marketing authorizations, including labeling, and to determine whether additional studies are needed. On February 17, 2005, CHMP announced that it had concluded that the available data show an increased risk of cardiovascular adverse events for COX-2 inhibitors as a class relative to placebo and some NSAIDs. According to CHMP, the data also suggested an association between duration of use and dose and the probability of suffering a cardiovascular event and therefore recommended use of the lowest effective dose of COX-2 inhibitors for the shortest possible duration of treatment.

Further, CHMP introduced a contra-indication for all COX-2 inhibitors in patients with ischemic heart disease or stroke, and expanded the contra-indication for certain patients having higher classes of congestive heart failure. Specifically with respect to *Arcoxia*, CHMP also introduced a contra-indication in patients with hypertension whose blood pressure is not under control, and advised that *Arcoxia* may be associated with more frequent and severe effects on blood pressure, particularly at higher doses, than some other COX-2 inhibitors, and recommended monitoring of blood pressure for all patients taking *Arcoxia*. CHMP stated that these are interim measures pending the finalization of the class review which is expected in April 2005. Finally, CHMP concluded that more research is needed in the field to evaluate the cardiovascular safety of COX-2 inhibitors, and that ongoing cardiovascular trials should continue as planned.

Merck is working with other regulatory agencies in the countries where *Arcoxia* is approved to assess whether changes to the prescribing information for the coxib class of drugs, including *Arcoxia*, are warranted.

Other products experiencing growth in 2004 include *Cancidas* to treat certain life-threatening fungal infections, *Proscar* for the treatment of symptomatic benign prostate enlargement, *Cosopt* to treat glaucoma, *Stocrin* for treatment of HIV infections, *Propecia* for male pattern hair loss, *Invanz* for the treatment of selected moderate to severe infection in adults and *Emend* for prevention of acute and delayed nausea and vomiting associated with highly emetogenic cancer chemotherapy. Also contributing to Merck's total sales in 2004 was revenue resulting from the Company's relationship with AZLP, primarily relating to sales of *Nexium*.

Global sales of *Zetia* (branded *Ezetrol* outside the United States), the cholesterol-absorption inhibitor developed and marketed by the Merck/Schering-Plough partnership, reached \$1.1 billion in 2004. In December, *Zetia* accounted for approximately 6% of total prescriptions in the lipid-lowering market, according to IMS Health, and is reimbursed for nearly 90 percent of all patients in managed care plans in the United States. To date, *Ezetrol* has been launched in more than 50 countries outside of the United States and continues to achieve solid sales and market share growth.

*Vytorin* (marketed as *Inegy* in many countries outside of the United States), developed and marketed by the Merck/Schering-Plough partnership, was approved by the FDA in July. *Vytorin* accounted for nearly 4% of new prescriptions in December in the U.S. lipid-lowering market, according to IMS Health. Worldwide sales of *Vytorin* were \$132.4 million in 2004. In addition to the United States, *Vytorin* has been approved in 15 countries.

*Vytorin* is the only single tablet to provide powerful LDL cholesterol reduction through dual inhibition of the two sources of cholesterol by inhibiting the production of cholesterol in the liver and blocking absorption of cholesterol in the intestine, including cholesterol from food. In two separate clinical trials, *Vytorin* provided greater reductions in LDL cholesterol than Lipitor or *Zocor* across the dosing ranges.

In November, Merck and Schering-Plough announced a new clinical trial for *Vytorin*, IMPROVE IT (Improved Reduction of Outcomes: *Vytorin* Efficacy International Trial). This trial will evaluate *Vytorin* in reducing major cardiovascular events through intensive lipid lowering of LDL cholesterol in 10,000 patients with acute coronary syndrome. IMPROVE IT is the fourth large-scale outcomes trial being conducted on *Vytorin*.

The Company records the results from its interest in the Merck/Schering-Plough partnership in Equity income from affiliates.

### Costs, Expenses and Other

(\$ in millions)	2004	Change	2003	Change	2002
Materials and production	\$ 4,959.8	+12%	\$ 4,436.9	+11%	\$ 4,004.9
Marketing and administrative	7,346.3	+15%	6,394.9	+13%	5,652.2
Research and development	4,010.2	+22%	3,279.9	+23%	2,677.2
Equity income from affiliates	(1,008.2)	*	(474.2)	-26%	(644.7)
Other (income) expense, net	(344.0)	+69%	(203.2)	*	104.5
	\$14,964.1	+11%	\$13,434.3	+14%	\$11,794.1

\* 100% or greater.

### Materials and Production

In 2004, materials and production costs increased 12% compared to a 2% sales growth rate. Excluding the effects of exchange and inflation, these costs increased 8%, compared to a decrease of 2% in sales volume. The increase in these costs relative to the sales volume change reflects the unfavorable effects associated with the withdrawal of *Vioxx* and the impact of changes in product mix. In 2003, materials and production costs increased 11%, compared to a 5% sales growth rate. Excluding the effects of exchange and inflation, these costs increased 7%, compared to sales volume at the same level as 2002. The increase in these costs relative to the sales volume reflects the effect of changes in product mix as well as a change in the mix of domestic and foreign sales, attributable in part to the implementation of the new distribution program for U.S. wholesalers in 2003. Gross margin was 78.4% in 2004 compared to 80.3% in 2003 and 81.3% in 2002. The withdrawal of *Vioxx* had an unfavorable effect on the gross margin in 2004.

### Marketing and Administrative

In 2004, marketing and administrative expenses increased 15%. Excluding the effects of exchange and inflation, these costs increased 8% including the impact of an additional \$604.0 million reserve solely for future legal defense costs for *Vioxx* Litigation and \$141.4 million of estimated costs to undertake the withdrawal of *Vioxx*. Excluding such costs, as well as restructuring costs related to previously announced position eliminations described below of \$104.6 million and \$194.6 million in 2004 and 2003, respectively, marketing and administrative expenses decreased 2%.

The \$604.0 million charge taken in the fourth quarter of 2004 increased the Company's reserve solely for its future legal defense costs related to the *Vioxx* Litigation to \$675.0 million as of December 31. This reserve is based on certain assumptions and is the minimum amount that the Company believes at this time it can reasonably estimate will be spent over a multi-year period. The Company will continue to monitor its legal defense costs and review the adequacy of the associated reserves. The Company has not established any reserves for any potential liability relating to the *Vioxx* Litigation. (See Note 3 to the financial statements for further information.)

In October 2003, Merck announced plans to eliminate 4,400 positions as part of a cost-reduction initiative that was completed at the end of 2004. As of December 31, the Company had eliminated 5,100 positions, as the Company identified additional opportunities to eliminate positions and reduce costs. Most of the additional eliminations came from contractor positions. This action is expected to result in approximately \$300 million in savings in 2005 without impacting either key productivity initiatives or Merck's ability to meet its business objectives. Merck has also redeployed sales representatives that had previously supported *Vioxx* to capitalize on opportunities to grow its in-line products and support upcoming launches.

In 2003, marketing and administrative expenses increased 13%. Excluding the effects of exchange, inflation and the impact of \$194.6 million for restructuring costs related to position eliminations, these costs increased by 1%.

## Research and Development

Research and development expenses increased 22% in 2004. Excluding the effects of exchange and inflation, these expenses increased 18%. Research and development expense growth reflects the Company's ongoing commitment to both basic and clinical research, as well as the impact of the Company's external collaborations to augment Merck's internal research efforts, such as those with H. Lundbeck A/S (Lundbeck), Bristol-Myers Squibb Company (BMS), Vertex Pharmaceuticals Incorporated (Vertex), DOV Pharmaceutical, Inc. (DOV), Natestch Pharmaceutical Inc. (Natestch) and Ono Pharmaceutical Co., Ltd. (Ono). Also contributing to the increase is higher acquired research expense primarily related to the acquisition of Aton Pharma, Inc. (Aton) in 2004 compared with the acquired research expense related to the increase in the Company's ownership of Banyu Pharmaceutical Co., Ltd. (Banyu) in 2003.

The Company's efforts to expand its pipeline by moving into new therapeutic categories, increasing its licensing activities and accelerating early- and late-stage development continue to produce positive results.

In November, the Company announced it had filed a Biologics License Application for *ProQuad* [Measles, Mumps, Rubella and Varicella (Oka/Merck) Virus Vaccine Live] with the FDA. *ProQuad* is an investigational vaccine for simultaneous vaccination against measles, mumps, rubella and varicella in children 12 months to 12 years of age. *ProQuad* combines two established Merck vaccines, *M-M-R II* (Measles, Mumps, Rubella Virus Vaccine Live) and *Varivax* [Varicella (Oka/Merck) Virus Vaccine Live].

In a new study presented at the National Immunization Conference in May, a single dose of *ProQuad* in 4- to 6-year-olds used in place of the routinely administered second dose of *M-M-R II* was generally well-tolerated and resulted in antibody response similar to those developed with *M-M-R II* and *Varivax* separately.

Merck's late-stage pipeline includes three Phase III vaccines which are expected to be submitted for FDA approval in 2005. The three vaccines are: *RotaTeq*, a vaccine to protect against rotavirus disease; *Gardasil*, a vaccine to prevent the incidence of human papillomavirus (HPV) infection and the associated development of cervical cancer and genital warts; and a vaccine for the prevention of zoster (shingles) and the reduction of pain associated with it. These vaccines will provide significant new opportunities for Merck in the pediatric, adolescent and adult vaccine markets.

It is estimated that, by age 5, all children worldwide become infected by rotavirus, a highly contagious virus that causes gastroenteritis and results in the hospitalization of nearly 50,000 children under age 5 annually in the United States. Worldwide, rotavirus is responsible for an estimated 500,000 deaths each year. The planned filing of the *RotaTeq* vaccine with the FDA is in the second quarter of 2005.

HPV is the predominant causative agent of cervical cancer, which results in approximately 288,000 deaths worldwide each year. Merck expects to file *Gardasil* with the FDA during the second half of 2005 for the prevention of HPV, related cervical cancer and genital warts. There are an estimated 86 million women in the United States and European Union between the ages of 9 and 24, the expected age range for the initial indication of *Gardasil*.

The analysis of data of an investigational HPV vaccine studied by Merck was presented at the Interscience Conference on Antimicrobial Agents and Chemotherapy in November. The vaccine studied in this clinical trial was an investigational monovalent vaccine developed to prevent infection by HPV type 16; it is a component of Merck's investigational quadrivalent HPV (types 6, 11, 16, 18) L1 VLP vaccine, *Gardasil*. In the study of 2,391 women aged 16 to 23 who were HPV 16-naïve at baseline, the vaccine was 100 percent efficacious in preventing the development of HPV 16-related CIN 2/3 (high-grade cervical pre-cancer, the immediate precursor to invasive cervical cancer). Administration of the HPV 16 vaccine also resulted in a 94-percent reduction in the combined incidence of persistent HPV 16 infection and HPV 16-related cervical precancerous lesions (Cervical Intraepithelial Neoplasia = CIN). These are the final results of this study after the completion of 48 months of follow-up on all active study participants.

On February 2, 2005, the Company announced that it and GlaxoSmithKline (GSK) entered into a cross-license and settlement agreement for certain patent rights related to HPV vaccines. Pursuant to the agreement, GSK will receive an upfront payment and royalties from the Company based upon sales of *Gardasil*, upon development and launch. The agreement resolves competing intellectual property claims related to the Company's and GSK's vaccine candidates. The Company will continue with its research, development and, after appropriate regulatory reviews, commercialization activities, if approved, for *Gardasil*.

Shingles, the reactivation of the chickenpox virus (herpes zoster) in adults, affects an estimated 800,000 people in the United States annually. Merck plans to seek approval for its zoster vaccine for people age 50 and older, of which there are approximately 210 million in the United States and European Union. The planned filing of the zoster vaccine with the FDA is in the second quarter of 2005.

The Company is also studying a DPP-IV inhibitor, a glucose-lowering mechanism, used alone and in combination for the treatment of Type 2 diabetes. The compound is currently in Phase III clinical studies and the Company expects to submit an NDA to the FDA in 2006.

Merck's early-stage pipeline includes candidates in each of the following areas: Alzheimer's disease, arthritis, atherosclerosis, cancer, diabetes, endocrine disorders, glaucoma, infectious diseases, obesity, osteoporosis, psychiatric disease, neurodegenerative disease, pain, respiratory disease, urogenital disorders and vaccines.

Merck continues to augment its internal research efforts by capitalizing on external growth opportunities, ranging from research collaborations, preclinical and clinical compounds and technology transactions that will drive both near- and long-term growth. The Company completed 50 transactions in 2004 across a range of therapeutic areas, including neuroscience, diabetes, obesity and oncology, as well as early-stage technology transactions. This compares with 10 total transactions in 1999. Merck continues to evaluate more than 40 other opportunities, and is actively monitoring the landscape for a range of targeted acquisitions that meet the Company's strategic criteria.

In February, the Company announced that it had entered into an agreement with Lundbeck for the exclusive development and commercialization in the United States of gaboxadol, a compound licensed to Lundbeck by a third party that is currently in Phase III development for the treatment of sleep disorders. Under the terms of the agreement, Lundbeck received an initial payment of \$70.0 million and, during the term of the agreement, could receive up to \$200.0 million in additional milestone payments. Merck and Lundbeck will jointly complete the ongoing Phase III clinical program, with Merck funding the majority of the remaining development activities. The companies anticipate that Merck will file an NDA with the FDA between late 2006 and early 2007. Following FDA approval, the companies plan to co-promote gaboxadol in the United States. Lundbeck will receive a share of gaboxadol sales in the United States. In June, Merck and Lundbeck announced an extension of their agreement for the exclusive development and commercialization of gaboxadol to Japan. Merck and Lundbeck will jointly conduct the clinical program required for filing an NDA in Japan, with Merck funding the majority of the development activities. Following approval, the companies plan to co-promote gaboxadol in Japan. Lundbeck will receive a share of Japanese gaboxadol sales.

In April, Merck and BMS entered into a worldwide collaborative agreement for muraglitazar, BMS's product for use in treating patients with Type 2 diabetes. Merck and BMS will globally develop and market muraglitazar. BMS submitted an NDA to the FDA in December for muraglitazar. Muraglitazar has the potential to be the first in a novel class of drugs known as glitazars. This class of dual alpha/gamma PPAR agonists, including muraglitazar, is thought to control blood sugar. In clinical trials, muraglitazar has reduced blood glucose levels, decreased triglyceride levels, and increased high-density lipoprotein (HDL) cholesterol levels in Type 2 diabetes patients and has been generally well-tolerated. An estimated 18 million people in the United States currently suffer from Type 2 diabetes. BMS received a \$100.0 million upfront payment and, during the term of the agreement, could receive up to \$275.0 million in additional payments based on the achievement of certain regulatory milestones. Merck and BMS share equally in development and commercialization costs for muraglitazar. Both companies will co-promote the product to physicians on a global basis, and Merck will receive payments based on net sales levels.

In June, Merck and Vertex entered into a global collaboration to develop and commercialize VX-680, Vertex's lead Aurora kinase inhibitor that is in Phase I clinical development for the treatment of cancer. Aurora kinases are implicated

in the onset and progression of many different human cancers, and novel Aurora kinase inhibitors such as VX-680 have the potential to play an important future role in the treatment and management of a wide range of tumor types. Vertex received a \$20.0 million upfront payment and, during the term of the agreement, could receive up to an additional \$14.0 million in research funding over the next two years. In addition, Vertex could receive additional milestone payments based upon the achievement of significant development events, regulatory filings and other events and approvals.

In August, Merck and DOV announced an agreement for the development and commercialization of DOV's novel triple-uptake inhibitors being developed for depression and related psychiatric disorders. DOV received a \$35.0 million upfront payment and, during the term of the agreement, could receive additional milestone payments based upon the achievement of significant development events, regulatory filings and other events and approvals. Merck has licensed exclusive worldwide rights to DOV 21,947, which is in Phase I, for all therapeutic indications.

In September, Merck and Natestech announced a global alliance to develop and commercialize Peptide YY (PYY) 3-36 Nasal Spray, Natestech's product for the treatment of obesity, which is currently in Phase I development. The investigational PYY3-36 Nasal Spray is designed to deliver the natural, appetite-regulating hormone PYY directly to the bloodstream.

In November, Merck and Ono announced that they signed an agreement granting Merck the worldwide license for ONO-2506 ((2*R*)-2-propyloctanoic acid), a novel intravenous compound currently in Phase II development for the treatment of acute stroke. Under the terms of the agreement, Ono received an initial upfront payment and, during the term of the agreement, could receive milestone payments in addition to royalties on net sales. In addition, Ono received exclusive rights in Japan to develop and market *Emend* (aprepitant), Merck's drug for use in combination with other antiemetic agents for prevention of acute and delayed nausea and vomiting associated with initial and repeat courses of highly emetogenic cancer chemotherapy, including cisplatin. Ono also received rights in Japan to co-market a second brand of MK-431, Merck's investigational oral compound for the treatment of diabetes, under a yet to be determined trademark.

In March, the Company acquired Aton, a privately held biotechnology company focusing on the development of novel treatments for cancer and other serious diseases. Aton's clinical pipeline of histone deacetylase inhibitors represents a class of anti-tumor agents with potential for efficacy based on a novel mechanism of action. The lead product candidate, suberoylanilide hydroxamic acid (SAHA) is currently in Phase II clinical trials for the treatment of cutaneous T-cell lymphoma. The acquisition resulted in \$125.5 million of acquired research expense. Former shareholders of Aton may receive additional payments which are contingent upon regulatory filing, approval, and sales of certain Aton products.

The chart below reflects the Company's current research pipeline as of February 15, 2005. Candidates shown in Phase III include specific products. Candidates shown in Phase I and II include the most advanced compound with a specific mechanism in a given therapeutic area. Back-up compounds, regardless of their phase of development, additional indications in the same therapeutic areas and additional line extensions or formulations for in-line products are not shown. Preclinical areas shown are those where the Company has initiated Good Laboratory Practices studies in compounds with mechanisms distinct from those in Phase I and II. The Company's programs are generally designed to focus on the development of novel medicines to address large, unmet medical needs.

## Research Pipeline

### Preclinical

Alzheimer's Disease  
 Antibacterials  
 Antiviral  
 Arthritis  
 Atherosclerosis  
 Cancer  
 Cardiovascular Disease  
 Diabetes  
 Glaucoma  
 Immunology  
 Insomnia  
 Osteoporosis  
 Pain  
 Respiratory Disease  
 Vaccines

### Phase I

Alzheimer's Disease	c-7617
Arthritis	c-7198, c-9101
Cancer	c-8585, VX-680*
CINV	c-9280
Diabetes	c-0730
Endocrine	c-0239, c-0302, c-7717
Glaucoma	c-3859
Obesity	Nastech PYY3-36*
Osteoporosis	c-3578
Pain	c-8928, c-6740, c-1246
Parkinson's Disease	c-6161
Psychiatric Disease	DOV*
Urinary Incontinence	c-4699, c-0172

### Phase II

AIDS	c-1605
Alzheimer's Disease	c-9136
Arthritis	c-4462, c-9787
Atherosclerosis	c-8834, c-1602
Cancer (CTCL)	SAHA*
Diabetes	c-3347
HIV Vaccine	
Multiple Sclerosis	c-6448
Obesity	c-2624, c-2735, c-5093
Pediatric Vaccine	
Psychiatric Disease	c-9054
Respiratory Disease	c-3193, c-3885
Stroke	ONO 2506*

### Phase III

HPV and Related Cervical Cancer and Genital Warts	<i>Gardasil</i>
Diabetes	MK-431
Rotavirus Gastroenteritis	<i>RotaTeq</i>
Insomnia	Gaboxadol*
Shingles	Zoster Vaccine

### 2004 U.S. Submissions

Diabetes	Muraglitazar*
Osteoporosis	<i>Fosamax Plus Vitamin D</i>
Pediatric Vaccine	<i>ProQuad</i>

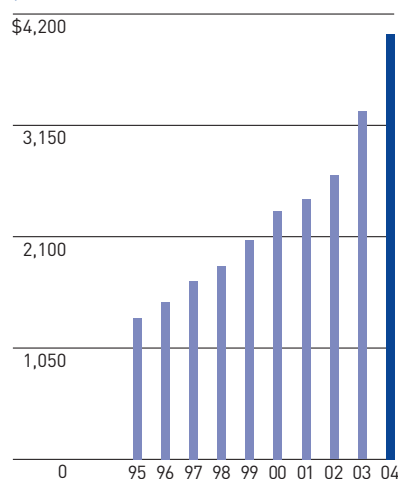
\* Licensed

Research and development expenses increased 23% in 2003. Excluding the effects of exchange and inflation, these expenses increased 17%.

Research and development in the pharmaceutical industry is inherently a long-term process. The following data show an unbroken trend of year-to-year increases in the Company's research and development spending. For the period 1995 to 2004, the compounded annual growth rate in research and development was 13%.

### Research and Development Expenditures

\$ in millions



### Equity Income from Affiliates

Equity income from affiliates reflects the performance of the Company's joint ventures and partnership returns from AZLP. In 2004, the increase in equity income from affiliates reflects the successful performance of *Zetia* through the Merck/Schering-Plough partnership as well as higher partnership returns from AZLP relative to 2003. Equity income also includes the results of *Vytorin* launches in 2004 through the Merck/Schering-Plough partnership. In 2003, the decrease in equity income from affiliates reflected lower partnership returns from AZLP, primarily resulting from the impact of generic competition for *Prilosec*.



## Other (Income) Expense, Net

The increase in other (income) expense, net, in 2004 primarily reflects a \$176.8 million gain from the sale of the Company's 50-percent equity stake in its European joint venture with Johnson & Johnson. In 2003, the increase in other (income) expense, net, was primarily attributable to an \$84.0 million gain on the sale of *Aggrastat* product rights in the United States, lower minority interest expense resulting from the Banyu shares acquisitions, and realized gains on the Company's investment portfolios relating to the favorable interest rate environment.

## Earnings

[\$ in millions except

per share amounts]	2004	Change	2003	Change	2002
Income from continuing operations	\$5,813.4	-12%	\$6,589.6	-3%	\$6,794.8
As a % of sales	25.3%		29.3%		31.7%
Net income	5,813.4		6,830.9		7,149.5
As a % of average total assets	14.0%		14.9%		15.5%
Earnings per common share assuming dilution from continuing operations	\$2.61	-11%	\$2.92	-2%	\$2.98

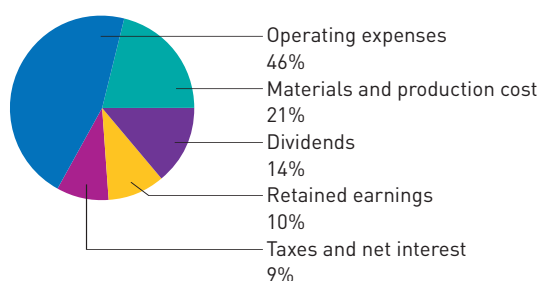
The Company's effective income tax rate was 27.1% in 2004, 27.2% in 2003, and 29.6% in 2002. The lower tax rate in 2004 and 2003 resulted from a change in mix of domestic and foreign income, which in 2004 included the impact of the *Vioxx* withdrawal, and in 2003 included the impact of restructuring costs and the wholesaler distribution program.

On August 19, 2003, Merck completed the spin-off of Medco Health Solutions, Inc. (Medco Health). The income of Medco Health is presented separately as discontinued operations and was \$241.3 million in 2003 and \$354.7 million in 2002.

Income from continuing operations declined 12% in 2004 compared to a 3% decline in 2003. Income from continuing operations as a percentage of sales was 25.3% in 2004 compared to 29.3% in 2003 and 31.7% in 2002. The decline in the ratios from 2002 is driven by increased spending in research and development as well as the effect of changes in product mix. The reduction in 2004 also reflects the unfavorable effect of the withdrawal of *Vioxx*, and was partially offset by the increase in Equity income from affiliates. The reduction in 2003 also reflects the impact of the implementation of a new wholesaler distribution program and restructuring costs related to position eliminations. Net income as a percentage of average total assets was 14.0% in 2004, 14.9% in 2003 and 15.5% in 2002.

Earnings per common share assuming dilution from continuing operations declined 11% in 2004 compared to a decline of 2% in 2003. The lower relative declines of earnings per common share assuming dilution from continuing operations compared to income from continuing operations are a result of treasury stock purchases.

## Distribution of 2004 Sales and Equity Income



## Selected Joint Venture and Affiliate Information

To expand its research base and realize synergies from combining capabilities, opportunities and assets, the Company has formed a number of joint ventures. (See Note 9 to the financial statements for further information.)

In 2000, the Company and Schering-Plough Corporation (Schering-Plough) entered into agreements to create separate equally-owned partnerships to develop and market in the United States new prescription medicines in the cholesterol-management and respiratory therapeutic areas. In 2001, the cholesterol-management partnership agreements were expanded to include all the countries of the world, excluding Japan. In 2002, ezetimibe, the first in a new class of cholesterol-lowering agents, was launched in the United States as *Zetia* (branded *Ezetrol* outside the United States). As of December 2004, *Ezetrol* has been launched in more than 50 countries outside the United States. Sales totaled \$1.1 billion in 2004, \$469.4 million in 2003 and \$25.3 million in 2002. In July 2004, a combination product containing the active ingredients of both *Zetia* and *Zocor*, was approved in the United States as *Vytorin* (marketed as *Inegy* in many countries outside of the United States). *Vytorin* has been approved in 15 countries outside the United States. Sales totaled \$132.4 million in 2004. The results from the Company's interest in the Merck/Schering-Plough partnership are recorded in Equity income from affiliates and were income of \$132.0 million in 2004 and losses of \$92.5 million and \$147.4 million in 2003 and 2002, respectively.

In 1982, the Company entered into an agreement with Astra AB (Astra) to develop and market Astra products in the United States. In 1994, the Company and Astra formed an equally-owned joint venture that developed and marketed most of Astra's new prescription medicines in the United States including *Prilosec*, the first of a class of medications known as proton pump inhibitors, which slows the production of acid from the cells of the stomach lining.

In 1998, the Company and Astra restructured the joint venture whereby the Company acquired Astra's interest in the joint venture, renamed KBI Inc. (KBI), and contributed KBI's operating assets to a new U.S. limited partnership named Astra Pharmaceuticals, L.P. (the Partnership), in which the Company maintains a limited partner interest. The Partnership, renamed AstraZeneca LP (AZLP), became the exclusive distributor of the products for which KBI retained rights.

Merck earns ongoing revenue based on sales of current and future KBI products and such revenue was \$1.5 billion, \$1.9 billion and \$1.5 billion in 2004, 2003 and 2002, respectively, primarily relating to sales of *Nexium* and *Prilosec*. In addition, Merck earns certain Partnership returns, which are recorded in Equity income from affiliates. Such returns include a priority return provided for in the Partnership Agreement, variable returns based, in part, upon sales of certain former Astra USA, Inc. products, and a preferential return representing Merck's share of undistributed AZLP GAAP earnings. These returns aggregated \$646.5 million, \$391.5 million and \$640.2 million in 2004, 2003 and 2002, respectively. The lower amount in 2003 is attributable to a reduction in the preferential return, primarily resulting from the impact of generic competition for *Prilosec*.

In 1997, Merck and Rhône-Poulenc S.A. (now Sanofi-Aventis S.A.) combined their animal health and poultry genetics businesses to form Merial Limited (Merial), a fully integrated animal health company, which is a stand-alone joint venture, equally owned by each party. Merial provides a comprehensive range of pharmaceuticals and vaccines to enhance the health, well-being and performance of a wide range of animal species. Sales of joint venture products were as follows:

(\$ in millions)	2004	2003	2002
Fipronil products	\$ 679.1	\$ 577.2	\$ 486.2
Avermectin products	452.4	476.7	462.1
Other products	841.8	779.8	705.7
	<b>\$1,973.3</b>	<b>\$1,833.7</b>	<b>\$1,654.0</b>

In 1994, Merck and Pasteur Mérieux Connaught (now Sanofi Pasteur S.A.) established a 50% owned joint venture to market vaccines in Europe and to collaborate in the development of combination vaccines for distribution in Europe. Sales of joint venture products were as follows:

(\$ in millions)	2004	2003	2002
Hepatitis vaccines	\$ 80.5	\$ 73.6	\$ 69.4
Viral vaccines	54.0	51.5	34.6
Other vaccines	672.5	543.9	442.4
	<b>\$807.0</b>	<b>\$669.0</b>	<b>\$546.4</b>

In 1989, Merck formed a joint venture with Johnson & Johnson to develop and market a broad range of nonprescription medicines for U.S. consumers. This 50% owned joint venture was expanded into Europe in 1993, and into Canada in 1996. In March 2004, Merck sold its 50% equity stake in its European joint venture to Johnson & Johnson for \$244.0 million and recorded a \$176.8 million gain as Other (income) expense, net. Merck will continue to benefit through royalties on certain products and also regained the rights to potential future products that switch from prescription to over-the-counter status in Europe. Sales of joint venture products were as follows:

(\$ in millions)	2004*	2003	2002
Gastrointestinal products	\$269.2	\$299.6	\$299.0
Other products	46.1	146.2	114.0
	<b>\$315.3</b>	<b>\$445.8</b>	<b>\$413.0</b>

\* Includes sales of the European joint venture up through March 2004.

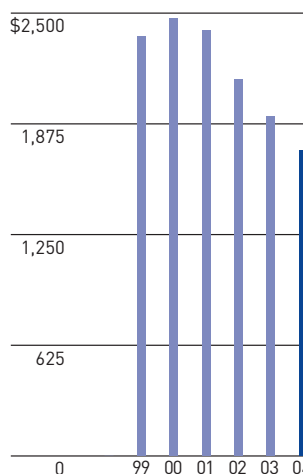
## Capital Expenditures

Capital expenditures were \$1.7 billion in 2004 and \$1.9 billion in 2003. Expenditures in the United States were \$1.1 billion in 2004 and \$1.3 billion in 2003. Expenditures during 2004 included \$677.8 million for production facilities, \$675.9 million for research and development facilities, \$50.2 million for environmental projects, and \$322.2 million for administrative, safety and general site projects. Capital expenditures approved but not yet spent at December 31, 2004 were \$1.1 billion. Capital expenditures for 2005 are estimated to be \$1.5 billion.

Depreciation was \$1.3 billion in 2004 and \$1.1 billion in 2003, of which \$908.4 million and \$790.0 million, respectively, applied to locations in the United States.

## Capital Expenditures

\$ in millions



## Analysis of Liquidity and Capital Resources

Merck's strong financial profile enables the Company to fully fund research and development, focus on external alliances, support in-line products and maximize upcoming launches while providing significant cash returns to shareholders. Cash provided by operating activities of \$8.8 billion continues to be the Company's primary source of funds to finance capital expenditures, treasury stock purchases and dividends paid to stockholders. At December 31, 2004, the total of worldwide cash and investments was \$13.8 billion, including \$7.1 billion of cash, cash equivalents and short-term investments, and \$6.7 billion of long-term investments.

## Selected Data

(\$ in millions)	2004	2003	2002
Working capital	\$1,731.1	\$1,957.6	\$2,011.2
Total debt to total liabilities and equity	16.1%	16.7%	18.0%
Cash provided by operations to total debt	1.3:1	1.2:1	1.0:1

Working capital levels are more than adequate to meet the operating requirements of the Company. The ratios of total debt to total liabilities and equity and cash provided by operations to total debt reflect the strength of the Company's operating cash flows and the ability of the Company to cover its contractual obligations.

The Company's contractual obligations as of December 31, 2004 are as follows:

## Payments Due by Period

(\$ in millions)	Total	2005	2006-2007	2008-2009	Thereafter
Loans payable and current portion of long-term debt	\$2,181.2	\$2,181.2	\$ —	\$ —	\$ —
Long-term debt	4,691.5	—	895.8	1,696.5	2,099.2
Operating leases	305.2	91.7	94.1	51.0	68.4
	<b>\$7,177.9</b>	<b>\$2,272.9</b>	<b>\$989.9</b>	<b>\$1,747.5</b>	<b>\$2,167.6</b>

Loans payable and current portion of long-term debt includes \$500.0 million of notes with a final maturity in 2011, which, on an annual basis, will either be repurchased from the holders at the option of the remarketing agent and remarketed, or redeemed by the Company. Loans payable and current portion of long-term debt also reflects \$345.9 million of long-dated notes that are subject to repayment at the option of the holders on an annual basis. Required funding obligations for 2005 relating to the Company's pension and other postretirement benefit plans are not expected to be material.

In 2001, the Company's \$1.5 billion shelf registration statement filed with the Securities and Exchange Commission (the SEC) for the issuance of debt securities became effective. In February 2004, the Company issued \$350.0 million of 2.5% three-year notes under the shelf. At the same time, the Company entered into an interest rate swap contract that effectively converts the 2.5% fixed-rate notes to floating-rate instruments. In February and March 2004, the Company issued a total of \$50.0 million of variable-rate notes under the shelf. In December 2004, the Company's new \$3.0 billion shelf registration statement filed with the SEC for the issuance of debt securities became effective and in February 2005, the Company issued an additional \$1.0 billion of 4.75% ten-year notes under the shelf. The remaining capacity under the Company's shelf registration statement is approximately \$2.8 billion.

In February 2005, the Company established a \$1.5 billion, 5-year revolving credit facility to provide backup liquidity for its commercial paper borrowing facility and for general corporate purposes. The Company has not drawn funding from this facility.

After the Company's voluntary withdrawal of *Vioxx* on September 30, 2004, Moody's and Standard & Poor's each conducted a review of the Company's long-term credit ratings. Upon completion of those reviews, the Company's long-term credit ratings were downgraded to Aa3 from Moody's and AA- from Standard & Poor's. These ratings continue to allow access to the capital markets and flexibility in obtaining funds on competitive terms. The Company continues to maintain a conservative financial profile. Total cash and investments of \$13.8 billion exceeds the sum of loans payable and long-term debt of \$6.9 billion. The Company also has long-term credit ratings that remain among the top 4% of rated non-financial corporations. Despite this strong financial profile, certain contingent events, if realized, which are discussed in Note 11, could have a material adverse impact on the Company's liquidity and capital resources. The Company does not participate in any off-balance sheet arrangements involving unconsolidated subsidiaries that provide financing or potentially expose the Company to unrecorded financial obligations.

In December 2004, the Company redeemed variable-rate preferred units of a subsidiary at \$1.5 billion of par value plus accrued dividends. Also in December 2004, the Company extended a \$300.0 million variable-rate borrowing that was due in 2004 for an additional five years.

In July 2002, the Board of Directors approved purchases over time of up to \$10.0 billion of Merck shares. From 2002 to 2004, the Company purchased \$3.6 billion of treasury shares under previously authorized completed programs, and \$1.5 billion under the 2002 program. Total treasury stock purchased in 2004 was \$974.6 million.

## Financial Instruments Market Risk Disclosures

### Foreign Currency Risk Management

While the U.S. dollar is the functional currency of the Company's foreign subsidiaries, a significant portion of the Company's revenues are denominated in foreign currencies. Merck relies on sustained cash flows generated from foreign sources to support its long-term commitment to U.S. dollar-based research and development. To the extent the dollar value of cash flows is diminished as a result of a strengthening dollar, the Company's ability to fund research and other dollar-based strategic initiatives at a consistent level may be impaired. The Company has established revenue hedging and balance sheet risk management programs to protect against volatility of future foreign currency cash flows and changes in fair value caused by volatility in foreign exchange rates.

The objective of the revenue hedging program is to reduce the potential for longer-term unfavorable changes in foreign exchange to decrease the U.S. dollar value of future cash flows derived from foreign currency denominated sales, primarily the euro and Japanese yen. To achieve this objective, the Company will partially hedge anticipated third-party sales that are expected to occur over its planning cycle, typically no more than three years into the future. The Company will layer in hedges over time, increasing the portion of sales hedged as it gets closer to the expected date of the transaction, such that it is probable the hedged transaction will occur. The portion of sales hedged is based on assessments of cost-benefit profiles that consider natural offsetting exposures, revenue and exchange rate volatilities and correlations, and the cost of hedging instruments. The hedged anticipated sales are a specified component of a portfolio of similarly denominated foreign currency-based sales transactions, each of which responds to the hedged risk in the same manner. Merck manages its anticipated transaction exposure principally with purchased local currency put options, which provide the Company with a right, but not an obligation, to sell foreign currencies in the future at a predetermined price. If the U.S. dollar strengthens relative to the currency of the hedged anticipated sales, total changes in the options' cash flows fully offset the decline in the expected future U.S. dollar cash flows of the hedged foreign currency sales. Conversely, if the U.S. dollar weakens, the options' value reduces to zero, but the Company benefits from the increase in the value of the anticipated foreign currency cash flows. While a weaker U.S. dollar would result in a net benefit, the market value of the Company's hedges would have declined by \$45.2 million and \$16.3 million, respectively, from a uniform 10% weakening of the U.S. dollar at December 31, 2004 and 2003. The market value was determined using a foreign exchange option pricing model and holding all factors except exchange rates constant. Because Merck principally uses purchased local currency put options, a uniform weakening of the U.S. dollar will yield the largest overall potential loss in the market value of these options. The sensitivity measurement assumes that a change in one foreign currency relative to the U.S. dollar would not affect other foreign currencies relative to the U.S. dollar. Although not predictive in nature, the Company believes that a 10% threshold reflects reasonably possible near-term changes in Merck's major foreign currency exposures relative to the U.S. dollar. The cash flows from these contracts are reported as operating activities in the Consolidated Statement of Cash Flows.

The primary objective of the balance sheet risk management program is to protect the U.S. dollar value of foreign currency denominated net monetary assets from the effects of volatility in foreign exchange that might occur prior to their conversion to U.S. dollars. Merck principally utilizes forward exchange contracts, which enable the Company to buy and sell foreign currencies in the future at fixed

exchange rates and economically offset the consequences of changes in foreign exchange on the amount of U.S. dollar cash flows derived from the net assets. Merck routinely enters into contracts to fully offset the effects of exchange on exposures denominated in developed country currencies, primarily the euro and Japanese yen. For exposures in developing country currencies, the Company will enter into forward contracts on a more limited basis and only when it is deemed economical to do so based on a cost-benefit analysis that considers the magnitude of the exposure, the volatility of the exchange rate and the cost of the hedging instrument. The Company will also minimize the effect of exchange on monetary assets and liabilities by managing operating activities and net asset positions at the local level. The Company also uses forward contracts to hedge the changes in fair value of certain foreign currency denominated available-for-sale securities attributable to fluctuations in foreign currency exchange rates. A sensitivity analysis to changes in the value of the U.S. dollar on foreign currency denominated derivatives, investments and monetary assets and liabilities indicated that if the U.S. dollar uniformly strengthened by 10% against all currency exposures of the Company at December 31, 2004 and 2003, Income from continuing operations before taxes would have declined by \$7.8 million and \$5.6 million, respectively. Because Merck is in a net long position relative to its major foreign currencies after consideration of forward contracts, a uniform strengthening of the U.S. dollar will yield the largest overall potential net loss in earnings due to exchange. This measurement assumes that a change in one foreign currency relative to the U.S. dollar would not affect other foreign currencies relative to the U.S. dollar. Although not predictive in nature, the Company believes that a 10% threshold reflects reasonably possible near-term changes in Merck's major foreign currency exposures relative to the U.S. dollar. The cash flows from these contracts are reported as operating activities in the Consolidated Statement of Cash Flows.

### Interest Rate Risk Management

In addition to the revenue hedging and balance sheet risk management programs, the Company may use interest rate swap contracts on certain investing and borrowing transactions to manage its net exposure to interest rate changes and to reduce its overall cost of borrowing. The Company does not use leveraged swaps and, in general, does not leverage any of its investment activities that would put principal capital at risk. At December 31, 2004, the Company was a party to four pay-floating, receive-fixed interest rate swap contracts designated as fair value hedges of fixed rate notes maturing in 2005, 2006, 2007 and 2013, respectively. The notional amounts of these swaps, which match the amount of the hedged fixed rate notes, were \$500 million, \$500 million, \$350 million and \$500 million, respectively. The swaps effectively convert the fixed-rate obligations to floating-rate instruments. The cash flows from these contracts are reported as operating activities in the Consolidated Statement of Cash Flows.

The Company's investment portfolio includes cash equivalents and short-term investments, the market values of which are not significantly impacted by changes in interest rates. The market value of the Company's medium- to long-term fixed-rate investments is modestly impacted by changes in U.S. interest rates. Changes in medium- to long-term U.S. interest rates would have a more significant impact on the market value of the Company's fixed-rate borrowings, which generally have longer maturities. A sensitivity analysis to measure potential changes in the market value of the Company's investments, debt and related swap contracts from a change in interest rates indicated that a one percentage

point increase in interest rates at December 31, 2004 and 2003 would have positively impacted the net aggregate market value of these instruments by \$75.4 million and \$92.9 million, respectively. A one percentage point decrease at December 31, 2004 and 2003 would have negatively impacted the net aggregate market value by \$115.4 million and \$138.3 million, respectively. The fair value of the Company's debt was determined using pricing models reflecting one percentage point shifts in the appropriate yield curves. The fair value of the Company's investments was determined using a combination of pricing and duration models. Whereas duration is a linear approximation that works well for modest changes in yields and generates a symmetrical result, pricing models reflecting the convexity of the price/yield relationship provide greater precision and reflect the asymmetry of price movements for interest rate changes in opposite directions. The impact of convexity is more pronounced in longer-term maturities and low interest-rate environments.

### Critical Accounting Policies and Other Matters

The consolidated financial statements include certain amounts that are based on management's best estimates and judgments. Estimates are used in determining such items as provisions for sales discounts and returns, depreciable and amortizable lives, recoverability of inventories produced in preparation for product launches, amounts recorded for contingencies, environmental liabilities and other reserves, pension and other postretirement benefit plan assumptions, and taxes on income. Because of the uncertainty inherent in such estimates, actual results may differ from these estimates. Application of the following accounting policies result in accounting estimates having the potential for the most significant impact on the financial statements.

### Revenue Recognition

Revenues from sales of products are recognized when title and risk of loss passes to the customer. Revenues for domestic pharmaceutical sales are recognized at the time of shipment, while for many foreign subsidiaries, as well as for vaccine sales, revenues are recognized at the time of delivery. Recognition of revenue also requires reasonable assurance of collection of sales proceeds and completion of all performance obligations. Domestically, sales discounts are issued to customers as direct discounts at the point-of-sale or indirectly through an intermediary wholesale purchaser, known as chargebacks, or indirectly in the form of rebates. Additionally, sales are generally made with a limited right of return under certain conditions. Revenues are recorded net of provisions for sales discounts and returns, which are established at the time of sale.

The provision for aggregate indirect customer discounts covers chargebacks and rebates. Chargebacks are discounts that occur when a contracted customer purchases directly through an intermediary wholesale purchaser. The contracted customer generally purchases product at its contracted price plus a mark-up from the wholesaler. The wholesaler, in turn, charges the Company back for the difference between the price initially paid by the wholesaler and the contract price paid to the wholesaler by the customer. The provision for chargebacks is based on expected sell-through levels by the Company's wholesale customers to contracted customers, as well as estimated wholesaler inventory levels. Rebates are amounts owed based upon definitive contractual agreements or legal requirements with private sector and public sector (Medicaid) benefit providers, after the final dispensing of the product by a pharmacy to a benefit plan participant. The provision is based on expected payments, which are driven by patient usage and contract performance by the benefit provider customers.

The Company assumes a first-in, first-out movement of inventory within the supply chain for purposes of estimating its aggregate indirect customer discount accrual. In addition, the Company uses historical customer segment mix, adjusted for other known events, in order to estimate the expected provision. Amounts accrued for aggregate indirect customer discounts are evaluated on a quarterly basis through comparison of information provided by the wholesalers and other customers to the amounts accrued. Adjustments are recorded when trends or significant events indicate that a change in the estimated provision is appropriate.

The Company continually monitors its provision for aggregate indirect customer discounts. There were no material adjustments to estimates associated with the aggregate indirect customer discount provision in 2004, 2003 and 2002.

Summarized information about changes in the aggregate indirect customer discount accrual is as follows:

	2004	2003
Balance, January 1	\$ 752.2	\$ 570.8
Current provision	4,031.6	3,233.1
Adjustments relating to prior years	57.7	(4.3)
Payments	(3,811.2)	(3,047.4)
Balance, December 31	<u>\$1,030.3</u>	<u>\$ 752.2</u>

Accruals for chargebacks are reflected as a direct reduction to accounts receivable and accruals for rebates as accrued expenses. The accrued balances relative to these provisions included in Accounts receivable and Accrued and other current liabilities were \$133.7 million and \$896.6 million, respectively, at December 31, 2004, and \$110.4 million and \$641.8 million, respectively, at December 31, 2003.

The Company maintains a returns policy that allows its customers to return product within a specified period prior to and subsequent to the expiration date (generally, six months before and twelve months after product expiration). The estimate of the provision for returns is based upon historical experience with actual returns. Additionally, the Company considers factors such as levels of inventory in the distribution channel, product dating and expiration period, whether products have been discontinued, entrance in the market of additional generic competition, changes in formularies or launch of over-the-counter products, to name a few. The product returns provision, as well as actual returns, was approximately 0.5% of net sales in 2004, 2003 and 2002.

Through the distribution program for U.S. wholesalers, implemented in 2003, the Company incentivizes wholesalers to align purchases with underlying demand and maintain inventories within specified levels. The terms of the program allow the wholesalers to earn fees upon providing visibility into their inventory levels as well as by achieving certain performance parameters, such as, inventory management, customer service levels, reducing shortage claims and reducing product returns. Information provided through the wholesaler distribution program includes items such as sales trends, inventory on-hand, on-order quantity and product returns. Wholesalers generally provide only the above mentioned data to the Company, as there is no regulatory requirement to report lot level information to manufacturers, which is the level of information needed to determine the remaining shelf life and original sale date of inventory. Given current wholesaler inventory levels, which are generally less than a month, the Company believes that collection of order lot information across all wholesale customers would have limited use in estimating sales discounts and returns.

### Inventories Produced in Preparation for Product Launches

The Company capitalizes inventories produced in preparation for product launches sufficient to support initial market demand. Typically, capitalization of such inventory does not begin until the related product candidates are in Phase III clinical trials and are considered to have a high probability of regulatory approval. At December 31, 2004, inventories produced in preparation for product launches consisted of three vaccine products, all of which are in Phase III clinical trials, as well as a new formulation for an existing vaccine product. The Company continues to monitor the status of each respective product within the regulatory approval process; however, the Company generally does not disclose specific timing for regulatory approval. If the Company is aware of any specific risks or contingencies other than the normal regulatory approval process or if there are any specific issues identified during the research process relating to safety, efficacy, manufacturing, marketing or labeling, the related inventory would generally not be capitalized. There are no significant issues with respect to any of these products. Expiry dates of the inventory are impacted by the stage of completion. The Company manages the levels of inventory at each stage to optimize the shelf life of the inventory in relation to anticipated market demand in order to avoid product expiry issues. The shelf lives for these products range from a minimum of 8 to 13 years. Anticipated future sales of the products support the realization of the inventory value as the inventory shelf life is sufficient to meet initial product launch requirements.

In addition, the Company produced inventory in preparation for the launch of *Arcoxia* in the United States. *Arcoxia* has been launched in 51 countries in Europe, Latin America and Asia. In October 2004, the Company received an "approvable" letter from the FDA for the Company's NDA for *Arcoxia*. The FDA informed the Company in the letter that before approval of the NDA can be issued, additional safety and efficacy data for *Arcoxia* are required. In addition, Merck is working with regulatory agencies in the countries where *Arcoxia* is approved to assess whether changes to the prescribing information for the coxib class of drugs, including *Arcoxia*, are warranted. While the minimum shelf life for *Arcoxia* is approximately 4 years, anticipated worldwide market demand in countries where *Arcoxia* has been approved supports the value of inventory capitalized. The build-up of inventory for *Arcoxia* and inventories produced in preparation for product launches did not have a material effect on the Company's liquidity.

### Contingencies and Environmental Liabilities

The Company is involved in various claims and legal proceedings of a nature considered normal to its business, including product liability, intellectual property and commercial litigation, as well as additional matters such as antitrust actions. (See Note 11 to the financial statements for further information.) The Company records accruals for contingencies when it is probable that a liability has been incurred and the amount can be reasonably 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 and considers such factors as past experience, number of claims reported and estimates of claims incurred but not yet reported. Individually significant contingent losses are accrued when probable and reasonably estimable.

Legal defense costs expected to be incurred in connection with a loss contingency are accrued when probable and reasonably estimable. At December 31, 2004, the Company's reserve solely for its future legal defense costs related to the *Vioxx* Litigation was \$675.0 million. This reserve is based on certain assumptions and is the minimum amount that the Company believes, at this time, it can reasonably estimate will be spent over a multi-year period. The Company

significantly increased the reserve solely for future legal defense costs for *Vioxx* when it had the ability to reasonably estimate its future legal defense costs for the *Vioxx* Litigation. Some of the significant factors that were considered in the establishment of the reserve for the *Vioxx* Litigation were as follows: the actual costs incurred by the Company up to that time; the development of the Company's legal defense strategy and structure in light of the expanded scope of the *Vioxx* Litigation; the number of cases being brought against the Company; and the anticipated timing, progression, and related costs of pre-trial activities and trials in the *Vioxx* Product Liability Lawsuits. The Company will continue to monitor its legal defense costs and review the adequacy of the associated reserves. The Company has not established any reserves for any potential liability relating to the *Vioxx* Litigation.

The Company is a party to a number of proceedings brought under the Comprehensive Environmental Response, Compensation and Liability Act, commonly known as Superfund. When a legitimate claim for contribution is asserted, a liability is initially accrued based upon the estimated transaction costs to manage the site. Accruals are adjusted as feasibility studies and related cost assessments of remedial techniques are completed, and as the extent to which other potentially responsible parties (PRPs) who may be jointly and severally liable can be expected to contribute is determined.

The Company is also remediating environmental contamination resulting from past industrial activity at certain of its sites and takes an active role in identifying and providing for these costs. A worldwide survey was initially performed to assess all sites for potential contamination resulting from past industrial activities. Where assessment indicated that physical investigation was warranted, such investigation was performed, providing a better evaluation of the need for remedial action. Where such need was identified, remedial action was then initiated. Estimates of the extent of contamination at each site were initially made at the pre-investigation stage and liabilities for the potential cost of remediation were accrued at that time. As more definitive information became available during the course of investigations and/or remedial efforts at each site, estimates were refined and accruals were adjusted accordingly. These estimates and related accruals continue to be refined annually.

The Company believes that it is in compliance in all material respects with applicable environmental laws and regulations. Expenditures for remediation and environmental liabilities were \$24.5 million in 2004, and are estimated at \$65.6 million for the years 2005 through 2009. In management's opinion, the liabilities for all environmental matters that are probable and reasonably estimable have been accrued and totaled \$127.5 million and \$158.1 million at December 31, 2004 and December 31, 2003, respectively. These liabilities are undiscounted, do not consider potential recoveries from insurers or other parties and will be paid out over the periods of remediation for the applicable sites, which are expected to occur primarily over the next 15 years. Although it is not possible to predict with certainty the outcome of these matters, or the ultimate costs of remediation, management does not believe that any reasonably possible expenditures that may be incurred in excess of the liabilities accrued should exceed \$75.0 million in the aggregate. Management also does not believe that these expenditures should result in a material adverse effect on the Company's financial position, results of operations, liquidity or capital resources for any year.

## Pensions and Other Postretirement Benefit Plans

Net pension and other postretirement benefit cost totaled \$521.5 million in 2004 and \$499.2 million in 2003. Pension and other postretirement benefit plan information for financial reporting purposes is calculated using actuarial assumptions including a discount rate for plan benefit obligations and an expected rate of return on plan assets.

The Company reassesses its benefit plan assumptions on a regular basis. For both the pension and other postretirement benefit plans, the discount rate is evaluated annually and modified to reflect the prevailing market rate at December 31 of a portfolio of high-quality fixed-income debt instruments that would provide the future cash flows needed to pay the benefits included in the benefit obligation as they come due. At December 31, 2004, the Company changed its discount rate to 6.0% and 5.75% from 6.25% for its U.S. pension and other postretirement benefit plans, respectively.

The expected rate of return for both the pension and other postretirement benefit plans represents the average rate of return to be earned on plan assets over the period the benefits included in the benefit obligation are to be paid. In developing the expected rate of return, the Company considers long-term compound annualized returns of historical market data as well as actual returns on the Company's plan assets and applies adjustments that reflect more recent capital market experience. Using this reference information, the Company develops forward-looking return expectations for each asset category and a weighted average expected long-term rate of return for a targeted portfolio allocated across these investment categories. The expected portfolio performance reflects the contribution of active management as appropriate. As a result of this analysis, for 2005, the Company's expected rate of return of 8.75% remained unchanged from 2004 for its U.S. pension and other postretirement benefit plans.

The target investment portfolio of the Company's U.S. pension and other postretirement benefit plans is allocated 45% to 60% in U.S. equities, 20% to 30% in international equities, 13% to 18% in fixed-income investments, 2% to 6% in real estate, and up to 8% in cash and other investments. The portfolio's equity weighting is consistent with the long-term nature of the plans' benefit obligation. The expected annual standard deviation of returns of the target portfolio, which approximates 13%, reflects both the equity allocation and the diversification benefits among the asset classes in which the portfolio invests.

Actuarial assumptions are based upon management's best estimates and judgment. A reasonably possible change of plus (minus) 25 basis points in the discount rate assumption, with other assumptions held constant, would have an estimated \$35.2 million favorable (unfavorable) impact on net pension and postretirement benefit cost. A reasonably possible change of plus (minus) 25 basis points in the expected rate of return assumption, with other assumptions held constant, would have an estimated \$11.3 million favorable (unfavorable) impact on net pension and postretirement benefit cost. The Company does not expect to have a minimum pension funding requirement under the Internal Revenue Code during 2005. The preceding hypothetical changes in the discount rate and expected rate of return assumptions would not impact the Company's funding requirements.

Unrecognized net loss amounts reflect experience differentials primarily relating to differences between expected and actual returns on plan assets as well as the effects of changes in actuarial assumptions. Expected returns are based on a calculated market-related value of assets. Under this methodology, asset gains/losses resulting from actual returns that differ from the Company's expected returns are recognized in the market-related value of assets ratably over a five-year period. Total unrecognized net loss amounts in excess of certain thresholds are amortized into net pension and other postretirement benefit cost over the average remaining service life of employees. Amortization of total unrecognized net losses for the Company's U.S. plans at December 31, 2004 is expected to increase net pension and other postretirement benefit cost by approximately \$125.0 million annually from 2005 through 2009.

### Taxes on Income

The Company's effective tax rate is based on pre-tax income, statutory tax rates and tax planning opportunities available in the various jurisdictions in which the Company operates. In the event that there is a significant unusual or one-time item recognized, or expected to be recognized, in the Company's operating results, the tax attributable to that item would be separately calculated and recorded at the same time as the unusual or one-time item. Significant judgment is required in determining the Company's effective tax rate and in evaluating its tax positions. The Company establishes reserves when, despite its belief that the tax return positions are fully supportable, certain positions are likely to be challenged and that it may not succeed. (See Note 17 to the financial statements for further information.) The Company adjusts these reserves in light of changing facts and circumstances, such as the closing of a tax audit. The effective tax rate includes the impact of reserve provisions and changes to reserves that are considered appropriate, as well as related interest. This rate is then applied to the Company's quarterly operating results.

Tax regulations require items to be included in the tax return at different times than the items are reflected in the financial statements. As a result, the effective tax rate reflected in the financial statements is different than that reported in the tax return. Some of these differences are permanent, such as expenses that are not deductible on the tax return, and some are timing differences, such as depreciation expense. Timing differences create deferred tax assets and liabilities. Deferred tax assets generally represent items that can be used as a tax deduction or credit in the tax return in future years for which the Company has already recorded the tax benefit in the financial statements. The Company establishes valuation allowances for its deferred tax assets when the amount of expected future taxable income is not likely to support the use of the deduction or credit. Deferred tax liabilities generally represent tax expense recognized in the financial statements for which payment has been deferred or expense for which the Company has already taken a deduction on the tax return, but has not yet recognized as expense in the financial statements.

At December 31, 2004, foreign earnings of \$20.1 billion and domestic earnings of \$880.9 million have been retained indefinitely by subsidiary companies for reinvestment. No provision is made for income taxes that would be payable upon the distribution of such earnings. On October 22, 2004, the American Jobs Creation Act of 2004 (the AJCA) was signed into law. The AJCA creates a temporary incentive for U.S. multinationals to repatriate accumulated income earned outside the United States as of December 31, 2002. On December 21, 2004, the Financial Accounting Standards Board (the FASB) issued FASB Staff Position, Accounting and Disclosure Guidance for the Foreign Earnings Repatriation Provision within the American Jobs Creation Act of 2004 (FSP No. 109-2). FSP No. 109-2 allows companies additional time to evaluate the effect of the law. Through December 31, 2004, the Company has not provided deferred taxes on foreign earnings because such earnings were intended to be indefinitely reinvested outside the United States. Whether the Company will ultimately take advantage of the temporary incentive depends on a number of factors including analyzing U.S. Internal Revenue Service guidance before a decision is made. The Company expects to be in a position to finalize its decisions regarding the temporary incentive during 2005. Until that time, the Company will make no change in its current intention to indefinitely reinvest accumulated earnings of its foreign subsidiaries. If it becomes apparent that the Company will repatriate all or any of these earnings in an amount of up to \$15 billion, a one-time tax charge to the Company's results of operations of up to approximately \$1 billion could occur. The ultimate tax charge is dependent on a number of factors currently under consideration, including the passage of pending legislation, which contains certain technical corrections to the AJCA. The Company has not changed its intention to indefinitely reinvest accumulated earnings earned subsequent to December 31, 2002. No provision will be made for income taxes that would be payable upon the distribution of such earnings and it is not practicable to determine the amount of the related unrecognized deferred income tax liability.

### Recently Issued Accounting Standards

In November 2004, the FASB issued Statement No. 151, Inventory Costs—an amendment of ARB No. 43, Chapter 4 (FAS 151), which is effective beginning January 1, 2006. FAS 151 requires that abnormal amounts of idle facility expense, freight, handling costs and wasted material be recognized as current period charges. The Statement also requires that the allocation of fixed production overhead be based on the normal capacity of the production facilities. The effect of this Statement on the Company's financial position or results of operations has not yet been determined.

In December 2004, the FASB issued Statement No. 123R, Share-Based Payment (FAS 123R), which is effective beginning July 1, 2005. FAS 123R requires all share-based payments to employees to be expensed over the requisite service period based on the grant-date fair value of the awards. The Statement allows for either prospective or retrospective adoption and requires that the unvested portion of all outstanding awards upon adoption be recognized using the same fair value and attribution methodologies previously determined under Statement No. 123, Accounting for Stock-Based Compensation. The Company is currently evaluating transition alternatives and valuation methodologies for future grants. As a result, pro forma compensation expense, as reflected in Note 2, may not be indicative of future expense to be recognized under FAS 123R. The effect of adoption of FAS 123R on the Company's financial position or results of operations has not yet been determined.

## Cautionary Factors That May Affect Future Results

This annual report and other written reports and oral statements made from time to time by the Company may contain so-called "forward-looking statements," all of which are subject to risks and uncertainties. One can identify these forward-looking statements by their use of words such as "expects," "plans," "will," "estimates," "forecasts," "projects" and other words of similar meaning. One can also identify them by the fact that they do not relate strictly to historical or current facts. These statements are likely to address the Company's growth strategy, financial results, product approvals and development programs. One must carefully consider any such statement and should understand that many factors could cause actual results to differ from the Company's forward-looking statements. These factors include inaccurate assumptions and a broad variety of other risks and uncertainties, including some that are known and some that are not. No forward-looking statement can be guaranteed and actual future results may vary materially.

The Company does not assume the obligation to update any forward-looking statement. One should carefully evaluate such statements in light of factors described in the Company's filings with the Securities and Exchange Commission, especially on Forms 10-K, 10-Q and 8-K. In Item 1 of the Company's annual report on Form 10-K for the year ended December 31, 2004, which will be filed in March 2005, the Company discusses in more detail various important factors that could cause actual results to differ from expected or historic results. The Company notes these factors for investors as permitted by the Private Securities Litigation Reform Act of 1995. Prior to the filing of the Form 10-K for the year ended December 31, 2004, reference should be made to Item 1 of the Company's annual report on Form 10-K for the year ended December 31, 2003. One should understand that it is not possible to predict or identify all such factors. Consequently, the reader should not consider any such list to be a complete statement of all potential risks or uncertainties.

## Cash Dividends Paid per Common Share

	Year	4th Q	3rd Q	2nd Q	1st Q
2004	\$1.49	\$ .38	\$ .37	\$ .37	\$ .37
2003	\$1.45	\$ .37	\$ .36	\$ .36	\$ .36

## Common Stock Market Prices

	4th Q	3rd Q	2nd Q	1st Q
2004				
High	\$34.32	\$47.73	\$48.78	\$49.33
Low	25.60	32.46	44.28	42.85
2003				
High	\$51.95	\$62.69	\$63.50	\$60.24
Low	40.57	49.48	54.10	49.90

The principal market for trading of the common stock is the New York Stock Exchange (NYSE) under the symbol MRK. The common stock market price information above is based on historical NYSE market prices and has not been adjusted to reflect the spin-off of Medco Health, in which holders of Merck common stock at the close of business on August 12, 2003 received .1206 shares of Medco Health common stock for every one share of Merck common stock held on that date. On August 20, 2003, Merck common stock began to trade on a post-distribution basis.

## Condensed Interim Financial Data

	(\$ in millions except per share amounts)			
	4th Q <sup>(1)</sup>	3rd Q <sup>(2)</sup>	2nd Q	1st Q
<b>2004</b>				
Sales	\$5,748.0	\$5,538.1	\$6,021.7	\$5,630.8
Materials and production costs	1,283.6	1,364.2	1,163.7	1,148.2
Marketing and administrative expenses	2,365.8	1,752.9	1,616.2	1,611.4
Research and development expenses	1,108.6	919.3	986.0	996.3
Equity income from affiliates	(285.9)	(307.1)	(220.5)	(194.7)
Other (income) expense, net	(103.9)	(4.2)	37.5	(273.3)
Income from continuing operations before taxes	1,379.8	1,813.0	2,438.8	2,342.9
Net income	1,101.1	1,325.6	1,768.1	1,618.6
Basic earnings per common share	\$ .50	\$ .60	\$ .80	\$ .73
Earnings per common share assuming dilution	\$ .50	\$ .60	\$ .79	\$ .73
<b>2003</b>				
Sales	\$5,627.1	\$5,762.0	\$5,525.4	\$5,571.4
Materials and production costs	1,227.2	1,083.4	1,020.1	1,106.2
Marketing and administrative expenses	1,827.4	1,463.6	1,589.9	1,513.9
Research and development expenses	906.3	776.5	786.4	810.7
Equity income from affiliates	(6.0)	(183.4)	(187.4)	(97.3)
Other (income) expense, net	(88.7)	17.1	(153.4)	21.7
Income from continuing operations before taxes	1,760.9	2,604.8	2,469.8	2,216.2
Income from continuing operations	1,395.2	1,865.0	1,784.5	1,545.0
Income from discontinued operations, net of taxes	—	(6.7)	82.5	165.4
Net income	1,395.2	1,858.3	1,867.0	1,710.4
Basic earnings per common share				
Continuing operations	\$ .63	\$ .83	\$ .80	\$ .69
Discontinued operations	—	—	.04	.07
Net income	.63	.83	.83 <sup>(3)</sup>	.76
Earnings per common share assuming dilution				
Continuing operations	\$ .62	\$ .83	\$ .79	\$ .68
Discontinued operations	—	—	.04	.07
Net income	.62	.82 <sup>(3)</sup>	.83	.76 <sup>(3)</sup>

<sup>(1)</sup> Amounts for 2003 include the impact of the implementation of a new distribution program for U.S. wholesalers and restructuring costs related to position eliminations.

<sup>(2)</sup> Amounts for 2004 include the impact of the withdrawal of Viiox. (See Note 3.)

<sup>(3)</sup> Amount does not add as a result of rounding.