Henry Bros. Electronics, Inc.
Form 10-K
October 18, 2007

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

(Mark One)

x ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES AND EXCHANGE ACT OF 1934
FOR THE FISCAL YEAR ENDED DECEMBER 31, 2006

OR

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

Commission File No. 005-62411

HENRY BROS. ELECTRONICS, INC.

(EXACT NAME OF REGISTRANT AS SPECIFIED IN ITS CHARTER)

Delaware	**22-3690168**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
17-01 Pollitt Drive, Fair Lawn, NJ	**07410**
(address of principal executive offices)	**(Zip Code)**

(201) 794-6500
(Registrant s telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act: None

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

Title of each class:	Name of each exchange on which registered:
Common Stock, $.01 par value	American Stock Exchange

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes o No x.

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes o No x.

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes o No x

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant s knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. o

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, or a non-accelerated filer. See definition of accelerated filer and large accelerated filer in Rule 12b-2 of the Securities Exchange Act of 1934. (Check one): Large accelerated filer o Accelerated filer o Non-accelerated filer x

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Securities Exchange Act of 1934). Yes o No x.

At June 30, 2006, the last business day of the Registrant s most recently completed second fiscal quarter, the aggregate market value of the voting and non-voting common equity held by non-affiliates of the Registrant was $29,775,128 (based on the closing price of the registrant s common stock on the American Stock Exchange on such date).

Indicate the number of shares outstanding of each of the registrant s classes of common stock, as of the latest practicable date:

Classes:	**Outstanding at September 4, 2007**
Common Stock, par value $.01 per share	5,926,065

Documents Incorporated by Reference: None

HENRY BROS. ELECTRONICS, INC.
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PART I

Item 1. Business

Business Development.

In 1950, John, Ray, and Hartford Henry founded Henry Bros. Electronics. They sold Henry Bros. Electronics to Communication Group, Inc. (CGI) in 1985. In 1989, Jim Henry, our Chairman and Chief Executive Officer, and Irvin Witcosky, our former President and Chief Operating Officer reacquired certain assets, including the name Henry Bros. Electronics from CGI. In 1991 we acquired the assets of the former Motorola CCTV division and formed Viscom Products, Inc. (Viscom). In 1999 we formed a company named Integcom Corp. incorporated in Delaware into which we transferred both HBE and Viscom. In 2001, we changed our name to Diversified Security Solutions, Inc. and in 2005 we changed our name to Henry Bros. Electronics, Inc. (HBE). Following is a listing of key business developments since the inception of HBE:

In November 2001, we completed our initial public offering, including the underwriter s over-allotment option of an aggregate of 1,725,000 shares of common stock. Our shares are traded on the American Stock Exchange under the ticker symbol HBE.

In May 2002, we purchased Photo Scan Systems, Inc. (Photo Scan) a security integrator located in southern California and changed its name to Henry Bros. Electronics, Inc. in December 2002.

In August 2002, Photo Scan acquired National Safe of California, Inc. which sells and services alarm security equipment, lock and timing mechanisms, vault security, control and backup systems and high resolution security equipment used by commercial banks.

In September 2002, Photo Scan acquired Corporate Security Integration, LLC (CSI) a security integrator located in Phoenix, Arizona, and subsequently changed its name to Henry Bros. Electronics, LLC.

In April 2004, we acquired Airorlite Communications, Inc. (Airorlite), a company located in New Jersey that specializes in the design, manufacture and maintenance of wireless communications equipment used to enhance emergency radio frequency services and cellular communication for both fixed and mobile applications.

In October 2005, we acquired Securus, Inc. a security integrator with offices in Denver and Colorado Springs, Colorado.

In October 2006, we acquired CIS Security Systems Corp. (CIS), a privately-held security systems integrator with offices in Baltimore, Maryland and Newington, Virginia and acquired certain assets of Southwest Securityscan, Inc. (SSI), a privately-held company headquartered in Duncanville, Texas that provides installation, service and monitoring of access, surveillance and alarm systems.

Our principal executive offices are located at 17-01 Pollitt Drive, Fair Lawn, New Jersey 07410, and our telephone number is (201) 794-6500.

Business of Issuer

We are an established leader in the electronic physical security industry providing technology-based integrated electronic security systems, services and emergency preparedness consultation to commercial enterprises and government agencies.

Security Distributing and Marketing magazine (SDM) ranks by each of their 2006 revenue the top 100 largest firms selling closed circuit TV (CCTV), access control and integrated security systems. We were ranked No. 15 in SDM s Top Systems Integrators Report published in July 2007. As a single-source/turn-key provider of diversified technology-based integrated security solutions, we can expedite project completion and optimize system manpower performance. The continually evolving security requirements of commercial and government entities, together with rapidly advancing technology, provides numerous opportunities for us to assist our clients with their security needs.

We believe that the following key attributes provide us with a sustainable competitive advantage:

Experience and expertise;

Technological know-how;

Commitment to customer service; and

Strong list of references.

Our Vision and Strategy

Our vision is to maintain our leadership position in security technology. We intend to do this in part by:

Providing advice on product selection and system design;

Examining and thoroughly testing each security product as it would be set up for use in our customers facilities; and

Using only systems and components that are reliable and efficient to use.

In addition to growing the business organically, we have been actively pursuing the strategic acquisition of synergistic integrators and specialty products and service companies to further fuel steady growth. Consistent with our expansion strategy, we have acquired seven companies since May of 2002.

Business Segments

Our operations are divided into two business segments Security System Integration (Integration) and Specialty Products and Services (Specialty). The Integration segment provides a cradle to grave services for a wide variety of security, communications and control systems. The Company specializes in turn-key systems that integrate many different technologies. Systems are customized to meet the specific needs of its customers. Through the Specialty segment we provide emergency preparedness programs, and specialized radio frequency communication equipment and integration. Each of the Company s segments markets its products and services nationwide with an emphasis in Arizona, California, Colorado, Maryland, New Jersey, New York, Texas and Virginia. Customers are primarily medium and large businesses and governmental agencies. The Company derives a majority of its revenues from project installations and to a smaller extent, maintenance service revenue.

Integration Segment

At the beginning of each new client relationship, we designate one member of our professional staff as the client service contact. This individual is the point person for communications between the client and us and often serves as the client s project manager for all of its security needs. Our engagement may include:

- Consulting and planning;
- Engineering and design;
- Systems installation and management;
- Systems training; and
- Maintenance and technical support.

Consulting and Planning

Security consulting and planning are the initial phases of determining a security solution for a project. We have developed a planning process that identifies all systems, policies and procedures that are required for the successful operation of a security system that will both meet a client s current needs and accommodate its projected future requirements. Our consulting and planning process includes the following steps:

- Identify the client s objectives and security system requirements;
- Survey the site(s), including inventory of physical components and software and evaluation of client s existing infrastructure and security system;
- Assess and prioritize the client s vulnerabilities;
- Develop and evaluate system alternatives;
- Recommend a conceptual security plan design;
- Estimate the cost of implementing the conceptual plan; and
- Develop a preliminary implementation schedule.

As a result of this process, we provide the client with a master plan for an effective security solution that addresses routine operating needs as well as emergency situations.

We believe that our comprehensive planning process enables our clients to budget for their security requirements on a long-term basis, identify opportunities for cost reduction and prepare for future risks.

Engineering and Design

The engineering and design process involves preparation of detailed project specifications and working drawings by a team of our engineers, systems designers and computer-aided design system operators. These specifications and drawings detail the camera sensitivity requirements, layout of the control center, placement of cameras, card readers and other equipment and electrical requirements. Throughout our engineering and design process, our goal is to understand our client s operational preferences in order to design a system that is functional, cost-effective and accommodates our client s present and future requirements. In addition, we attempt to incorporate our client s existing personnel, equipment and other physical resources into the system design.

When retained as a single-source provider for turn-key security solutions, we select system components required under the specifications and drawings. We recommend that our customers buy

proven off-the-shelf devices and software and resort to custom equipment only when absolutely necessary.

We have made a strategic decision not to represent any equipment manufacturer exclusively, thereby maintaining objectivity and flexibility in equipment selection. We believe that our technical proficiency with the products available from a wide range of manufacturers enables us to select components that will best meet a project s requirements.

Systems Installation and Management

Under the supervision of the manager of the project, our technicians install hardware, integrate hardware and software, and validate and test the system. Subcontractors typically perform the aspects of systems integration that do not require a high level of technical expertise, such as wire installation and basic construction. Components that may be integrated in a security system include the following:

Access control systems, which are designed to exclude unauthorized personnel from specified areas;

Intrusion detection systems, which detect unauthorized door and window openings, glass breakage, vibration, motion, noise and alarms and other peripheral equipment;

Closed circuit television systems, which monitor and record entry and exit activity or provide surveillance of designated areas;

Critical condition monitoring systems, which provide alarm monitoring and supervision of various systems and facilities; and

Intercoms, public address systems, fire detection signals and network connectivity that can expand a local security system into a closely controlled worldwide system.

Systems Training

Upon completion of a systems integration project, we typically will provide the customer with system documentation and training in the operation and maintenance of the system.

Maintenance and Technical Support

We provide maintenance and technical support services on a scheduled, on-call, or emergency basis. These services include developing and implementing maintenance programs both for security systems designed, engineered, or integrated by us and for existing systems.

Specialty Segment

Airorlite specializes in designing, manufacturing and maintaining wireless communications equipment used to enhance and extend emergency radio frequency services and cellular communication for both fixed and mobile applications. Our Diversified Securities Solutions, Inc. division (formerly our EPP division) works with high-rise office building management to analyze their specific facilities needs relating to emergency response plans and the communication and training of such plans to the building community.

Marketing

Our marketing activities are conducted on both national and regional levels. We obtain engagements through direct negotiation with clients, competitive bid processes and referrals. At the national level, we conduct analyses of various industries and target those with significant demand for security solutions. At a regional level, we have developed and implemented a marketing plan

that targets specific regions of the country. The plan identifies prospective clients within specific regions of the country and sets forth a strategy for developing relationships with them.

We have developed expertise in the security regulations applicable to airports and seaports, high-rise buildings, public transportation systems, healthcare, financial, educational and other vertical markets. We have identified several key industries or facility types that we believe have substantial and increasing requirements for security services, including corporate campuses and federal facilities.

Customers

We provide our products and services to customers in the public and private sectors through direct sales to end-users and through subcontracting agreements and have provided services to customers representing each of the vertical markets described under Marketing.

Suppliers

We procure components and finished products from a variety of suppliers as needed through purchase orders. We actively manage this process to ensure component quality, steady supply and best costs. While there could be a short-term disruption in qualifying vendors, we believe that the components we utilize could be obtained from alternative sources, or that our products could be redesigned to use alternative suppliers components, if necessary.

Competition

The security industry is highly fragmented and competitive. We compete on a local, regional and national basis with systems integrators, consulting firms and engineering and design firms. Our competitors include equipment manufacturers and vendors that also provide security services. Many of our competitors have greater name recognition and financial resources. We believe that we compete primarily on our ability to deliver solutions that effectively meet a client s requirements and, to a lesser extent and primarily in competitive bid situations, on price. Many of the larger public sector projects require performance bonds, which may limit our ability to compete with larger competitors as the prime contractor, depending upon the specifications of the project.

Employees

As of August 24, 2007, we had 198 full time employees, including officers, of whom: 130 were engaged in engineering, systems installation and maintenance services, 35 in administration and accounting, and 33 in marketing and sales. None of our employees are covered by a collective bargaining agreement or are represented by a labor union. We consider our relationship with our employees to be satisfactory.

Our business requires substantial technical capabilities in many disciplines, from mechanics and computer science to electronics and advanced software. We emphasize continued training for new and existing technical personnel. Accordingly, we conduct training classes and seminars in-house, send select employees to technical schools and avail ourselves of training opportunities offered by equipment manufacturers and other specialists on a regular basis.

Seasonality

Revenue generated by our services have typically been seasonal in nature and there could be periods of fluctuations in revenue volume due to the timing of project installations or factors that are beyond the Company s control, such as weather and construction delays.

Backlog

At December 31, 2006, the dollar amount of backlog believed to be firm was $27,802,404. Backlog from acquisitions completed during fiscal 2005 that were not included as part of the December 31, 2005 backlog accounted for $680,065 of this backlog. At December 31, 2005, our backlog was $16,002,144. At June 30, 2007, the dollar amount of backlog believed to be firm was approximately $32,300,000.

All orders are subject to modification or cancellation by the customer with limited changes. We believe that backlog may not be indicative of actual sales for the current fiscal year or any succeeding period.

Pricing

We employ a variety of pricing strategies for our services. Systems integration project pricing is based upon the estimated cost of the equipment for the project including a profit margin, plus the estimated hours for each skill set, required to complete the project multiplied by the fully burdened hourly rate, plus a profit margin. Pricing for engineering and maintenance services are determined based on the scope of the specific project and the length of our engagement. Proposals for consulting and threat assessment services are priced based on an estimate of hours multiplied by standard selling rates or on a project basis.

AVAILABLE INFORMATION

We maintain an Internet website at the following address: www.hbe-inc.com. The information on our website is not incorporated by reference into this Annual Report on Form 10-K. We make available on or through our website certain reports and amendments to those reports that we file with or furnish to the Securities and Exchange Commission (the SEC) in accordance with the Securities Exchange Act of 1934. These include our annual reports on Form 10-K, our quarterly reports on Form 10-Q and our current reports on Form 8-K. We make this information available on our website free of charge as soon as reasonably practicable after we electronically file the information with, or furnish it to, the SEC.

FORWARD-LOOKING STATEMENTS

This report includes forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities and Exchange Act of 1934, as amended. Forward looking statements may be identified by such words or phrases as believe, expect, intend, estimate, anticipate, project, will, may and similar expressions. All statements that address operating performance, even developments that we expect or anticipate will occur in the future are forward-looking statements. The forward-looking statements used herein are not guarantees of future performance and involve a number of risks and uncertainties. Factors that might cause actual results to differ materially from the expected results described in or underlying our forward-looking statements include:

Conditions in the general economy and in the markets served by us;

Competitive factors, such as price pressures;

Interruptions of suppliers operations or the refusal of our suppliers to provide us with component materials; and

The risk factors listed from time to time in our SEC reports.

This list is not exhaustive. Except as required under federal securities laws and the rules and regulations promulgated by the SEC, we do not have any intention or obligation to update publicly any forward-looking statements after the filing of this Annual Report on Form 10-K, whether as a result of new information, future events, changes in assumptions or otherwise.

Item 1A. Risk Factors

Our business, operations and financial conditions are subject to various risks. Some of these are described below. This section does not describe all risks that may be applied to our Company, our industry or our business and is intended only as a summary of certain material risk factors.

We are dependent upon a small number of customers for a large portion of our revenues.

We have a small number of customers from which we receive a large portion of our revenues. Our work with the Triborough Bridge & Tunnel Authority accounted for 9.7% of total revenue during 2006, with our five largest customers represented approximately 23.6% of our 2006 revenue. Revenues from governmental agencies accounted for 22.6% in 2006 versus 39% and 20% in 2005 and 2004, respectively. Consequently, we are often required to replace one customer with one or more other customers in order to generate the same amount of revenues. There can be no assurance that we will continue to be able to do so.

Some of our orders and contracts may be cancelled or modified so there is a risk that our backlog may not be fulfilled.

Some of our orders and contract backlog are subject to cancellation or modification by our customers at any time so we cannot be certain that we will fully recognize revenue from them.At December 31, 2006, our backlog was approximately $27.8 million. At June 30, 2007, the dollar amount of backlog believed to be firm was approximately $32,300,000.

We are dependent on a few vendors and rely on timely delivery of equipment from outside sources.

There are a few vendors from whom we obtain devices and software for specific access control, imaging, remote transmission, smart key and mobile applications. The loss of any one of these companies as suppliers could have a materially adverse impact on our business, financial condition and results of operations if we are unable to develop or acquire new technologies from other sources. We believe there are alternative vendors to source such products.

Timely vendor deliveries of equipment meeting our quality control standards from all suppliers are also important to our business because each installed system requires the integration of a variety of elements to be fully functional. The failure to deliver any component when required, in operating condition, can delay the project, triggering contract penalties, delay in progress payments and may result in cancellation of the project.

We have not been consistently profitable and may not be profitable in the future.

For the years ended December 31, 2006 and 2005 our revenues were $42.2 million in both years. Our net loss was $2.2 million for the year ended December 31, 2006 and our net income was $1.1 million for the year ended December 31, 2005. Our profit has not been continuous and we can make no assurances that we will be profitable in the future.

We experience intense competition for business from a variety of sources.

In systems integration, we compete for new business with large construction firms, electrical contractors and consultants in the security business and other systems integrators. Many of our competitors are much larger and have greater resources. In order to effectively compete in the future, we may have to charge less for our services, which may result in lower profit margins.

We rely on a key executive.

James E. Henry is vital to our business. Losing him could have a materially adverse impact on our business, financial condition or results of operations.

Our business and growth will suffer if we are unable to hire and retain highly skilled personnel.

Competition for highly skilled employees is intense in our industry. The design and manufacture of equipment, and the installation of our systems, requires substantial technical capabilities in many disparate disciplines from mechanics and computer science to electronics and advanced software. Our future success depends on our ability to attract, train, motivate and retain highly skilled employees. If we are unable to hire and retain skilled personnel, our growth may be restricted, the quality of our products and services diminished and our revenues and the value of your investment reduced. There is no assurance that we will be able to retain our skilled employees or attract, assimilate and retain other highly skilled employees in the future.

Lengthy revenue cycles.

Revenue from our services and products frequently involves a substantial commitment of resources to evaluate a potential project and prepare a proposal. In addition, approval of proposals often involves a lengthy process due to clients internal procedures and capital expenditure approval processes. We may not be awarded a project that we have prepared a proposal for and, even if we are, a substantial period of time may elapse from when we make a proposal to when we can recognize revenues from the project.

Seasonality.

Revenues of our services have typically been seasonal in nature and there could be periods of fluctuations in revenue volume due to the timing of project installations or factors that are beyond the Company s control, such as weather and construction delays.

We may make acquisitions or form joint ventures that are unsuccessful.

Part of our growth strategy involves acquisitions or joint ventures with other system integrators. This strategy is subject to the following risks, the occurrence of which could have a materially adverse impact on our business, financial condition or results of operations:

We may not be able to identify suitable acquisition and joint venture candidates.

If the purchase price of an acquisition includes cash, we may need to use a significant portion of our available cash or credit facility with our bank.

We could have difficulty assimilating the acquired company s operations and personnel or working with the joint venture. These difficulties could disrupt our ongoing business, distract our management and employees and increase our costs.

We may not be able to retain key employees of the acquired companies or maintain good relations with its customers or suppliers.

We may be required to incur additional debt.

We may be required to issue equity securities to pay for such acquisition, which will dilute existing shareholders.

We may have to incur significant accounting charges, such as for an impairment of intangible assets, which may adversely affect our results of operations.

The trading volume in our common stock fluctuates and as a result you may find it difficult to sell your shares of our common stock.

Our common stock is listed on the American Stock Exchange. Trading in our common stock fluctuates and on some days is minimal. Failure to maintain an active trading market in our common stock could negatively affect the price of our common stock and your ability to sell our common stock.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

A description of the facilities we lease follows:

31,801 square foot sales, office, training and warehouse facility that also serve as our corporate office in Fair Lawn, New Jersey. This facility is a portion of a single-story, cinder block building in a commercial and industrial park. The lease on this space terminates on October 31, 2016, and provides for an annual rent of $214,657 (escalates yearly) until that date, payable in equal monthly installments of $17,888, plus taxes of approximately $5,414 per month. We are also responsible for the cost of property tax increases, utilities, repairs, maintenance, alterations, cleaning and insurance.

9,553 square foot sales, office and warehouse facility in Fullerton, California. A two-story, concrete building in an office complex, this space is leased until November 15, 2011 at an average annual rent of $128,108 payable in equal monthly installments of $10,675, with additional costs for maintenance, insurance, repairs and alterations, utilities, property tax increases and cleaning.

4,200 square foot sales, office and warehouse facility in Grand Prairie, Texas near the Dallas-Fort Worth Airport. A single-story, cinder block building in an office complex, this space is leased until February 28, 2008 at an annual average rental of $39,600, payable in equal monthly installments of $3,300, with additional costs for insurance, repairs and alterations, utilities, property taxes and cleaning.

3,906 square foot sales, office and warehouse facility in Phoenix, Arizona near the Phoenix Airport. A single-story, concrete building in an office complex, this space is leased until August 2011 at an average annual rental of $63,072, payable in average monthly installments of $5,256, with additional costs for insurance, repairs and alterations, utilities, taxes increases and cleaning.

2,200 square foot office space in New York City for sales and project management personnel. This lease commenced on December 29, 2006, with an annual rental of $68,962, payable in monthly installments of $5,747, not including utilities. Lease escalates yearly and expires February 29, 2012.

16,045 square foot sales, office and warehouse facility in Denver, Colorado. This facility is in a single-story, cinder block building in a commercial and industrial park. The lease on this space terminates April 2010 and provides for an annual rent of $88,248 until that date, payable in equal monthly installments, with additional costs for property taxes, utilities, repairs, maintenance, alterations, cleaning and insurance.

3,500 square feet of sales, office and warehouse space in Colorado Springs, Colorado which terminates December 2010 and provides for an annual rent of $24,780, payable in equal monthly installments, with additional costs for property taxes, utilities, repairs, maintenance, alterations, cleaning and insurance.

4,800 square foot sales, office and warehouse facility in Newington, Virginia. The annual rent is $76,632 and has an annual escalation clause. The lease expires on July 31, 2010. The lease includes utilities.

2,400 square foot sales office facility in Baltimore, Maryland. The annual rent is $26,327 and has an annual escalation clause. The lease expires on August 31, 2008. There are additional charges for trash removal, gas and common area maintenance.

These facilities or similar facilities should meet our operational needs for the foreseeable future.

Item 3. Legal Proceedings

We know of no material litigation or proceeding, pending or threatened, to which we are or may become a party.

Item 4. Submission of Matters to a Vote of Security Holders

At our 2006 Annual Meeting of Stockholders held on November 1, 2006, the following individuals, constituting all of the members of the Board of Directors, were elected. For each elected director, the results of the voting were:

Name	Number of Votes For	Number of Votes Withheld
James E Henry	5,680,520	48,570
Irvin F. Witcosky	5,674,810	54,460
Brian Reach	5,614,356	114,914
Joseph P. Ritorto	5,668,490	60,780
Robert L. Delia Sr.	5,611,336	117,934
David Sands	5,678,090	51,180
James W. Power	5,678,090	51,180

Stockholders also approved the Company s 2006 Stock Option Plan. The results of the voting for this proposal were 3,743,950 in favor, 132,561 against and 27,788 abstentions.

The stockholders also voted to ratify the selection of Demetrius & Company, L.L.C. as our independent auditors for 2006. The results of the voting for this proposal were 5,677,332 in favor, 20,545 against and 31,393 abstentions.

PART II

Item 5. Market for Registrant s Common Equity and Related Stockholder Matters and Issuer Purchases of Equity Securities

Our Common Stock is traded on the American Stock Exchange under the Symbol HBE .

(a) The following table indicates high and low stock prices for each period.

2006	**High**	**Low**
First Quarter	$ 6.98	$ 4.55
Second Quarter	$ 6.65	$ 4.94
Third Quarter	$ 5.05	$ 3.29
Fourth Quarter	$ 3.79	$ 3.29
2005		
First Quarter	$ 5.75	$ 4.45
Second Quarter	$ 5.05	$ 3.10
Third Quarter	$ 6.85	$ 3.89
Fourth Quarter	$ 5.95	$ 4.20

(b) Number of Holders of Common Stock. The number of holders of record of our Common Stock on December 31, 2006 was 33. Since a portion of the shares of the common stock are held in street or nominee name, it is believed that there are significant number of additional number of beneficial owners of common stock.

(c) Dividends. There were no cash dividends or other cash distributions made by us during the year ended December 31, 2006. Future dividend policy will be determined by our Board of Directors based on our earnings, financial condition, capital requirements and other existing conditions. It is anticipated that cash dividends will not be paid to the holders of our common stock in the foreseeable future.

(d) In connection with the acquisition of Securus Inc. on October 10, 2005, the Company issued an aggregate of 150,001 shares of its common stock of which 150,001 are being held in escrow pursuant to the stock purchase escrow agreement between the Company and the selling shareholders of Securus, Inc. The issuance of the shares of restricted stock in connection with the aforementioned transaction was made in reliance upon the exemption provided in section 4(2) of the Securities Act of 1933, as amended.

(e) In connection with the acquisition of all the capital stock of CIS on October 2, 2006, the Company issued an aggregate of 20,000 shares of its common stock. The Company issued an additional 10,000 shares of its restricted common stock to CIS s selling shareholder after CIS met certain performance targets for the quarters ended March 31, and June 30, 2007. The issuance of the shares of restricted stock in connection with the aforementioned transactions were made in reliance upon the exemption provided in section 4(2) of the Securities Act of 1933, as amended. The selling shareholder may earn an additional 70,000 shares of the Company s common stock if CIS achieves certain performance targets through December 2011.

(f) Securities authorized for issuance under equity compensation plans.

See Item 12 of this Annual Report on Form 10-K for information about our equity compensation plans.

PERFORMANCE GRAPH

The following line graph compares the yearly percentage change in the cumulative total shareholder return on the Common Stock from December 31, 2001 through December 31, 2006 with the cumulative total return of the Dow Jones Wilshire 5000 (our Major Market Index) and the Dow Jones Wilshire Electrical Components & Equipment Index (our Industry Index). The graph below assumes that $100 was invested on December 31, 2001 in our Common Stock, the Dow Jones Wilshire 5000 and the Dow Jones Wilshire Electrical Components & Equipment Index. Dividend reinvestment has been assumed and, with respect to companies in the Dow Jones Wilshire 5000 and the Dow Jones Wilshire Electrical Components & Equipment Index, the returns of such companies have been weighted at each measurement point to reflect relative stock market capitalization.

COMPARISON OF 5 YEAR CUMULATIVE TOTAL RETURN*

Among Henry Bros. Electronics, Inc., The Dow Jones Wilshire 5000 Index
And The DJ Wilshire Electrical Components & Equipment Index

* $100 invested on 12/31/01 in stock or index-including reinvestment of dividends.
Fiscal year ending December 31.

	12/01	12/02	12/03	12/04	12/05	12/06
Henry Bros. Electronics, Inc.	**100.00**	**90.53**	**74.67**	**66.00**	**59.73**	**50.53**
Dow Jones Wilshire 5000	**100.00**	**79.14**	**104.18**	**117.33**	**124.75**	**144.56**
DJ Wilshire Electrical Components & Equipment	**100.00**	**55.54**	**90.24**	**85.88**	**91.12**	**103.85**

The performance graph above shall not be deemed filed for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (The Exchange Act), or otherwise subject to the liability of that section. This graph will not be deemed incorporated by reference into any filing under the Securities Act of 1933, as amended, or the Exchange Act, whether made before or after the date hereof, regardless of any general incorporation language in such filing.

Item 6. Selected Financial Data

	Years ended December 31,				
	2006	2005 (Corrected)	2004 (Corrected)	2003 (Corrected)	2002 (Corrected)
Results of operations:					
Net sales	$ 42,132,852	$ 42,156,188	$ 29,725,718	$ 18,261,065	$ 18,830,093
Cost of revenue	31,586,736	31,581,187	22,305,632	14,908,700	12,485,362
Selling, general and administrative	11,952,477	8,422,193	6,943,885	8,339,337	5,750,578
Net (loss) income	(2,260,138)	1,137,974	169,639	(3,068,182)	205,276
Per common share:					
Net (loss) income					
Basic	$ (0.39)	$ 0.20	$ 0.03	$ (0.60)	$ 0.04
Diluted	(0.39)	0.20	0.03	(0.60)	0.04
Cash dividends declared					
Financial position at year-end:					
Total assets	$ 31,371,609	$ 25,161,530	$ 23,372,371	$ 17,700,408	$ 20,252,474
Long term debt, net of current maturities	3,463,236	727,961	168,989	1,922,597	2,017,403
Shareholders equity	14,010,618	15,982,966	14,653,786	11,068,285	14,273,576

Item 7. Management s Discussion and Analysis of Financial Condition and Results of Operations

Overview

We are an established leader in the electronic physical security industry, specializing in integrated security systems and emergency preparedness.

Our Vision and Strategy

Our vision is to maintain our leadership position in security technology. We intend to do this in part by:

Providing advice on product selection and system design;

Examining and thoroughly testing each security product as it would be set up for use in our customers facilities; and

Using only systems and components that are reliable and efficient to use.

In addition to growing the business organically, we have been actively pursuing the strategic acquisition of synergistic integrators and specialty products and service companies to further fuel steady growth. Consistent with our expansion strategy, we acquired seven companies since May of 2002, which include the two acquisitions made in October 2006 (See Note 17 to the Consolidated Financial Statements included in this Annual Report on Form 10-K).

To finance our acquisitions, we have used a combination of internally generated cash, company common stock and bank debt. We currently have a $5 million credit facility with TD Banknorth, which includes a $1 million term loan of which $531,122 and $377,795 was outstanding at December 31, 2006 and September 30, 2007, respectively. As part of our credit facility we also have a $4 million revolving credit

facility. Borrowings under the revolving credit facility were $2,847,897 and $3,635,897 at December 31, 2006, and August 31, 2007, respectively. It is our expectation and intent to use cash and to incur additional debt as appropriate to finance future working capital and acquisitions. Additionally, to fund future acquisitions we would consider the issuance of subordinated debt, or the sale of equity securities, or the sale of existing Company assets.

Trends

We anticipate that the overall average operating margins for our business to be slightly negative for 2007, as compared to operating margins of (6.1)%, 5.0% and 1.3% for years 2006, 2005 and 2004, respectively.

There are several factors impacting operating margins, including levels of competition for a particular project and the size of the project. As a significant amount of our costs are relatively fixed, such as labor costs, increases or decreases in revenues can have a significant impact on operating margins. The Company continually monitors costs and pursues cost control measures and sales initiatives to improve operating margins.

During the fourth quarter 2006, the Company began incurring costs related to the implementation of Sarbanes-Oxley. While not significant in 2006, the spending will be significant in 2007 and 2008.

Our operations are divided into two business segments Security System Integration (Integration) and Specialty Products and Services (Specialty). The Integration segment provides cradle to grave services for a wide variety of security, communications and control systems. The Company specializes in turn-key systems that integrate many different technologies. Systems are customized to meet the specific needs of its customers. Through the Specialty segment we provide emergency preparedness programs, and specialized radio frequency communication equipment and integration. Each of the Company s segments markets nationwide with an emphasis in the Arizona, California, Colorado, Maryland, New Jersey, New York, Texas and Virginia. Customers are primarily medium and large businesses and governmental agencies. The Company derives a majority of its revenues from project installations and to a smaller extent, maintenance service revenue.

RECENT ACCOUNTING PRONOUNCEMENTS:

Recently Adopted Accounting Pronouncements

In May 2005, the FASB issued SFAS No. 154, *Accounting Changes and Error Corrections*. This new standard replaces APB Opinion No. 20, *Accounting Changes*, and SFAS No. 3, *Reporting Accounting Changes in Interim Financial Statements*, and represents another step in the FASB s goal to converge its standards with those issued by the IASB. Among other changes, SFAS No. 154 requires that a voluntary change in accounting principle be applied retrospectively with all prior period financial statements presented on the new accounting principle, unless it is impracticable to do so. SFAS No. 154 also provides that (1) a change in method of depreciating or amortizing a long-lived non-financial asset be accounted for as a change in estimate (prospectively) that was effected by a change in accounting principle, and (2) correction of errors in previously issued financial statements should be termed a restatement. The new standard is effective for accounting changes and correction of errors made in fiscal years beginning after December 15, 2005. Early adoption of this standard is permitted for accounting changes and correction of errors made in fiscal years beginning after June 1, 2005. The adoption of SFAS No. 154 did not have a material effect on

the Company s financial position or results of operations.

On September 13, 2006, the Securities Exchange Commission (SEC) staff issued Staff Accounting Bulletin (SAB) Topic No. 108, Financial Statements Considering the Effects of Prior Year Misstatements when Quantifying Misstatements in Current Year Financial Statements (SAB 108). SAB 108 addresses how a registrant should evaluate whether an error in its financial statements is material. The SEC staff concludes in SAB 108 that materiality should be evaluated using both the rollover and iron curtain methods. Registrants are required to comply with the guidance in SAB 108 in financial statements for fiscal years ending after November 15, 2006. After analyzing the materiality of the impact arising from the deficiencies related to the accounting for income taxes in accordance with the provisions of SAB 108, management concluded that the financial statements for the years ended December 31, 2005 and 2004 included as part of this Annual Report on Form 10-K, and the Selected Financial Data included as Item 6 of this Annual Report on Form 10-K should be corrected to reflect the proper accounting. The impact resulting from these corrections for income tax accounting that had an income statement impact was to increase (decrease) tax expense by$(29,696), $(125,618), $111,080, and $99,776, for the years ended December 31, 2005, 2004, 2003 and 2002, respectively, with a corresponding increase or decrease to net tax liabilities. The impact resulting from these corrections for income tax accounting that only had a balance sheet impact was to increase net deferred tax liabilities by $549,262, $580,032, $533,648, and $533,648 for the years ended December 31, 2005, 2004, 2003 and 2002, respectively, with a corresponding net increase to goodwill. Unadjusted differences were not material to 2006 or individually to the prior years.

Recently Issued Accounting Pronouncements

In September 2006, the FASB issued No. 157, *Fair Value Measurements*. This new standard provides guidance for using fair value to measure assets and liabilities. The FASB believes the standard also responds to investors requests for expanded information about the extent to which companies measure assets and liabilities at fair value, the information used to measure fair value, and the effect of fair value measurements on earnings. Statement 157 applies whenever other standards require (or permit) assets or liabilities to be measured at fair value but does not expand the use of fair value in any new circumstances.

Under Statement 157, fair value refers to the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants in the market in which the reporting entity transacts. In this standard, the FASB clarifies the principle that fair value should be based on the assumptions market participants would use when pricing the asset or liability. In support of this principle, Statement 157 establishes a fair value hierarchy that prioritizes the information used to develop those assumptions. The fair value hierarchy gives the highest priority to quoted prices in active markets and the lowest priority to unobservable data, for example, the reporting entity s own data. Under the standard, fair value measurements would be separately disclosed by level within the fair value hierarchy.

The provisions of Statement 157 are effective for financial statements issued for fiscal years beginning after November 15, 2007, and interim periods within those fiscal years. Earlier application is encouraged, provided that the reporting entity has not yet issued financial statements for that fiscal year, including any financial statements for an interim period within that fiscal year. The Company is currently quantifying the impact of SFAS No. 157.

On July 13, 2006, Financial Accounting Standards Board Interpretation No. 48 (FIN 48), *Accounting for Uncertainty in Income Taxes - An Interpretation of FASB Statement No. 109*, was

issued. FIN 48 clarifies the accounting for uncertainty in income tax recognized in an enterprise s financial statements in accordance with FASB Statement No. 109, *Accounting for Income Taxes* (SFAS No. 109). FIN 48 also prescribes a recognition threshold and measurement attribute for the financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return. The new FASB standard also provides guidance on de-recognition, classification, interest and penalties, accounting in interim periods, disclosure, and transition.

The evaluation of a tax position in accordance with FIN 48 is a two-step process. The first step is a recognition process whereby the enterprise determines whether it is more likely than not that a tax position will be sustained upon examination, including resolution of any related appeals or litigation processes, based on the technical merits of the position. In evaluating whether a tax position has met the more-likely-than-not recognition threshold, the enterprise should presume that the position will be examined by the appropriate taxing authority that has full knowledge of all relevant information. The second step is a measurement process whereby a tax position that meets the more-likely-than-not recognition threshold is calculated to determine the amount of benefit to recognize in the financial statements. The tax position is measured at the largest amount of benefit that is greater than 50% likely of being realized upon ultimate settlement. The provisions of FIN 48 are effective for fiscal years beginning after December 15, 2006. Earlier application is permitted as long as the enterprise has not yet issued financial statements, including interim financial statements, in the period of adoption. The provisions of FIN 48 are to be applied to all tax positions upon initial adoption of this standard. Only tax positions that meet the more-likely-than-not recognition threshold at the effective date may be recognized or continue to be recognized upon adoption of FIN 48. The cumulative effect of applying the provisions of FIN 48 should be reported as an adjustment to the opening balance of retained earnings of the year adopted (or other appropriate components of equity or net assets in the statement of financial position) for that fiscal year. The Company is currently quantifying the impact of FIN 48.

In February 2007, FASB issued FAS No. 159, The Fair Value Option for Financial Assets and Financial Liabilities Including an Amendment of FASB Statement No. 115 (FAS 159). FAS 159 permits entities to choose to measure many financial instruments and certain other items at fair value. FAS 159 is effective for fiscal years beginning after November 15, 2007. The Company is currently evaluating the impact of adopting FAS 159 on its financial statements.

The FASB is currently working on amendments to the existing accounting standards governing asset transfers and fair value measurements in business combinations and impairment tests, among other issues. Upon completion of these standards, the Company will need to reevaluate its accounting and disclosures. Due to the ongoing deliberations of the standard setters, the Company is unable to accurately determine the effect of future amendments or proposals at this time.

Critical Accounting Policies

The Company s consolidated financial statements have been prepared in conformity with generally accepted accounting principles in the United States of America, which requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities, at the date of the financial statements and the reported amount of revenues and expenses during the reporting period. Actual results could differ from those estimates. Management uses its best judgment in valuing these estimates and may, as warranted, solicit external professional advice. The following critical accounting policies, some of

which are impacted significantly by judgments, assumptions and estimates, affect the Company s consolidated financial statements.

Revenue Recognition

Revenue from a project integration in either the Integration or Specialty segments are recognized on the percentage of completion method, whereby revenue and the related gross profit are determined based upon the actual costs incurred to date for the project to the total estimated project costs at completion. Project costs generally include all material and shipping costs, the Company s direct labor, subcontractor costs and an allocation of indirect costs related to the direct labor. Changes in the project scope, site conditions, staff performance and delays or problems with the equipment used on the project can result in increased costs that may not be billable or accepted by the customer and results in a loss or lower profit from what was originally anticipated at the time of the proposal.

Estimates for the costs to complete the project is continuously updated by management during the performance of the project. Provision for changes in estimated costs and losses, if any, on uncompleted projects are made in the period in which such losses are determined. In general, we determine a project to be substantially completed after:

1. The scope of work is completed which includes installing the equipment as required in the contract.

2. System is functional and has been tested.

3. Training has been provided.

The majority of the Company s projects are completed within a year. Revenue from product sales are recognized when title and risk of loss passes to the customer.

Service contracts, which are generally separate and distinct agreements from project agreements, are billed either monthly or quarterly on the last day of the month covered by the contract. Accordingly, revenue from service contracts are recognized ratably over the length of the agreement. In 2005 and 2006, the Company did not bundle any significant service contracts with our systems installation work.

The Diversified Security Solutions, Inc. division provides emergency planning services to commercial real estate owners and managers. In general, project labor is the predominant cost associated with the completion of these projects. The Company utilizes labor as the output measure in order to recognize revenue and believes this to be an accurate matching of costs and revenue.

Trade Receivables and Allowance for Doubtful Accounts

Trade receivables are stated at net realizable value. This value includes an appropriate allowance for estimated uncollectible accounts. The allowance is evaluated on a regular basis by management and is based upon historical experience with the customer, the aging of the past due amounts and the relationship with and economic status of our customers. The evaluation is based upon estimates taking into account the facts and circumstances at the time of the evaluation. Actual uncollectible accounts could exceed our estimates and changes to its estimates will be accounted for in the period of change. Account balances are charged against the allowance after all means of collection have been exhausted and the potential for recovery is considered remote. Our trade receivables are not collateralized.

Inventory Valuation

Inventories are stated at the lower of cost or market value. Cost has been determined using the first-in, first-out method. Inventory quantities on-hand are regularly reviewed, and where necessary, reserves for excess and obsolete inventories are recorded

Warranty

The Company offers warranties on all products, including parts and labor that range from one year to three years depending upon the type of product concerned. For products made by others, the Company passes along the manufacturer s warranty to the end user.

Intangible Assets

The Company s intangible assets include goodwill and other intangibles that consist of the fair value of acquired customer lists, service contracts acquired, trade names, and covenants not to compete. Goodwill represents the excess of purchase price over fair value of net assets acquired at the date of acquisition.

Effective January 1, 2002, the Company adopted the provisions of Statement of Financial and Accounting Standards (SFAS) 142 Goodwill and Other Intangible Assets . In accordance with that statement goodwill and intangible assets with indefinite lives are not amortized, but are tested at least annually for impairment. Prior to January 1, 2002, the Company had not recorded goodwill or other intangible assets of indefinite lives. Intangible assets with estimable useful lives, consisting primarily of acquired customer lists, service contracts and covenants not to compete are amortized on a straight-line basis over their estimated useful lives of three to fifteen years and are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset or asset group may not be recoverable. If the intangible asset s remaining useful life is changed, the intangible asset will be amortized over the remaining useful life. If the asset being amortized is determined to have an indefinite useful life, the asset will be tested for impairment. The impairment test will consist of measuring its fair value with its carrying amount. If the carrying amount of the intangible assets exceeds its fair value, an impairment loss is recognized for an amount equal to the excess and the adjusted carrying amount is recognized as its new accounting basis.

The Company s goodwill impairment test is based on a two part procedure consistent with the requirements of SFAS 142. The first test consists of determining the fair value of the reporting unit and comparing it to the carrying value of the reporting unit. If the carrying value of the reporting unit exceeds the fair value of the reporting unit, a second test is performed. In step two, the implied fair value of the goodwill (which is the excess of the fair value of the reporting unit over the fair value of the net assets) is compared to the carrying value of the goodwill. An impairment loss is recognized for any excess value of goodwill over the implied value. We determined the reporting unit by analyzing geographic regions, as management evaluates the Company s performance in this manner. We identified five separate and distinct operating units for the testing requirements of SFAS 142, and evaluate each reporting unit for impairment.

Income Taxes

Deferred taxes are provided on an asset and liability method whereby deferred tax assets are recognized for deductible temporary differences and operating loss carry forwards and deferred tax liabilities are recognized for taxable temporary differences. Temporary differences are the differences between the reported amounts of assets and liabilities and their tax basis. Deferred tax

assets are reduced by a valuation allowance when, in the opinion of management, it is more likely than not that some portion or all of the deferred tax assets will not be realized. Deferred tax assets and liabilities are adjusted for the effects of changes in tax laws and rates on the date of enactment.

Comparison of the year ended December 31, 2006 to the year ended December 31, 2005

Analysis of consolidated statement of operations

HENRY BROS. ELECTRONICS, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS

	For the years ended December 31,		
	2006	2005 (Corrected)	% change
Revenue	$ 42,132,852	$ 42,156,188	0.1%
Cost of revenue	31,586,736	31,581,187	
Gross profit	10,546,116	10,575,001	0.3%
Operating expenses:			
Selling, general & administrative expenses	11,952,477	8,422,193	41.9%
Goodwill & intangible asset impairment charges	1,191,000	44,999	2546.7%
Operating (loss) profit	(2,597,361)	2,107,809	-223.2%
Interest income	19,515	12,507	56.0%
Other expense	(674)	(3,780)	-82.2%
Interest expense	(103,923)	(84,985)	22.3%
Income (loss) before tax expense	(2,682,443)	2,031,551	-232.0%
Tax expense (benefit)	(422,305)	893,577	-147.3%
Net (loss) income after taxes	$ (2,260,138)	$ 1,137,974	-298.6%

Revenue **-** Revenue for the year ended December 31, 2006 was $42,132,852 representing a slight decrease as compared to $42,156,188 for the year ended December 31, 2005. In 2006, the New Jersey, Viscom and Texas Divisions experienced declines in revenues. The decline in New Jersey resulted from the wind down of two large projects in the New York metro area. Lower revenue from our Viscom group was attributable to a large project with the Santa Clara Valley Transportation Authority in 2005 that was not replaced in 2006. In response to the decline in revenues in our Texas Division changes in management were made to more effectively take advantage of the opportunities that exist in this market. These declines in revenues were offset by revenue from Securus (Colorado operations) acquired in October 2005 and CIS Security Systems Corp. (CIS) (Virginia and Maryland operations) acquired in October 2006 and higher revenue from our California and Arizona regions. Revenues from CIS were $1,774,493 for the year ended December 31, 2006. Revenues from governmental agencies represented 22.6% and 39% of total revenues, for the years ended December 31, 2006 and 2005, respectively.

Booked orders doubled to $26.6 million in the year ended December 31, 2006 as compared to $13.3 million in the corresponding period of 2005.

Cost of Revenue **-** Cost of revenue for the year ended December 31, 2006 was $31,586,736 as

compared to $31,581,187 for the year ended December 31, 2005. The gross profit margin for the year ended December 31, 2006 was 25.0% as compared to 25.1% for the year ended December 31, 2005. Higher gross profit dollars arising from the Securus and CIS acquisitions, as well as higher gross margins and dollars in our Diversified Security Solutions, Inc. division and the Arizona region for the year ended December 31, 2006 were offset by the decline in gross profit at our Viscom and Airorlite Divisions. The decline in Viscom gross profit margins was a direct result of wind down of the Santa Clara VTA project discussed in the Revenue section above and the $0.3 million write-down of slow moving inventory associated with the Viscom product line. Poor performance from the Texas Division contributed to the decline in gross profit margin. The decline at Airorlite largely resulted from the investment that was made by this division to support a project for a large legacy customer. This investment resulted in a solution for Time Delay Interference (TDI) in In-Building wireless systems. This solution for TDI is expected to have wider commercial application potential.

Selling, General and Administrative Expenses - Selling, general and administrative expense was $11,952,477 for the year ended December 31, 2006, as compared to $8,422,193 for the year ended December 31, 2005. This increase of 41.9% or $3,530,284 was primarily attributed to costs associated with the Securus acquisition made in October 2005, the CIS acquisition made in October 2006, lower utilization rates due in part to the move to our new offices in Fair Lawn, NJ, additional accruals related to our paid time off liability and higher commissions.

Goodwill and Intangible Asset Impairment Charges Based upon our goodwill evaluation under the requirements of SFAS 142, the Company took a charge to operations of $1,191,000 (or $.21 per diluted share) associated with goodwill impairment associated with our California banking vertical market for the year ended December 31, 2006. For the year ended December 31, 2005, the Company recorded a $44,999 impairment charge for the write-down of customer lists and service contract rights.

Interest Income Interest income for the year ended December 31, 2006 was $19,515, as compared to $12,507 for the year ended December 31, 2005.

Interest Expense - Interest expense for the year ended December 31, 2006 was $103,923, as compared to $84,985 for the year ended December 31, 2005. Average outstanding debt balance was considerably higher in the twelve month period ended December 31, 2006 versus for the year ended December 31, 2005, accounting for the higher interest expense in 2006.

Tax Expense Principally as a result of the loss before tax incurred by the Company for the year ended December 31, 2006, there was an overall tax benefit of $422,305. This benefit was partially offset by state income taxes for those jurisdictions that were profitable during the period. The write-off of the goodwill discussed above is a permanent difference under FASB 109, Accounting for Income Taxes . Accordingly, there was no tax benefit taken for this write-off. For the year ended December 31, 2005, the company recorded a tax provision of $893,577, which is an effective tax rate of 44%.

Net Income - As a result of the above noted factors our net loss was $2,260,138 for the year ended December 31, 2006 and our net income was $1,137,974 for the year ended December 31, 2005. This resulted in diluted loss per share of $0.39 on weighted average common shares outstanding of 5,746,065 for the year ended December 31, 2006, as compared to diluted earnings per share of $0.20 on weighted average common shares outstanding of 5,773,097 for the year ended December 31, 2005.

Comparison of the year ended December 31, 2005 to the year ended December 31, 2004

Analysis of consolidated statement of operations

HENRY BROS. ELECTRONICS, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS

	For the years ended December 31,		
	2005 (Corrected)	2004 (Corrected)	% change
Revenue	$ 42,156,188	$ 29,725,718	41.8%
Cost of revenue	31,581,187	22,305,632	41.6%
Gross profit	10,575,001	7,420,086	42.5%
Operating expenses:			
Selling, general & administrative expenses	8,422,193	6,943,885	21.3%
Goodwill & intangible asset impairment charges	44,999	77,000	-41.6%
Operating (loss) profit	2,107,809	399,201	428.0%
Interest income	12,507	12,624	-0.9%
Other expense	(3,780)		
Interest expense	(84,985)	(94,039)	-9.6%
Income (loss) before tax expense	2,031,551	317,786	539.3%
Tax expense (benefit)	893,577	148,147	503.2%
Net (loss) income after taxes	$ 1,137,974	$ 169,639	570.8%

Revenues - Revenues for the year ended December 31, 2005 were $42,156,188, representing an increase of $12,430,470 or 41.8%, as compared to $29,725,718 for the year ended December 31, 2004. The increase in revenue was principally related to an increase of $12,616,752 in the Company s integration business. The New Jersey/New York region accounted for approximately $11.5 million of the increased Integration revenue of which a single customer project represented approximately $5.2 million. Our backlog for this single customer project at December 31, 2005 was approximately $3.2 million as compared to $6.8 million at December 31, 2004. In October 2005, the Company acquired Securus, Inc., a provider of security integration systems. Revenues for Securus were $1,101,509 for the period October 11, 2005 through December 31, 2005. Revenues from governmental agencies represented 39% and 20% of total revenues, for the years ended December 31, 2005 and 2004, respectively.

Cost of Revenues - Cost of revenues for the year ended December 31, 2005 was $31,581,187, as compared to $22,305,632 for the year ended December 31, 2004. This was an increase of $9,275,555 or 41.6%. Gross profit margin was 25.1% for the year ended December 31, 2005, as compared to 25.0 % for the year ended December 31, 2004. Direct labor for our Integration segment decreased as a percent of revenue accounting for most of the increase in this segment s gross profit margin. Our specialty segment gross profit margin decreased to 32.4% for the year ended December 31, 2005 versus 43.3% for the same period of the prior year. The decrease on a flat revenue comparison is due to a change in the revenue mix from Airorlite to Viscom.

Selling, General and Administrative Expenses - Selling, general and administrative expenses increased to $8,422,193 for the year ended December 31, 2005, from $6,943,885 for the year ended

December 31, 2004. Selling, general and administrative expenses as a percentage of revenues decreased to 20.0% for the year ended December 31, 2005 versus 23.4% for the year ended December 31, 2004. This increase of $1,478,308, or 21.3%, was primarily attributable to increased headcount and staff costs. As the Company s revenues increased in 2005, our corporate expenses decreased as a percent of our consolidated revenue to 3.3% for the year ended December 31, 2005 as compared with 4.4% for the same period of the prior year.

Interest Income - Interest income for the year ended December 31, 2005 was $12,507, as compared to $12,624 for year ended December 31, 2004.

Interest Expense - Interest expense for the year ended December 31, 2005 was $84,985, as compared to $94,039 for the year ended December 31, 2004. The decrease of $9,054 was attributable to having an average lower debt balance of approximately $1,279,468 for the year ended December 31, 2005 as compared to $1,783,342 for the year ended December 31, 2004. This decrease was partially offset by increases in interest rates as the weighted average prime rate increased to 6.4% for the year ended December 31, 2005 versus 4.6% for the same period of the prior year.

Net Income - As a result of the factors noted above, for the year ended December 31, 2005 our net income was $1,137,974, as compared to a net income of $169,639 for the year ended December 31, 2004. This resulted in diluted earnings per share of $0.20 on weighted average common shares outstanding of 5,773,097 for the year ended December 31, 2005, as compared to diluted earnings per share of $0.03 on weighted average common shares outstanding of 5,411,964 for the year ended December 31, 2004.

Liquidity and Capital Resources As of December 31, 2006, we had cash and cash equivalents of $199,853. Our net current assets were $10,001,109 at December 31, 2006 versus $10,947,799 at December 31, 2005. Total debt at December 31, 2006 was $3,968,264 compared to the December 31, 2005 balance of $1,024,627.

Cash used in operating activities used $1,642,610 during the year ended December 31, 2006. In addition to the poor operating performance of the company resulting in a net loss of $2,260,138, the most significant use of cash resulted from an increase accounts receivable of $3,071,303 due to strong fourth quarter 2006 revenues. This was partially offset by a decrease in accounts payable of $1,930,035 and accrued expenses of $2,285,202.

Cash from investing activities used $3,059,364. The most significant expenditures were used for the: (1) funding of the CIS and SSI acquisitions (see Note 17 to the Consolidated Financial Statements); (2) capital costs associated with the consolidation of our New Jersey office and warehouse facilities into a new larger location; and (3) improvements to our information technology infrastructure.

Cash from financing activities provided $2,724,141 representing borrowing against the revolving credit facility, slightly offset by repayments of bank loans and capitalized lease payments.

Borrowings under the revolving credit facility at September 30, 2007 were $3,635,897. The Company is required to maintain certain financial and reporting covenants and restrictions on dividend payments under the terms of the Loan Agreement with TD Banknorth, N.A. (See Note 8 to the Consolidated Financial Statements included in this Annual Report on Form 10-K). The Company was not in compliance with certain of these bank covenants at December 31, 2006. TD Banknorth, N.A. provided the Company with a waiver associated with the bank covenants in default on October 11, 2007. As a condition of the waiver, the Company agreed to grant TD Banknorth a first security interest on its accounts receivable.

DIVIDENDS

We have not declared cash dividends on our common equity. The payment of dividends is

prohibited under the existing credit agreement with TD Banknorth. We may, in the future, declare dividends under certain circumstances.

SEASONALITY

Revenues generated by our services have typically been seasonal in nature and there could be periods of fluctuations in revenue volume due to the timing of project installations or factors that are beyond the Company s control, such as weather and construction delays.

INFLATION

Our revenues generally have kept pace with inflation.

OFF BALANCE SHEET ARRANGEMENTS

We do not have any financial partnerships with unconsolidated entities, such as entities often referred to as structured finance, special purpose entities or variable interest entities which are often established for the purpose of facilitating off-balance sheet arrangements or other contractually narrow or limited purposes. Accordingly, we are not exposed to any financing, liquidity, market or credit risk that could arise if we had such relationships.

AGGREGATE CONTRACTUAL OBLIGATIONS

As of December 31, 2006, the Company s contractual obligations, including payments due by period, are as follows:

	Payment due by period						
	2007	**2008**	**2009**	**2010**	**2011**	**Thereafter**	**Total**
Long -Term Debt Obligations	$ 214,048	$ 3,081,524	$ 108,365	$	$	$	$ 3,403,937
Interest Obligation on Long-term debt	14,539	251,051	7,382				272,972
Capital Lease Obligations	161,009	157,386	99,379	46,090			463,864
Short-term debt	162,397						162,397
Total	$ 551,993	$ 3,489,961	$ 215,126	$ 46,090	$	$	$ 4,303,170

Item 7A. Quantitative and Qualitative Disclosures about Market Risk

We have one revolving credit facility for which the interest rate on outstanding borrowings is variable and is based upon the prime rate of interest. At December 31, 2006 and 2005, there was $2,847,897, and $0, respectively, outstanding under this revolving credit facility.

Item 8. Financial Statements and Supplementary Data

Refer to pages F-1 through F-35.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

During the year ended December 31, 2006, there were no changes in or disagreements with the Company s principal independent accountant on accounting or financial disclosure.

Item 9A. Controls and Procedures

Controls and Procedures

(a) The Company carried out an evaluation, under the supervision and with the participation of the Company s management, including the Company s Chief Executive Officer, Chief Operating Officer and Chief Financial Officer, of the design and operation of the Company s disclosure controls and procedures, as defined under Rule 13a-15(e) of the Securities and Exchange Act of 1934, as of the end of the period covered by this report. Based on this evaluation, the Chief Executive Officer Chief Operating Officer and Chief Financial Officer concluded that, as of December 31, 2006, the design and operation of the Company s disclosure controls and procedures were not effective because of the material weakness in the Company s internal control over financial reporting described in the following paragraphs.

As a result of these weaknesses, we performed extensive detail testing and reconciliation of past transactions in order to be able to determine the proper presentation of our financial information for past and current periods. These weaknesses in our internal disclosure controls and procedures were the cause of the delay in filing of this Annual Report on Form 10-K.

We learned that the Company did not maintain adequate policies and reconciliation procedures over the accounting for intercompany clearing and cash accounts and income taxes. These weaknesses resulted in the following errors in the annual and interim consolidated financial statements:

The Company s intercompany clearing and cash accounts were not properly reconciled for 2006 which led to an imbalance in the consolidated financial statements. Over the course of the last six months, with the addition of a new Corporate Controller and the assistance of an outside public accounting firm, the Company evaluated every material transaction and discovered a number of significant deficiencies in internal controls that have been adjusted for the year ended December 31, 2006. Certain of these adjustments affected prior quarters in 2006 and those corrections have been made in Note 19 in this Annual Report on Form 10-K and will be reflected in subsequent quarterly filings on the Company s Quarterly Reports on Form 10-Q.

The Company had certain errors in its accounting for income tax under SFAS No. 109 for the years 2002 through 2005. Specifically, the Company:

- Did not properly account for the stock acquisitions that occurred between 2002 and 2005. The Company did not record a deferred tax liability and corresponding increase to goodwill related to the differences in book and tax basis on acquired assets other than goodwill. In addition, the Company did not record a deferred tax asset and corresponding decrease to goodwill related to acquired net operating loss carryforward s of these acquired companies.
- Recorded an adjustment for the understatement of current tax liabilities resulting from the erroneous amortization of acquired intangibles for which there was no tax

basis. The Company also recorded an adjustment for the net operating loss carryback s and carryforward s that rectified the understatement of tax liabilities in prior periods.

- o Recorded an adjustment that resulted from the additional provision that should have been recorded related to SFAS No. 123(R) compensatory expense associated with Qualified (Statutory) Stock Options. Under SFAS No. 123(R), compensation expense is recorded through the income statement based on the fair market value of the compensation associated with the granting of stock options. To the extent that the Company will realize a tax deduction at the time of exercise, a corresponding amount of tax benefit is recorded through the income statement at the time the SFAS No. 123(R) deduction is reflected and is then trued-up when actually exercised. Since pursuant to the tax laws there is generally no tax deduction associated with the exercise of statutory options, (e.g. Incentive Stock Options), no tax benefit is recorded at the time of the SFAS No. 123(R) deduction; the book deduction is treated as a permanent difference. If there is a subsequent disqualifying disposition of the statutory option that gives rise to a tax deduction (e.g. employee sells the exercised shares before one year from the date of exercise), a tax benefit is taken at that time.

After analyzing the materiality of the impact arising from these weaknesses in accordance with the provisions of SAB 108, management concluded that the financial statements for the years ended December 31, 2005 and 2004 included as part of this Annual Report on Form 10-K, and the Selected Financial Data included as Item 6 of this Annual Report on Form 10-K should be corrected to reflect the proper accounting related to income taxes. The impact resulting from these corrections for income tax accounting that had an income statement impact was to increase (decrease) tax expense by $(29,696), $(125,618), $111,080, and $99,776, for the years ended December 31, 2005, 2004, 2003 and 2002, respectively, with a corresponding increase or decrease to net tax liabilities. The impact resulting from these corrections for income tax accounting that only had a balance sheet impact was to increase net deferred taxes by $549,262, $580,032, $533,648 and $533,648 for the years ended December 31, 2005, 2004, 2003 and 2002, respectively, with a corresponding net increase to goodwill. Unadjusted differences were not material to 2006 or individually to the prior years.

While we are in the process of implementing a more efficient and reliable system of disclosure controls and procedures, we have, on an immediate basis, instituted interim compensating controls and procedures to ensure that information required to be disclosed in this Annual Report on Form 10-K has been recorded, processed, summarized and reported to our senior management. The steps that we have taken to ensure that all material information about our company is accurately disclosed in this report include:

- the appointment of a new Chief Financial Officer in August 2006;
- the appointment of a new Chief Operating Officer (COO) in August 2006. The COO then assumed the additional responsibilities of President in March 2007;
- the appointment of a new Corporate Controller in April 2007;
- the appointment of a new Controller for our California operations in April 2007;

- the engagement of an outside accounting firm to assist management in the preparation of our financial statement income tax provision in February 2007;
- the performance of an extensive review of our financial statements for the years ended December 31, 2006 and December 31, 2005; and
- the engagement of outside professionals specializing in accounting to assist our management in the collection, substantiation and analysis of the information contained in this report.
- changed the accounting process of recording and reconciling accounts that resulted in either a significant deficiency or material weakness;
- implemented revised accounting procedures for recording and reconciling intercompany clearing and cash accounts and designed changes within the Company s financial reporting system to ensure all intercompany accounts eliminate in consolidation. These changes substantially do away with the use of spreadsheets as the tool to ensure that all intercompany accounts eliminate in consolidation, which are inherently more difficult to ensure compliance with the Company s internal control policies. Eliminating the use of spreadsheets also allows for fuller use of the Company s financial reporting system and the internal control safeguards built into the financial reporting software;
- designed changes within the Company s financial reporting system to allow the financial reporting system to be the sole source of the consolidation of financial results of the Company. This change eliminated the use of spreadsheets, which was the method formerly used to consolidate the Company s financial results; and

Nonetheless, a control system, no matter how well designed and operated, cannot provide absolute assurance that the objectives of the control system are met, and no evaluation of controls can provide absolute assurance that all control issues have been detected.

(b) Change in Internal Controls over Financial Reporting:

As required by Rule 13a-15(d), the Company s executive management including the Chief Executive Officer, the Chief Operating Officer and the Chief Financial Officer, also conducted an evaluation of the company s internal controls over financial reporting to determine whether any change occurred during the Company s last fiscal quarter that has materially affected, or is reasonably likely to materially affect, the Company s internal controls over financial reporting. Based on that evaluation, in order to correct the weaknesses described above and to improve our internal disclosure and control procedures on a going forward basis, we have:

- implemented consolidated financial and operational review procedures, with each operating unit; and
- hired additional qualified accounting personnel.

We intend to continue to evaluate our internal disclosure controls and procedures and implement improvements as required.

Item 9B. Other Information

There were no events requiring disclosure that had not been made under Form 8-K in the fourth quarter of our fiscal year.

PART III

Item 10. Directors, Executive Officers and Corporate

Identification of Directors (ages are as of September 4, 2007)

Name	Age	Position(s) with the Company	Director Since
James E. Henry	53	Chairman, Chief Executive Officer, Treasurer and Director	1999
Brian Reach.	52	Vice Chairman, President, Chief Operating Officer, Secretary and Director	2004
Joseph P. Ritorto	75	Director	2002
Robert L. De Lia Sr	59	Director	2004
David Sands	50	Director	2005
James W. Power	77	Director	2005

Identification of Executive Officers (ages are as of September 4, 2007)

Name	Age	Position(s) with the Company	Officer Since
James E. Henry	53	Chief Executive Officer and Treasurer	1999
Brian Reach	52	President	2007
		Chief Operating Officer	2006
		Vice-Chairman, Secretary	2004
John P. Hopkins	47	Chief Financial Officer	2006
Brian J. Smith	52	Corporate Controller	2007

James E. Henry co-founded the Company s predecessor company in 1989 and served as President and Chief Executive Officer until December 2001 when he was elected Chairman of the Board. Mr. Henry continues to serve as Chief Executive Officer and is also the Company s Treasurer. Mr. Henry graduated from the University of New Hampshire with a Bachelor of Science degree in electrical engineering. In addition to his other responsibilities, Mr. Henry has continued to design, install, integrate and market security and communications systems as well as manage the Company s research and development.

Brian Reach, in addition to his prior duties, was named Chief Operating Officer in August 2006 and President in March 2007. Mr. Reach has been a member of the Company s Board of Directors since February 2004 and has served as the Company s Vice-Chairman since June 2004 and as its Secretary since November 2004. From September 1999 until April 2002, Mr. Reach was the Chief Financial Officer of Globix Corporation, a provider of application, media and infrastructure management services. From May 1997 to August 1999, Mr. Reach was the Chief Financial Officer of IPC Communications, a provider of integrated telecommunications equipment and services to the financial industry. During his tenure at IPC, Mr. Reach successfully guided IPC through its leveraged recapitalization and financially restructured IPC enabling it to invest in strategic acquisitions and next generation technologies. Prior to IPC, Mr. Reach was the Chief Financial Officer of Celadon Group, Inc. and Cantel Industries, Inc. Mr. Reach became a certified public

accountant in 1980 and received his Bachelor of Science degree in accounting from the University of Scranton in 1977.

Joseph P. Ritorto has been a member of our Board since January 2002. Mr. Ritorto is the co-founder of First Aviation Services, Inc., which is located in Teterboro Airport, Teterboro, New Jersey and provides a variety of aviation support services. Mr. Ritorto has been an officer, in various capacities, of First Aviation Services since 1986. From 1991, until he retired in May 2001, Mr. Ritorto served as the Senior Executive Vice President and Chief Operating Officer of Silverstein Properties, Inc. In this capacity, Mr. Ritorto s responsibilities included overseeing operations and directing the lease administration of Silverstein owned and managed properties.

Robert L. De Lia, Sr. has been a member of our Board since May 2004. Currently, Mr. De Lia is vice president of TJ s Motorsport, a privately held company dedicated to supplying quality motor sport products. From 2002 to 2003, Mr. De Lia was the President and Chief Executive Officer of Airorlite Communications, Inc., a company that specializes in designing, manufacturing and maintaining wireless communications equipment used to enhance and extend emergency radio frequency services and cellular communication for both fixed and mobile applications. In April 2004, a wholly-owned subsidiary of the Company purchased all of the issued and outstanding shares of stock of Airorlite Communications, Inc. From 1987 to 1999, Mr. De Lia was the President and Chief Executive Officer of Fiber Options, Inc. Mr. De Lia graduated from the New York Institute of Technology in 1969.

David Sands has served as a director of the Company since 2005. Mr. Sands is a certified public accountant and a partner of Buchbinder Tunick & Company LLP where he is the head of the tax department. Mr. Sands is a member of the American Institute of Certified Public Accountants and the New York State Society of CPAs. Mr. Sands has also lectured at the New York University Summer Continuing Education and the Foundation for Accounting Education Programs. Mr. Sands received a Bachelor of Science from SUNY at Buffalo and a Master of Science in Taxation from Pace University.

James W. Power has served as a director of the Company since December 2005. Mr. Power is Chairman of AXIUM, Inc., a digital video recording company; Chairman of MDI, Inc, a Nasdaq listed provider of integrated access control and physical security products for government and commercial organizations; director of RAE Systems, Inc., a manufacturer of equipment used to detect weapons of mass destruction, hazardous materials and toxic chemicals; and the principal partner in J.W. Power & Associates. Mr. Power previously served as Chairman of the Board of InfoGraphic Systems Corp.; President and Chief Executive Officer of Martec\SAIC; President and Chief Executive Officer of Pinkerton Control Systems and has held senior executive positions with Cardkey Systems, Inc., Nitrol Corporation and TRW Data Systems. Previously, he has served as a director of National Semiconductor, ICS Corporation, and Citicorp Custom Credit and Citicorp Credit Services.

John P. Hopkins was appointed Chief Financial Officer in August 2006. Prior to joining the Company, Mr. Hopkins was Chief Financial Officer for Measurement Specialties from July 2002 to August 2006, was Vice President, Finance from April 2001 to July 2002, and was Vice President and Controller from January 1999 to March, 2001, with Cambrex Corporation, a provider of scientific products and services to the life sciences industry. From 1988 to 1998, he held various

senior financial positions with ARCO Chemical Company, a manufacturer and marketer of specialty chemicals and chemical intermediates. Mr. Hopkins is a Certified Public Accountant and was an Audit Manager for Coopers & Lybrand prior to joining ARCO Chemical. Mr. Hopkins holds a B.S. in Accounting from West Chester University, and an M.B.A. from Villanova University.

Brian J. Smith was appointed Corporate Controller in April 2007. Prior to joining the Company, Mr. Smith was VP-General Manager NetVersant of New York, a provider of voice and data system infrastructure from 2002. From 1991 to 2002 Mr. Smith held various senior financial positions with Insilco Technologies, a manufacturer and distributor of electronic components. Mr. Smith is a Certified Public Accountant and was and began his career as an auditor for KPMG Peat Marwick. Mr. Smith holds a B.S. in Accounting from Fordham University.

(c) Compliance with Section 16(a) of the Exchange Act

Section 16(a) of the Exchange Act, requires our directors and officers, and persons who own more than 10% of our Common Stock, to file with the Securities and Exchange Commission initial reports of beneficial ownership and reports of changes in beneficial ownership of our Common Stock and other equity securities. Our officers, directors and greater than 10% beneficial owners are required by SEC regulation to furnish us with copies of all Section 16(a) forms they file.

To our knowledge, for the year ended December 31, 2006, based solely on a review of the copies of such reports furnished to the Company and representations by these individuals that no other reports were required during the year ended December 31, 2006, all Section 16(a) filing requirements applicable to our directors, officers and greater than 10% beneficial owners have been timely filed except that Messrs. Power and Hopkins did not timely file a Form 4 and Form 3, respectively. These forms have since been filed.

(d) Code of Conduct and Ethics

We have a Code of Conduct that applies to all of our directors, officers and employees, including our principal executive officer, principal financial officer and principal accounting officer and a Code of Ethics that applies to our senior financial officers. You can find our Code of Conduct and Code of Ethics on our website: www.hbe-inc.com. We will post there any amendments to these Codes, as well as any waivers that are required to be disclosed by the rules of either the Securities and Exchange Commission or American Stock Exchange.

Item 11. Executive Compensation

Summary Compensation Table

The following table sets forth summary information concerning the annual compensation for the year ended December 31, 2006 for our principal executive officer (PEO), principal financial officer (PFO) and our most highly compensated executive officers other than our PEO and our PFO for the year ended December 31, 2006:

Name and Principal Position	Year	Salary ($)	Bonus ($)	Option Awards ($)(1)	All Other compensation ($)	Total ($)
James E Henry, Chairman, Chief Executive Officer, Treasurer and Director	2006	$ 130,680	$		$ 3,000	$ 133,680
Irvin F. Witcosky, President and Director (2)	2006	$ 130,680	$		$ 3,000	$ 133,680
Brian Reach, Vice Chairman, Chief Operating Officer, Secretary and Director (3)	2006	$ 72,000	$	$ 42,363	$ 6,052	$ 120,415
John P. Hopkins, Chief Financial Officer (4)	2006	$ 70,000	$	$ 13,283	$ 3,000	$ 86,283
Phlip A. Timpanaro, Corporate Controller (4)	2006	$ 128,672	$	$ 13,924	$ 0	$ 142,596

(1) Represents the dollar amount recognized for financial statement reporting purposes with respect to the year ended December 31, 2006 for the fair value of the option granted to the named executive officer. The fair value was estimated in accordance with FASB 123R. For a more detailed discussion on the valuations made and assumptions used to calculate the fair value of our options refer to Note 10 of our Annual Report on Form 10-K for the year ended December 31, 2006.

(2) Irvin F. Witcosky was the Company s President and Chief Operating Officer in prior years. Effective August 8, 2006, Mr. Witcosky ceased being the Chief Operating Officer. Effective March 23, 2007, Mr. Witcosky resigned as an officer and director of the Company.

(3) Effective August 8, 2006, Mr. Reach assumed the position of Chief Operating Officer. Effective March 23, 2007, Mr. Reach assumed the additional position of President.

(4) Philip A. Timpanaro was the Company s Chief Financial Officer. Effective August 8, 2006, Mr. Timpanaro ceased being the Chief Financial Officer and became the Corporate Controller and John P. Hopkins became the Chief Financial Officer. Effective April 13, 2007, Mr. Timpanaro resigned from the Company.

Grants of Plan-Based Awards in 2006.

The following table contains information related to the grant of stock options under our existing stock option plans issued by us during 2006 to executive officers named in the Summary Compensation Table with awards disclosed on a grant-by-grant basis:

Name	Grant Date (1)	Estimated Future payouts Under Equity Incentive Plan Awards			Exercise or Base Price of Option Awards ($/Sh)	Grant Date Fair Value of Stock and Option ($) (2)
		Threshold (#)	Target (#)	Maximum (#)		
James E. Henry						
Irvin F. Witcosky						
Brian Reach	8/8/2006			50,000 (3)	3.71	$ 53,131
John P. Hopkins	8/8/2006			150,000 (4)	3.71	$ 159,393
Phlip A. Timpanaro						

(1) Represents grants under the Company s 2002 Stock Option Plan.

(2) Represents the dollar amount recognized for financial statement reporting purposes with respect to the year ended December 31, 2006 for the fair value of the option granted to the named executive officer. The fair value was estimated in accordance with FASB 123R. For a more detailed discussion on the valuations made and assumptions used to calculate the fair value of our options refer to Note 10 of our Annual Report on Form 10-K for the year ended December 31, 2006.

(3) Represents grant of 50,000 incentive stock options which vests in five equal installments of 10,000 on August 8, 2007, 2008, 2009, 2010, and 2011, respectively.

(4) Represents grant of 150,000 incentive stock options which vests in five equal installments of 30,000 on May 27, 2006, 2007, 2008, 2009, and 2011, respectively.

Outstanding Equity Awards at December 31, 2006.

The following table contains information concerning unexercised options held as of December 31, 2006 by the executive officers named in the Summary Compensation Table:

	Option Awards				
Name	Number of Securities Underlying Options Exercisable (#)	Number of Securities Underlying Options Unexercisable (#)	Equity Incentive Plan Awards: Number of Securities Underlying Unexercised Unearned Options (#)	Option Exercise Price ($)	Option Expiration Date
James E. Henry					
Irvin F. Witcosky					
Brian Reach	100,000 (1)			7.10	5/31/2009
		50,000 (2)		3.71	8/8/2012
John P. Hopkins		150,000 (3)		3.71	8/8/2012
Philip A. Timpanaro	5,000 (4)	20,000 (4)		5.65	5/27/2010

(1) Represents grant of 100,000 incentive stock options which vests equally in 25 monthly installments of 4,000, with the installment vesting on June 30, 2004.

(2) Represents grant of 50,000 incentive stock options which vests in five equal installments of 10,000 on August 8, 2007, 2008, 2009, 2010, and 2011, respectively.

(3) Represents grant of 150,000 incentive stock options which vests in five equal installments of 30,000 on May 27, 2006, 2007, 2008, 2009, and 2011, respectively.

(4) Represents grant of 25,000 incentive stock options which vests in five equal installments of 5,000 on August 8, 2006, 2007, 2008, 2009, and 2010, respectively.

COMPENSATION OF DIRECTORS

Directors who are also our employees receive no additional compensation for attendance at board meetings. Mr. Henry and Mr. Reach are the only members of the Board of Directors who are also employees. The Company s non-employee directors receive a quarterly fee of $1,250 and an annual stock option grant to purchase 2,000 shares of the Company s common stock at the closing share price on the day of the grant and $1,000 for attendance at each Board or Committee meeting. For the year ended December 31, 2006, all of our outside Directors, that is, Directors who are not employees or full-time consultants of the Company, each received compensation as follows:

Name	Fees Earned or Paid in Cash ($) (1)	Option Awards ($) (2)	Total ($)
Robert De Lia, Sr.	10,000	756 (3)	10,756
James W. Power	6,750	756 (4)	7,506
Joseph P. Ritorto	8,000	756 (5)	8,756
David Sands	10,000	756 (6)	10,756

(1) Outside Directors each receive a cash retainer at a rate of $5,000 per annum. The Company reimburses Director s for out-of-pocket expenses incurred travelling to Board of Director s meetings.

(2) Represents the dollar amount recognized for financial statement reporting purposes with respect to the year ended December 31, 2006 for the fair value of the option granted to the named executive officer. The fair value was estimated in accordance with FASB 123R. For a more detailed discussion on the valuations made and assumptions used to calculate the fair value of our options refer to Note 10 of our Annual Report on Form 10-K for the year ended December 31, 2006.

(3) At December 31, 2006, Mr. De Lia, Sr. held options to purchase 6,000 shares of Common Stock.

(4) At December 31, 2006, Mr. Power held options to purchase 4,000 shares of Common Stock.

(5) At December 31, 2006, Mr. Ritorto held options to purchase 11,000 shares of Common Stock.

(6) At December 31, 2006, Mr. Sands held options to purchase 4,000 shares of Common Stock.

COMPENSATION COMMITTEE INTERLOCKS AND INSIDER PARTICIPATION

The members of the Compensation Committee in 2006 were Messrs. De Lia, Power and Ritorto. The Board made all decisions concerning executive compensation during 2006. No executive officer of the Corporation served as a member of the Board of Directors of another entity during 2006. None of the members of the Compensation Committee has ever been an officer or employee of Henry Bros. Electronics, Inc. or any of its subsidiaries, and no compensation committee interlocks existed during fiscal 2006.

COMPENSATION DISCUSSION AND ANALYSIS

Through the following questions and answers we explain all material elements of our executive compensation:

What are the objectives of our executive compensation programs?

Our corporate goal is to maximize our total return to our shareholders through share price appreciation. Towards this goal, we seek to compensate our executives at levels that are competitive

with peer companies so that we may attract, retain and motivate highly capable executives. We also design our compensation programs to align our executives interests with those of our shareholders.

Our 2006 executive compensation, including stock option grants awarded for and in 2006, reflects our effort to realize these objectives.

What are the principal components of our executive compensation programs?

Overview: Our executive compensation programs consist of three principal components: (i) a base salary; (ii) annual bonuses; and (iii) stock option grants. The Company s policy for compensating our executive officers is intended to provide significant annual long-term performance incentives. We describe each of these principal components below.

Relationship of the principal components: We have allocated the three principal components of our executive compensation programs in a manner that we believe optimizes each executive s contribution to us. We have not established specific formulae for making the allocation.

Base Salary: We do not have employment agreements with any of our executives. Base salaries for executive officers are determined by evaluating a variety of factors, including the experience of the individual, the competitive marketplace for managerial talent, the Company s performance, the executive s performance, and the responsibilities of the executive. Although our Compensation Committee annually reviews salaries of our executive officers, our Compensation Committee does not automatically adjust base salaries if it concludes that adjustments to other components of the executive s compensation would be more appropriate.

Annual Bonus: Cash bonus awards are based on a variety of factors, including the individual performance of the executive and the Company s performance.

Long-Term Incentive Compensation (Stock Options for Common Shares): The Compensation Committee believes that stock-based compensation arrangements are essential in aligning the interests of management and the stockholders. The Company s 2002 and 2006 Stock Plan provides for the issuance of stock options to its executive officers and other employees. Stock options to purchase shares of the Company s common stock are issued at an exercise price equal to the fair market value of such stock on the date immediately preceding the date on which the stock option is granted. These options typically vest over a three to five year period from the date of grant and are granted to the Company s executive officers and other employees as a reward for past individual and corporate performance and as an incentive for future performance. The size of awards is determined by the Committee based on factors such as the executive s position, individual performance and the Company s performance.

What do we seek to reward and accomplish through our executive compensation programs?

We believe that our compensation programs, collectively, enable us to attract, retain and motivate high quality executives. We provide annual bonus awards primarily to provide performance incentives to our key employees to meet corporate performance objectives. Our corporate objectives are measured by sales increases, operating margins, net income and other items of performance as determined on an annual basis. We design long-term incentive awards primarily to motivate and reward key employees over longer periods. Through vesting and forfeiture provisions that we include in awards of stock options we provide an additional incentive to executives to act in furtherance of our longer-term interests. An executive whose employment with us terminates before

equity-based awards have vested, either because the executive has not performed in accordance with our expectations or because the executive chooses to leave, will generally forfeit the unvested portion of the award.

Why have we selected each principal component of our executive compensation programs?

We have selected programs that we believe are commonly used by public companies, both within and outside of our industry, because we believe commonly used programs are well understood by our shareholders, employees and analysts. Moreover, we selected each program only after we first confirmed, with the assistance of outside professional advisors, that the program comports with settled legal and tax rules.

How do we determine the amount of each principal component of compensation to our executives?

Our Compensation Committee exercises judgment and discretion in setting compensation for our senior executives. The Committee exercises its judgment and discretion only after it has first evaluated the recommendations of our Chief Executive Officer and evaluated our corporate performance.

What specific items of corporate performance do we take into account in setting compensation policies and making compensation decisions?

Our corporate performance primarily impacts the annual bonuses and long-term incentive compensation that we provide our executive officers. We use or weight items of corporate performance differently in our annual bonus and long-term compensation awards and some items are more determinative than others.

Goals for executives in 2006 vary because the areas of responsibility of executives differ. Goals are generally developed around metrics tied to our growth and profitability, including increases in revenue and operating profit, decreases in expenses, completion of developments in accordance with budgets and timelines, execution of acquisitions in accordance with targets, enhanced operational efficiencies and development of additional opportunities for our long-term growth.

How do we determine when awards are granted, including awards of equity-based compensation?

Historically, our Compensation Committee has awarded annual bonuses in the quarter following the year end. The Compensation Committee makes awards of stock options on an ad hoc basis, but generally quarterly, following review of pertinent financial information and industry data. In addition, the Compensation Committee conducts a thorough review of stock option awards and grant procedures annually. The date on which the Committee has met has varied from year to year, primarily based on the schedules of Committee members and the timing of compilation of data requested by the Committee.

Over the past years our equity-based awards to executives have taken the form of stock options. The number of stock options subject to an award has been computed by taking into account the Company s performance, the particular executive s performance, our retention objectives, and other factors.

What factors do we consider in decisions to increase or decrease compensation materially?

Historically, we have generally not decreased the base salaries of our executive officers or reduced their incentive compensation targets due to individual performance. When an executive s performance falls short of our expectations then we believe our interests are best served by replacing the executive with an executive who performs at the level we expect. The factors that we consider in decisions to increase compensation include the individual performance of the executive, responsibility of the executive and our corporate performance, as discussed above.

To what extent does our Compensation Committee consider compensation or amounts realizable from prior compensation in setting other elements of compensation?

The primary focus of our Compensation Committee in setting executive compensation is the executive s current level of compensation, including recent awards of long-term incentives, taking into account the executive s performance and our corporate performance. The Committee has not adopted a formulaic approach for considering amounts realized by an executive from prior equity-based awards.

How do accounting considerations impact our compensation practices?

Accounting consequences are not a material consideration in designing our compensation practices. However, we design our equity awards so that its overall cost fell within a budgeted dollar amount and so that the awards would qualify for classification as equity awards under FAS 123R. Under FAS 123R the compensation cost recognized for an award classified as an equity award is fixed for the particular award and, absent modification, is not revised with subsequent changes in market prices of our common shares or other assumptions used for purposes of the valuation.

How do tax considerations impact our compensation practices?

Prior to implementation of a compensation program and awards under the program, we evaluate the federal income tax consequences, both to us and to our executives, of the program and awards. Before approving a program, our Compensation Committee receives an explanation from our outside professionals as to the tax treatment of the program and awards under the program and assurances from our outside professionals that the tax treatment should be respected by taxing authorities.

Section 162(m) of the Internal Revenue Code limits our tax deduction each year for compensation to each of our Chief Executive Officer and our four other highest paid executive officers to $1 million unless, in general, the compensation is paid under a plan that is performance-related, non-discretionary and has been approved by our shareholders. Generally, Section 162(m) has not had a significant impact on our compensation programs.

What are our equity or other security ownership requirements for executives and our policies regarding hedging the economic risk of share ownership?

We do not maintain minimum share ownership requirements for our executives. We do not have a policy regarding hedging the economic risk of share ownership.

To what extent do we benchmark total compensation and material elements of compensation and what are the benchmarks that we use?

While the Compensation Committee does not perform formal benchmarks, they do compare the elements of total compensation to compensation provided by knowledge gained in the industry.

Do we have a policy regarding the recovery of awards or payments if corporate performance measures upon which awards or payments are based are restated or adjusted in a manner that would reduce the size of an award or payment?

For non-executive officers, we have a policy that provides for a case-by-case review to determine if a recovery of an award is necessary if a performance measure used to calculate the award is subsequently adjusted in a manner that would have reduced the size of the award. For executive officers, we have a policy that requires a recovery of an award if a performance measure used to calculate the award is subsequently adjusted in a manner that would have reduced the size of the award.

What is the role of our executive officers in the compensation process?

Our Compensation Committee meets periodically with our Chief Executive Officer to address executive compensation, including the rationale for our compensation programs and the efficacy of the programs in achieving our compensation objectives. The Compensation Committee also relies on executive management to evaluate compensation programs to assure that they are designed and implemented in compliance with laws and regulations, including SEC reporting requirements. The Compensation Committee relies on the recommendations of our Chief Executive Officer regarding the performance of individual executives. At meetings in 2006 the Compensation Committee received recommendations from our Chief Executive Officer regarding salary adjustments and annual bonus and stock option awards for our executive officers. Our Chief Executive Officer plays a significant role in determining the annual cash compensation of our executive officers. The Compensation Committee believes that it is important for it to receive the input of the Chief Executive Officer on compensation matters since he is knowledgeable about the activities of our executive officers and the performance of their duties and responsibilities, as well as their contributions to the growth of the Company and its business. The Compensation Committee accepted these recommendations after concluding that the recommendations comported with the Committee s objectives and philosophy and the Committee s evaluation of our performance and industry data.

Compensation Committee Report

Our Compensation Committee has reviewed and discussed the Compensation Discussion and Analysis with our management and based on the review and discussion recommended to the Board that the Compensation Discussion and Analysis be included in this Annual Report on Form 10-K. The Board accepted the Compensation Committee s recommendation. This report is made by the undersigned members of the Compensation Committee:

Robert L. De Lia, Sr. (Chair)
James W. Power
Joseph P. Ritorto

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

a) The following table provides information with respect to the equity securities that are authorized for issuance under our compensation plans as of December 31, 2006:

Equity Compensation Plan Information - For the Year Ended December 31, 2006:

Plan category	Number of securities to be issued upon exercise of outstanding options, warrants and rights *(a)*	Weighted average exercise price of outstanding options, warrants and rights *(b)*	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a)) *(c)*
Equity compensation plans approved by security holders	670,600*	$ 5.17	282,909
Equity compensation plans not approved by security holders	199,662**	$ 7.58	
Total	870,262	$ 7.41	282,909

* This amount includes options issuable pursuant to our 2002 and 2006 Stock Option Plans. The plans authorizes the issuance of options to purchase up to 230,000 and 250,000 shares of our Common Stock to employees, directors, and consultants of the Company under the 2002 and 2006 Stock Option Plans, respectively.

Also included are options issuable pursuant to our Incentive Stock Option Plan. The Board of Directors and our shareholders approved the adoption of the Incentive Stock Option Plan on December 23, 1999. Our Incentive Stock Option Plan provides for the granting of options to purchase a maximum of 500,000 shares of the Company s common stock.

** This amount includes a five year option (currently exercisable) granted to the Wall Street Group (WSG) consisting of 5,996 shares granted November 5, 2002 with an exercise price of $6.90 per share, issued in connection with an agreement to provided certain services dated November 1, 2001 and terminated in April 2003. Also included are warrants to purchase 138,333 and 55,333 shares at $7.60 expiring January 27, 2010, that were granted in connection with the issuance of 553,333 shares of our common stock to certain qualified institutional investors and the placement agent, respectively, in July 2004.

b) Security Ownership Of Certain Beneficial Owners And Management And Related Stockholder Matters

The table that follows sets forth, as of September 4, 2007 certain information regarding beneficial ownership of our common stock by each person who is known by us to beneficially own more than 5% of our common stock. The table also identifies the stock ownership of each of our directors, each of our officers, and all directors and officers as a group. Except as otherwise indicated, the stockholders listed in the table have sole voting and investment powers with respect to the shares

indicated. Unless otherwise indicated, the business address for each of the named individuals is Henry Bros. Electronics, Inc., 17-01 Pollitt Drive, Fair Lawn, New Jersey 07410.

Shares of common stock which an individual or group has a right to acquire within 60 days pursuant to the exercise or conversion of options, warrants or other similar convertible or derivative securities are deemed to be outstanding for the purpose of computing the percentage ownership of such individual or group, but are not deemed to be outstanding for the purpose of computing the percentage ownership of any other person shown in the table.

The applicable percentage of ownership is based on 5,916,065 shares outstanding as of September 4, 2007.

Name address and title of beneficial owner	Number of shares beneficially owned	Percentage of Common Stock Beneficially Owned
James E. Henry, Chairman, Chief Executive Officer, Treasurer and Director	1,400,000	23.7%
Brian Reach, Vice-Chairman, President, Chief Operating Officer, Secretary, and Director (1)	195,000	3.3%
John P. Hopkins, Chief Financial Officer (2)	30,000	*
Brian J. Smith, Corporate Controller		*
Robert De Lia, Sr., Director (3)	44,000	*
James W. Power, Director (4)	4,000	*
Joseph P. Ritorto, Director (5)	46,000	*
David Sands, Director (6)	4,000	*
All executive officers and directors as a group (8 persons) (7)	1,723,000	29.1%

* Less than 1%

CERTAIN BENEFICIAL OWNERS

The following table gives information about each additional shareholder known by us to be a beneficial owner of more than 5 percent of common stock as of September 4, 2007, based on information filed with the SEC:

	Amount of	Percent
Irvin F. Witcosky (8)	1,361,800	23.0%
Richard D. Rockwell (9)	528,000	8.9%

(1) The amount shown for Mr. Reach includes a currently exercisable option to purchase 100,000 shares of the Company s Common Stock at a price of $7.10 per share and a currently exercisable option to purchase 10,000 shares of

the Company s Common Stock at a price of $3.71 per share.

(2) The amount shown for Mr. Hopkins includes a currently exercisable option to purchase 30,000 shares of the Company s Common Stock at a price of $3.71 per share.

(3) The amount shown for Mr. De Lia, Sr. includes three currently exercisable options to purchase 2,000 shares each of the Company s Common Stock at a price of $7.19, $4.90 and $3.33 per share, respectively.

(4) The amount shown for Mr. Power includes two currently exercisable options to purchase 2,000 shares each of the Company s Common Stock at a price of $6.08 and $3.33 per share, respectively.

(5) The amount shown for Mr. Ritorto includes currently exercisable options to purchase 5,000 shares at $7.95 and 2,000 shares each of the Company s common stock at $7.19, $4.90 and $3.33 per share, respectively.

(6) The amount shown for Mr. Sands includes two currently exercisable options to purchase 2,000 shares each of the Company s Common Stock at a price of $4.90 and $3.33 per share, respectively.

(7) The amount shown includes currently exercisable options to purchase 165,000 shares of the Company s common stock.

(8) Mr. Witcosky resigned as the Company s President and as a Director, effective March 23, 2007. The amount shown for Mr. Witcosky is pursuant to a Schedule 13D/A, filed on April 5, 2007, by Mr. Witcosky. His current address is 419 E. Penn St., Long Beach, NY 11561.

(9) The amount shown for Mr. Rockwell is pursuant to a Schedule 13D/A, filed on March 1, 2007, by Mr. Rockwell, an individual, reporting an address of 43 River Road, Nutley, NJ 07110.

Item 13. Certain Relationships and Related Transactions and Director Independence

a) In 2006, the Company had revenues of $678,138 associated with an integrated security systems project with First Aviation Services, Inc. (First Aviation). Joseph P. Ritorto, a member of our Board of Directors since January 2002, is co-founder of First Aviation.

b) The Company considers Messrs. Ritorto, De Lia, Sands and Power to be independent directors in accordance with Section 121A of the American Stock Exchange s listing standards.

Item 14. Principal Accountant Fees and Services

Fees Paid to Our Independent Auditors During 2006 and 2005

Audit Fees

The aggregate fees billed by Demetrius & Company, L.L.C. for professional services rendered for the audits of the Company s annual financial statements on Form 10-K in 2006 and the reviews of the financial statements on Form 10-Q for the fiscal year ended December 31, 2006 were $89,587 and the audit of Form 10-KSB in 2005 and the reviews of the financial statements on Form 10-QSB for the fiscal year ended December 31, 2005 were $86,087.

Audit-Related Fees

The aggregate fees billed for audit-related services by the principal accountant for the year ended December 31, 2006 were approximately $2,200 and for the year ended December 31, 2005 were $2,200. Audit related services include due diligence in connection with acquisitions, consultation on accounting and internal control matters, audits in connection with proposed or consummated acquisitions and review of registration statements.

Tax Fees

The aggregate fees billed for tax compliance, tax advice and tax planning rendered by our independent auditors for the fiscal year ended December 31, 2006 was $22,500, and for the year

ended December 31, 2005 was $21,000. The services comprising these fees include tax consulting and submitting tax returns.

All Other Fees

The aggregate fees billed for all other professional services rendered by the Company s independent auditors for the year ended December 31, 2006 was $12,047 and for the year ended December 31, 2005 was $375. These fees related to a 401(k) plan audit in 2006 and work performed on consents on Form S-8 Registrations in 2005.

Pre-Approval of Audit and Permissible Non-Audit Services

The Audit Committee approved 100% of the fees paid to the principal accountant for audit-related, tax and other fees. The Audit Committee pre-approves all non-audit services to be performed by the auditor. The percentage of hours expended on the principal accountant s engagement to audit the Company s financial statements for the most recent year that were attributed to work performed by persons other than the principal accountant s full-time, permanent employees was 0%.

Part IV

Item 15. Exhibits, Financial Statement Schedules

(a) The following consolidated financial statements and schedules are filed at the end of this report, beginning on page F-l. Other schedules are omitted because they are not required or are not applicable or the required information is shown in the consolidated financial statements or notes thereto.

(b) See Exhibit Index following this Annual Report on Form 10-K.

DOCUMENT	PAGES
Report of Independent Registered Public Accounting Firm	F-1
Consolidated Balance Sheets as of December 31, 2006 and 2005	F-2
Consolidated Statements of Operations for the Years Ended December 31, 2006, 2005 and 2004	F-3
Consolidated Statements of Shareholders Equity for the Years Ended December 31, 2006, 2005 and 2004	F-4
Consolidated Statements of Cash Flows for the Years Ended December 31, 2006, 2005 and 2004	F-5
Notes to Consolidated Financial Statements	F-6 to F-34
Schedule II -Valuation and Qualifying Accounts, for the Years Ended December 31, 2006, 2005 and	S-1

SIGNATURES

Pursuant to the requirements of Section 13 or 15 (d) of the Securities Exchange Act of 1934 as amended, the Registrant had duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Date: October 17, 2007

HENRY BROTHER ELECTRONICS, INC.

By: /s/ James E. Henry

James E. Henry
Chairman, Chief Executive Officer, Treasurer and Director

Pursuant to the requirements of the Securities Exchange Act of 1934 as amended, this report has been signed below by the following persons on behalf of the Registrant and in the capacities and on the dates indicated.

Each person, in so signing also makes, constitutes, and appoints James E. Henry and Brian Reach, and each of them acting alone, as his true and lawful attorneys-in-fact, with full power of substitution, in his name, place, and stead, to execute and cause to be filed with the SEC any or all amendments to this report.

SIGNATURE

Date: October 17, 2007

/s/ James E. Henry

James E. Henry
Chairman, Chief Executive Officer, Treasurer and Director

Date: October 17, 2007

/s/ Brian Reach

Brian Reach
Vice Chairman, President, Chief Operating Officer,
Secretary and Director

Date: October 17, 2007

/s/ John P. Hopkins

John P. Hopkins
Chief Financial Officer

Date: October 17, 2007

/s/ Joseph P. Ritorto

Joseph P. Ritorto
Director

Date: October 17, 2007

/s/ Robert L. DeLia Sr.

Robert L. DeLia Sr.
Director

Date: October 17, 2007

/s/ David Sands

David Sands
Director

Date: October 17, 2007

/s/ James W. Power

James W. Power
Director

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and
Stockholders of Henry Bros. Electronics, Inc. and Subsidiaries

We have audited the accompanying consolidated balance sheets of Henry Bros. Electronics, Inc. and Subsidiaries as of December 31, 2006 and 2005, and the related consolidated statements of operations, changes in stockholders equity and cash flows for each of the three years in the period ended December 31, 2006. These consolidated financial statements are the responsibility of the Company s management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

As discussed in Note 1 to the consolidated financial statements, the Company adopted the provisions of Staff Accounting Bulletin No. 108, Considering the Effects of Prior Year Misstatements when Quantifying Misstatements in Current Year Financial Statements, as of January 1, 2006.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Henry Bros. Electronics, Inc. and Subsidiaries as of December 31, 2006 and 2005, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2006, in conformity with U.S. generally accepted accounting principles.

As discussed in Notes 1 and 18, the Company has corrected the consolidated balance sheet as of December 31, 2005 and the related consolidated statements of operations, changes is stockholders equity and cash flows for the years ended December 31, 2005 and 2004.

/s/ Demetrius & Company, L.L.C.

Wayne, New Jersey
October 17, 2007

The accompanying notes are an integral part of these statements.

HENRY BROS. ELECTRONICS, INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS

	December 31, 2006	2005 (Corrected)
ASSETS		
CURRENT ASSETS		
Cash and cash equivalents	$ 199,853	$ 2,177,686
Accounts receivable-net of allowance for doubtful accounts	13,628,358	9,934,954
Inventory	1,707,933	1,227,871
Costs in excess of billings and estimated profits	4,643,469	3,110,798
Deferred tax asset	1,155,620	726,274
Retainage receivable	1,390,468	1,210,014
Prepaid expenses and income tax receivable	454,801	250,187
Other assets	290,079	327,536
Total current assets	23,470,581	18,965,320
Property and equipment - net of accumulated depreciation	2,402,394	1,123,561
Goodwill	3,316,530	3,453,606
Intangible assets - net of accumulated amortization	1,436,414	1,328,509
Deferred tax asset	594,545	221,887
Other assets	151,145	68,647
TOTAL ASSETS	$ 31,371,609	$ 25,161,530
LIABILITIES & STOCKHOLDERS EQUITY		
CURRENT LIABILITIES		
Accounts payable	$ 5,973,047	$ 3,538,392
Accrued expenses	4,786,203	2,229,797
Accrued taxes	58,914	205,365
Billings in excess of costs and estimated profits	1,167,259	1,176,813
Deferred income	476,775	570,489
Current portion of long-term debt	505,028	296,666
Deferred tax liability	249,365	
Other current liabilities	252,881	
Total current liabilities	13,469,472	8,017,522
Long-term debt, less current portion	3,463,236	727,961
Deferred tax liability	428,283	433,081
TOTAL LIABILITIES	17,360,991	9,178,564
STOCKHOLDERS EQUITY		
Preferred stock, $.01 par value; 10,000,000 shares authorized; no shares issued		
Common stock, $.01 par value; 10,000,000 shares authorized; 5,916,065 shares issued and outstanding in 2006 and 5,889,399 in 2005	59,161	58,894
Additional paid in capital	17,284,205	16,956,008
Deferred compensation	(383,552)	(342,878)
Accumulated deficit	(2,949,196)	(689,058)
TOTAL EQUITY	14,010,618	15,982,966
TOTAL LIABILITIES & STOCKHOLDERS EQUITY	$ 31,371,609	$ 25,161,530

The accompanying notes are an integral part of these statements.

HENRY BROS. ELECTRONICS, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS

	For the years ended December 31,		
	2006	**2005 (Corrected)**	**2004 (Corrected)**
Revenue	$ 42,132,852	$ 42,156,188	$ 29,725,718
Cost of revenue	31,586,736	31,581,187	22,305,632
Gross profit	10,546,116	10,575,001	7,420,086
Operating expenses:			
Selling, general & administrative expenses	11,952,477	8,422,193	6,943,885
Goodwill & intangible asset impairment charges	1,191,000	44,999	77,000
Operating (loss) profit	(2,597,361)	2,107,809	399,201
Interest income	19,515	12,507	12,624
Other expense	(674)	(3,780)	
Interest expense	(103,923)	(84,985)	(94,039)
(Loss) income before tax expense	(2,682,443)	2,031,551	317,786
Tax expense (benefit)	(422,305)	893,577	148,147
Net (loss) income after taxes	$ (2,260,138)	$ 1,137,974	$ 169,639
BASIC (LOSS) EARNINGS PER COMMON SHARE:			
Basic (loss) profit per common share	$ (0.39)	$ 0.20	$ 0.03
Weighted average common shares	5,749,964	5,739,398	5,411,964
DILUTED (LOSS) EARNINGS PER COMMON SHARE:			
Diluted (loss) profit per common share:	$ (0.39)	$ 0.20	$ 0.03
Weighted average diluted common shares	5,749,964	5,773,097	5,411,964

The accompanying notes are an integral part of these statements.

HENRY BROS. ELECTRONCS, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS EQUITY

	Common Stock par value $.01 10,000,000 Authorized		Treasury Stock		Additional Paid-in Capital	Deferred Comp-ensation	Retained Earnings	Total
	Shares	Amount	Shares	Amount				
Balance at December 31, 2003 (Corrected)	5,201,431	$ 52,015	70,891	$ (500,000)	$ 13,512,939		$ (1,996,671)	$ 11,068,283
Shares issued in connection with the acquisition of Airorlite Communications, Inc.	37,000	370			266,030			266,400
Shares issued in July 2004 net of expenses	553,333	5,533			2,952,524			2,958,057
Employee stock options exercised	18,525	185			123,108			123,293
Value of stock option grants					247,056	(247,056)		
Amortization of value assigned to stock option grants						68,114		68,114
Treasury shares cancelled	(70,891)	(709)	(70,891)	500,000	(499,291)			
Net income for 2004 (Corrected)							169,639	169,639
Balance at December 31, 2004 (Corrected)	5,739,398	57,394			16,602,366	(178,942)	(1,827,032)	14,653,786
Value of stock option grants					355,142	(355,142)		
Amortization of value assigned to stock option grants						191,206		191,206
Shares issued in connection with the acquisition of Securus, Inc.	150,001	1,500			(1,500)			
Net income for 2005 (Corrected)							1,137,974	1,137,974
Balance at December 31, 2005 (Corrected)	5,889,399	58,894			16,956,008	(342,878)	(689,058)	15,982,966
Employee stock options exercised	6,666	67			30,930			30,997
Value of stock option grants					230,267	(230,267)		
Shares issued in connection with the acquisition of CIS Security Systems	20,000	200			67,000			67,200
Amortization of value assigned to stock option grants						189,593		189,593
Net loss December 31, 2006							(2,260,138)	(2,260,138)
Balance at December 31, 2006	5,916,065	$ 59,161			$ 17,284,205	$ (383,552)	$ (2,949,196)	$ 14,010,618

The accompanying notes are an integral part of these statements.

HENRY BROS. ELECTRONICS, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS

	For the years ended December 31,		
	2006	2005 (Corrected)	2004 (Corrected)
Cash flows from operating activities:			
Net (loss) income	$ (2,260,138)	$ 1,137,974	$ 169,63
Adjustments to reconcile net (loss) income from operations to net cash provided by (used in) operating activities:			
Depreciation and amortization	699,559	647,243	490,85
Bad debt expense	172,402	453,889	203,32
Provision for obsolete inventory	384,000	-	50,00
Impairment charges	1,191,000	44,999	77,00
Stock option expense	189,593	191,106	68,11
Deferred income taxes	(386,007)	684,682	52,33
Changes in operating assets and liabilities:			
Accounts receivable	(3,071,303)	(1,327,191)	(2,525,79
Inventories	(801,540)	(353,296)	164,66
Costs in excess of billings and estimated profits	(1,484,855)	(525,876)	(1,819,01
Retainage receivable	(180,454)	(857,967)	(291,33
Other assets	(21,809)	(161,093	2,638
Average common shares outstanding (millions)	2,894	2,963	3,041
Average common shares outstanding assuming dilution (millions)	2,928	2,996	3,076
Year-End Position:			
Working capital	$14,407	$17,817	$16,509
Property, plant and equipment, net	13,136	14,973	16,030
Total assets	98,335	105,645	106,132
Long-term debt	18,699	20,539	16,254
Total equity	48,791	52,326	55,463
Year-End Statistics:			
Number of stockholders of record	142,000	149,400	157,400
Number of employees	70,000	77,000	83,000

(1) Amounts for 2014 reflect the divestiture of Merck's Consumer Care ("MCC") business on October 1, 2014, including a gain on the sale, as well as a gain recognized on an option exercise by AstraZeneca, gains on the dispositions of other businesses and assets, and a loss on extinguishment of debt.

(2) Amounts for 2012 include a net charge recorded in connection with the settlement of certain shareholder litigation.

(3) Amounts for 2011 include an arbitration settlement charge.

(4) Amounts for 2010 include a reserve related to Vioxx litigation and a gain recognized on AstraZeneca's exercise of its option to acquire certain assets from the Company.

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Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

Description of Merck's Business

Merck & Co., Inc. ("Merck" or the "Company") is a global health care company that delivers innovative health solutions through its prescription medicines, vaccines, biologic therapies and animal health products, which it markets directly and through its joint ventures. The Company's operations are principally managed on a products basis and are comprised of three operating segments, which are the Pharmaceutical, Animal Health and Alliances segments, and one reportable segment, which is the Pharmaceutical segment. The Pharmaceutical segment includes human health pharmaceutical and vaccine products marketed either directly by the Company or through joint ventures. Human health pharmaceutical products consist of therapeutic and preventive agents, generally sold by prescription, for the treatment of human disorders. The Company sells these human health pharmaceutical products primarily to drug wholesalers and retailers, hospitals, government agencies and managed health care providers such as health maintenance organizations, pharmacy benefit managers and other institutions. Vaccine products consist of preventive pediatric, adolescent and adult vaccines, primarily administered at physician offices. The Company sells these human health vaccines primarily to physicians, wholesalers, physician distributors and government entities. The Company also has animal health operations that discover, develop, manufacture and market animal health products, including vaccines, which the Company sells to veterinarians, distributors and animal producers. On October 1, 2014, the Company divested its Consumer Care segment that developed, manufactured and marketed over-the-counter, foot care and sun care products.

Overview

During 2014, Merck continued to execute its multi-year initiative to sharpen its commercial and research and development focus, redesign its operating model and reduce its cost base while remaining focused on innovation. The Company received approval for six products in the United States in 2014, including U.S. Food and Drug Administration ("FDA") approval for Keytruda for the treatment of advanced melanoma in patients whose disease has progressed after other therapies, Belsomra for the treatment of insomnia, and Gardasil 9, a nine-valent human papillomavirus ("HPV") vaccine. Merck also enhanced its pipeline with external innovation, including the 2014 acquisitions of Idenix Pharmaceuticals, Inc. ("Idenix"), a company engaged in the discovery and development of next-generation treatments for hepatitis C virus ("HCV"), and OncoEthix, a privately held biotechnology company specializing in oncology drug development. In addition, Merck announced the acquisition of Cubist Pharmaceuticals, Inc. ("Cubist"), a leader in the development of new therapies to treat serious and potentially life-threatening infections caused by a broad range of increasingly drug-resistant bacteria, which closed in January 2015. Also, in 2014, Merck entered into a worldwide collaboration with Bayer AG ("Bayer") to market and develop novel therapies for cardiovascular disease and other therapeutic indications.

As part of Merck's prioritization efforts, the Company continued to review its assets to determine whether they could provide the best short- and longer-term value with Merck or elsewhere. As a result, the Company divested its Consumer Care ("MCC") business to Bayer, which provided capital to the Company to better resource its core areas of focus and return cash to shareholders. Merck determined that its Animal Health business remains a key growth driver and is committed to looking for ways to augment this business. As part of its intensified portfolio assessment process, the Company sold the U.S. marketing rights for Saphris, an antipsychotic indicated for the treatment of schizophrenia and bipolar I disorder in adults, and divested certain ophthalmic products in Japan and markets in Europe and Asia Pacific. The Company's portfolio assessment process is ongoing and future divestitures may occur.

Worldwide sales were $42.2 billion in 2014, a decline of 4% compared with 2013, including a 1% unfavorable effect from foreign exchange. The decline reflects lower revenue resulting from the ongoing impacts of product divestitures and the loss of market exclusivity for several products, as well as the termination of the Company's relationship with AstraZeneca LP ("AZLP") and the divestiture of MCC. In addition, lower sales of products for the treatment of HCV also contributed to the sales decline. These declines were partially offset by growth in immunology, acute care, diabetes, and vaccine products, as well as higher sales from Merck's Animal Health business.

Within the core human pharmaceutical and vaccine business, Merck will continue to support its in-line portfolio, as well as ongoing and upcoming product launches. In 2014, the FDA granted accelerated approval for Keytruda, the Company's anti-PD-1 (programmed death receptor-1) therapy for the treatment of patients with unresectable or

metastatic melanoma and disease progression following ipilimumab and, if BRAF V600 mutation positive, a BRAF inhibitor. Keytruda is currently under review in the European Union (the “EU”) for the treatment of

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advanced melanoma. Merck expects to submit a supplemental Biologics License Application ("sBLA") to the FDA for Keytruda for the treatment of patients with Epidermal Growth Factor Receptor mutation-negative, and Anaplastic Lymphoma Kinase rearrangement-negative non-small-cell lung cancer whose disease has progressed on or following platinum-based chemotherapy in mid-year 2015. Keytruda continues to be studied in more than 30 cancers and in 20 combination settings, and Merck has presented data in a number of different tumor types (see "Research and Development" below).

In addition, the FDA approved Belsomra for the treatment of adults with insomnia who have difficulty falling asleep and/or staying asleep, Gardasil 9, a nine-valent HPV vaccine, and Zontivity, a protease-activated receptor-1 (PAR-1) antagonist for the reduction of thrombotic cardiovascular events in patients with a history of myocardial infarction or with peripheral arterial disease. Also, in December 2014 prior to the Company's acquisition of Cubist, the FDA approved Cubist's Zerbaxa, a new combination product for the treatment of adults with complicated urinary tract infections caused by designated susceptible Gram-negative organisms or with complicated intra-abdominal infections caused by designated susceptible Gram-negative and Gram-positive organisms.

Additionally, the Company currently has candidates under review with the FDA: MK-8616, Bridion (sugammadex) Injection, a medication for the reversal of two types of neuromuscular blocking agents used during surgery; and V419, an investigational pediatric hexavalent vaccine that the Company is developing in partnership with Sanofi Pasteur designed to help protect against six important diseases - diphtheria, tetanus, pertussis (whooping cough), polio (poliovirus types 1, 2, and 3), invasive disease caused by Haemophilus influenzae type b (Hib), and hepatitis B. In addition, Zerbaxa is under review in the EU.

As a result of prioritizing its research efforts, Merck is focused on the therapeutic areas that it believes can make the most impact on addressing critical areas of unmet medical need, such as cancer, hepatitis C, cardiometabolic disease, resistant microbial infection and Alzheimer's disease. In 2014, Merck accelerated several of its key clinical programs, positioning the Company for long-term growth. The Company now has more than 10 candidates in Phase 3 clinical development in its core therapeutic areas, as well as other areas with significant potential. MK-5172A, an all-oral combination regimen consisting of MK-5172, grazoprevir, an investigational HCV NS3/4A protease inhibitor, and MK-8742, elbasvir, an investigational HCV NS5A replication complex inhibitor, is currently in Phase 3 clinical trials. The Company expects to file a New Drug Application ("NDA") with the FDA in the first half of 2015 for MK-5172A.

As a result of portfolio prioritization, the Company is out-licensing or discontinuing selected late-stage clinical development assets and reducing its focus on platform technologies. During 2014, the Company out-licensed MK-3222 (tildrakizumab), an investigational treatment for chronic plaque psoriasis, and divested its Sirna Therapeutics, Inc. subsidiary and related RNAi technology assets.

The Company made strong progress in 2014 redesigning its operating model and reducing its cost base. As a result of disciplined cost management, Merck remains on track to achieve its overall savings goal by the end of 2015. As noted above, these savings have enabled the Company to better target its resources to key priorities across the enterprise. Marketing and administrative expenses and Research and development costs were down in 2014 as compared with 2013 reflecting lower selling and promotional spending and lower costs as a result of portfolio prioritization.

In 2013, the Company announced a global restructuring program (the "2013 Restructuring Program") as part of its global initiative to sharpen its commercial and research and development focus. As part of the program, the Company expects to reduce its total workforce by approximately 8,500 positions. These workforce reductions will primarily come from the elimination of positions in sales, administrative and headquarters organizations, as well as research and development. The Company will also reduce its global real estate footprint and continue to improve the efficiency of its manufacturing and supply network. The Company recorded total pretax costs of $1.2 billion in both 2014 and 2013 related to this restructuring program. The actions under the 2013 Restructuring Program are expected to be substantially completed by the end of 2015 with the cumulative pretax costs estimated to be approximately $3.0 billion. The Company expects the actions under the 2013 Restructuring Program to result in annual net cost savings of approximately $2.0 billion by the end of 2015. The Company anticipates that the actions under the 2013 Restructuring Program, combined with remaining actions under the Merger Restructuring Program (discussed below), will result in annual net cost savings of $2.5 billion by the end of 2015 compared with full-year 2012 expense levels.

The global restructuring program (the “Merger Restructuring Program”) that was initiated in 2010 subsequent to the Merck and Schering-Plough Corporation (“Schering-Plough”) merger (the “Merger”) is intended to

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streamline the cost structure of the combined company. The workforce reductions associated with this plan relate to the elimination of positions in sales, administrative and headquarters organizations, as well as from the sale or closure of certain manufacturing and research and development sites and the consolidation of office facilities. The Company recorded total pretax costs of $730 million in 2014, $1.1 billion in 2013 and $951 million in 2012 related to this restructuring program. The non-manufacturing related restructuring actions under the Merger Restructuring Program were substantially completed by the end of 2013. The remaining actions under this program relate to ongoing manufacturing facility rationalizations, which are expected to be substantially completed by 2016. The Company expects the estimated total cumulative pretax costs for this program to be approximately $8.5 billion and to yield annual savings upon completion of the program of approximately $4.0 billion to $4.6 billion.

Costs associated with the Company's restructuring actions are included in Materials and production costs, Marketing and administrative expenses, Research and development expenses and Restructuring costs. The Company estimates that of the projected costs associated with the above mentioned restructuring programs, approximately two-thirds of the cumulative pretax costs relate to cash outlays, primarily related to employee separation expense. Approximately one-third of the cumulative pretax costs are non-cash, relating primarily to the accelerated depreciation of facilities to be closed or divested.

In November 2014, Merck's Board of Directors raised the Company's quarterly dividend to $0.45 per share from $0.44 per share. During 2014, the Company returned nearly $13 billion to shareholders through dividends and share repurchases.

Earnings per common share assuming dilution attributable to common shareholders ("EPS") for 2014 were $4.07 compared with $1.47 in 2013. EPS in both years reflect the impact of acquisition and divestiture-related costs and restructuring costs, as well as certain other items, which in 2014 includes an $11.2 billion gain recognized in connection with the divestiture of MCC. Non-GAAP EPS, which excludes these items, were $3.49 in both 2014 and 2013 (see "Non-GAAP Income and Non-GAAP EPS" below).

Competition and the Health Care Environment

Competition

The markets in which the Company conducts its business and the pharmaceutical industry are highly competitive and highly regulated. The Company's competitors include other worldwide research-based pharmaceutical companies, smaller research companies with more limited therapeutic focus, and generic drug and animal health care manufacturers. The Company's operations may be adversely affected by generic and biosimilar competition as the Company's products mature, as well as technological advances of competitors, industry consolidation, patents granted to competitors, competitive combination products, new products of competitors, the generic availability of competitors' branded products, and new information from clinical trials of marketed products or post-marketing surveillance. In addition, patent positions are increasingly being challenged by competitors, and the outcome can be highly uncertain. An adverse result in a patent dispute can preclude commercialization of products or negatively affect sales of existing products and could result in the recognition of an impairment charge with respect to intangible assets associated with certain products. Competitive pressures have intensified as pressures in the industry have grown. The effect on operations of competitive factors and patent disputes cannot be predicted.

Pharmaceutical competition involves a rigorous search for technological innovations and the ability to market these innovations effectively. With its long-standing emphasis on research and development, the Company is well positioned to compete in the search for technological innovations. Additional resources required to meet market challenges include quality control, flexibility to meet customer specifications, an efficient distribution system and a strong technical information service. The Company is active in acquiring and marketing products through external alliances, such as joint ventures and licenses, and has been refining its sales and marketing efforts to further address changing industry conditions. However, the introduction of new products and processes by competitors may result in price reductions and product displacements, even for products protected by patents. For example, the number of compounds available to treat a particular disease typically increases over time and can result in slowed sales growth or reduced sales for the Company's products in that therapeutic category.

The highly competitive animal health business is affected by several factors including regulatory and legislative issues, scientific and technological advances, product innovation, the quality and price of the Company's products,

effective promotional efforts and the frequent introduction of generic products by competitors.

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Health Care Environment and Government Regulation

Global efforts toward health care cost containment continue to exert pressure on product pricing and market access. In the United States, federal and state governments for many years also have pursued methods to reduce the cost of drugs and vaccines for which they pay. For example, federal laws require the Company to pay specified rebates for medicines reimbursed by Medicaid and to provide discounts for outpatient medicines purchased by certain Public Health Service entities and hospitals serving a disproportionate share of low income or uninsured patients.

Against this backdrop, the United States enacted major health care reform legislation in 2010 (the "Patient Protection and Affordable Care Act"), which began to be implemented in 2010. Various insurance market reforms have advanced and state and federal insurance exchanges were launched in 2014. By the end of the decade, the law is expected to expand access to health care to about 32 million Americans who did not previously have insurance coverage. With respect to the effect of the law on the pharmaceutical industry, the law increased the mandated Medicaid rebate from 15.1% to 23.1%, expanded the rebate to Medicaid managed care utilization, and increased the types of entities eligible for the federal 340B drug discount program. The law also requires pharmaceutical manufacturers to pay a 50% point of service discount to Medicare Part D beneficiaries when they are in the Medicare Part D coverage gap (i.e., the so-called "donut hole"). Approximately $430 million, $280 million and $210 million was recorded by Merck as a reduction to revenue in 2014, 2013 and 2012, respectively, related to the donut hole provision. Also, pharmaceutical manufacturers are now required to pay an annual non-tax deductible health care reform fee. The total annual industry fee was $3.0 billion in 2014 and will remain $3.0 billion in 2015. The fee is assessed on each company in proportion to its share of prior year branded pharmaceutical sales to certain government programs, such as Medicare and Medicaid. The Company recorded $390 million, $151 million and $190 million of costs within Marketing and administrative expenses in 2014, 2013 and 2012, respectively, for the annual health care reform fee. The increase in expenses in 2014 reflects final regulations on the annual health care reform fee issued by the Internal Revenue Service (the "IRS") on July 28, 2014. The final IRS regulations accelerated the recognition criteria for the fee obligation by one year to the year in which the underlying sales used to allocate the fee occurred rather than the year in which the fee was paid. As a result of this change, Merck recorded an additional year of expense of $193 million in 2014. The full impact of U.S. health care reform cannot be predicted at this time.

The Company also faces increasing pricing pressure globally from managed care organizations, government agencies and programs that could negatively affect the Company's sales and profit margins. In the United States, these include (i) practices of managed care groups, federal and state exchanges, and institutional and governmental purchasers, and (ii) U.S. federal laws and regulations related to Medicare and Medicaid, including the Medicare Prescription Drug Improvement and Modernization Act of 2003 and the Patient Protection and Affordable Care Act. Changes to the health care system enacted as part of health care reform in the United States, as well as increased purchasing power of entities that negotiate on behalf of Medicare, Medicaid, and private sector beneficiaries, could result in further pricing pressures. As an example, health care reform is contributing to an increase in the number of patients in the Medicaid program under which sales of pharmaceutical products are subject to substantial rebates.

In addition, in the effort to contain the U.S. federal deficit, the pharmaceutical industry could be considered a potential source of savings via legislative proposals that have been debated but not enacted. These types of revenue generating or cost saving proposals include additional direct price controls in the Medicare prescription drug program (Part D). In addition, Congress may again consider proposals to allow, under certain conditions, the importation of medicines from other countries. It remains very uncertain as to what proposals, if any, may be included as part of future federal budget deficit reduction proposals that would directly or indirectly affect the Company.

Efforts toward health care cost containment remain intense in several European countries. Many countries have continued to announce and execute austerity measures, which include the implementation of pricing actions to reduce prices of generic and patented drugs and mandatory switches to generic drugs. While the Company is taking steps to mitigate the impact in these countries, the austerity measures continued to negatively affect the Company's revenue performance in 2014 and the Company anticipates the austerity measures will continue to negatively affect revenue performance in 2015. In addition, a majority of countries attempt to contain drug costs by engaging in reference pricing in which authorities examine pre-determined markets for published prices of drugs by brand. The authorities then use price data from those markets to set new local prices for brand-name drugs, including the Company's.

Guidelines for examining reference pricing are usually set in local markets and can be changed pursuant to local regulations.

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In addition, in Japan, the pharmaceutical industry is subject to government-mandated biennial price reductions of pharmaceutical products and certain vaccines. Furthermore, the government can order repricings for classes of drugs if it determines that it is appropriate under applicable rules.

Certain markets outside of the United States have also implemented other cost management strategies, such as health technology assessments, which require additional data, reviews and administrative processes, all of which increase the complexity, timing and costs of obtaining product reimbursement and exert downward pressure on available reimbursement.

The Company's focus on emerging markets has increased. Governments in many emerging markets are also focused on constraining health care costs and have enacted price controls and related measures, such as compulsory licenses, that aim to put pressure on the price of pharmaceuticals and constrain market access. The Company anticipates that pricing pressures and market access challenges will continue in 2015 to varying degrees in the emerging markets. Beyond pricing and market access challenges, other conditions in emerging market countries can affect the Company's efforts to continue to grow in these markets, including potential political instability, significant currency fluctuation and controls, financial crises, limited or changing availability of funding for health care, and other developments that may adversely impact the business environment for the Company. Further, the Company may engage third-party agents to assist in operating in emerging market countries, which may affect its ability to realize continued growth and may also increase the Company's risk exposure.

In addressing cost containment pressures, the Company engages in public policy advocacy with policymakers and continues to work to demonstrate that its medicines provide value to patients and to those who pay for health care. The Company advocates with government policymakers to encourage a long-term approach to sustainable health care financing that ensures access to innovative medicines and does not disproportionately target pharmaceuticals as a source of budget savings. In markets with historically low rates of health care spending, the Company encourages those governments to increase their investments and adopt market reforms in order to improve their citizens' access to appropriate health care, including medicines.

Operating conditions have become more challenging under the global pressures of competition, industry regulation and cost containment efforts. Although no one can predict the effect of these and other factors on the Company's business, the Company continually takes measures to evaluate, adapt and improve the organization and its business practices to better meet customer needs and believes that it is well positioned to respond to the evolving health care environment and market forces.

The pharmaceutical industry is also subject to regulation by regional, country, state and local agencies around the world focused on standards and processes for determining drug safety and effectiveness, as well as conditions for sale or reimbursement.

Of particular importance is the FDA in the United States, which administers requirements covering the testing, approval, safety, effectiveness, manufacturing, labeling, and marketing of prescription pharmaceuticals. In some cases, the FDA requirements and practices have increased the amount of time and resources necessary to develop new products and bring them to market in the United States. At the same time, the FDA has committed to expediting the development and review of products bearing the "breakthrough therapy" designation, which appears to have accelerated the regulatory review process for medicines with this designation.

The EU has adopted directives and other legislation concerning the classification, labeling, advertising, wholesale distribution, integrity of the supply chain, enhanced pharmacovigilance monitoring and approval for marketing of medicinal products for human use. These provide mandatory standards throughout the EU, which may be supplemented or implemented with additional regulations by the EU member states. The Company's policies and procedures are already consistent with the substance of these directives; consequently, it is believed that they will not have any material effect on the Company's business.

The Company believes that it will continue to be able to conduct its operations, including launching new drugs, in this regulatory environment.

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Access to Medicines

As a global health care company, Merck's primary role is to discover and develop innovative medicines and vaccines. The Company also recognizes that it has an important role to play in helping to improve access to its products around the world. The Company's efforts in this regard are wide-ranging and include a set of principles that the Company strives to embed into its operations and business strategies to guide the Company's worldwide approach to expanding access to health care. In addition, the Company has many far-reaching philanthropic programs. The Merck Patient Assistance Program provides medicines and adult vaccines for free to people in the United States who do not have prescription drug or health insurance coverage and who, without the Company's assistance, cannot afford their Merck medicine and vaccines. In 2011, Merck launched "Merck for Mothers," a long-term effort with global health partners to end preventable deaths from complications of pregnancy and childbirth. Merck has also provided funds to the Merck Foundation, an independent organization, which has partnered with a variety of organizations dedicated to improving global health.

Privacy and Data Protection

The Company is subject to a significant number of privacy and data protection laws and regulations globally. The legislative and regulatory landscape for privacy and data protection continues to evolve. There has been increased attention to privacy and data protection issues in both developed and emerging markets with the potential to affect directly the Company's business, including additional laws and regulations enacted in the United States, Europe, Asia and Latin America, increased enforcement and litigation activity in the United States and other developed markets, and increased regulatory cooperation among privacy authorities globally. The Company has adopted a comprehensive global privacy program to manage these evolving risks.

Operating Results

Sales

Worldwide sales totaled $42.2 billion in 2014, a decline of 4% compared with $44.0 billion in 2013. Foreign exchange unfavorably affected global sales performance by 1% in 2014. The decline reflects lower revenue resulting from the ongoing impacts of the loss of market exclusivity for several products, including Temodar, a treatment for certain types of brain tumors, Singulair, a once-a-day oral medicine for the chronic treatment of asthma and for the relief of symptoms of allergic rhinitis, and Cozaar and Hyzaar, treatments for hypertension. In addition, the sales decline was attributable to product divestitures that occurred in 2014 and 2013 as discussed below, the termination of the Company's relationship with AZLP, as well as the divestiture of MCC on October 1, 2014. The revenue decline was also driven by lower sales of Victrelis and PegIntron, medicines for the treatment of chronic HCV, Nasonex, an inhaled nasal corticosteroid for the treatment of nasal allergy symptoms, and Vytorin, a cholesterol modifying product. These declines were partially offset by growth in Remicade and Simponi, treatments for inflammatory diseases, the diabetes franchise of Januvia/Janumet, Dulera Inhalation Aerosol, a combination medicine for the treatment of asthma, Implanon/Nexplanon, a single-rod subdermal contraceptive implant, as well as higher sales from acute care and animal health products. In addition, the Company recognized revenue of $232 million in 2014 in connection with the sale of the U.S. marketing rights to Saphris.

Sales in the United States were $17.1 billion in 2014, a decline of 6% compared with $18.2 billion in 2013. The sales decrease was driven primarily by the termination of the Company's relationship with AZLP, the divestiture of MCC and the ongoing impact of product divestitures. In addition, the decline reflects lower sales of Temodar, Victrelis, Vytorin and Nasonex, partially offset by higher sales of Dulera Inhalation Aerosol, the Januvia/Janumet franchise and Implanon/Nexplanon, as well as by the revenue recognized in connection with the sale of the U.S. marketing rights to Saphris.

International sales were $25.2 billion in 2014, a decline of 2% compared with $25.8 billion in 2013. Foreign exchange unfavorably affected international sales performance by 2% in 2014. The sales decrease reflects the divestiture of MCC. The decline was also driven by lower sales in the Pharmaceutical segment, reflecting declines in Japan, Europe and Canada. Sales in Japan declined 14% in 2014, to $3.4 billion, of which 8% was due to the unfavorable effect of foreign exchange. The sales decline was largely driven by the biennial price reductions and repricings that occurred in 2014, product divestitures and the ongoing impacts of the loss of the market exclusivity for several products, including

Cozaar and Hyzaar, as well as lower sales of Gardasil, a vaccine to help prevent certain diseases caused by four types of HPV, reflecting the Japanese government's decision in 2013 to suspend proactive recommendation of HPV vaccines, partially offset by higher sales of Pneumovax 23, a vaccine to help prevent pneumococcal disease. Sales in Europe and

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Canada declined 2% in 2014, to $10.4 billion, including a 1% favorable effect from foreign exchange reflecting lower sales of Singulair, Nasonex and Victrelis, as well as from product divestitures and ongoing generic erosion and fiscal austerity measures in this region, partially offset by growth in Simponi, Remicade, Janumet and Januvia. Sales in the emerging markets were $7.8 billion in 2014, essentially flat compared with 2013, including a 5% unfavorable effect from foreign exchange, reflecting higher sales of vaccine, acute care, and diabetes products, offset by lower sales of HCV products, as well from product divestitures. Total international sales represented 60% and 59% of total sales in 2014 and 2013, respectively.

Global efforts toward health care cost containment continue to exert pressure on product pricing and market access worldwide. In the United States, health care reform is contributing to an increase in the number of patients in the Medicaid program under which sales of pharmaceutical products are subject to substantial rebates. In many international markets, government-mandated pricing actions have reduced prices of generic and patented drugs. In addition, other austerity measures negatively affected the Company's revenue performance in 2014. The Company anticipates these pricing actions and other austerity measures will continue to negatively affect revenue performance in 2015.

In October 2013, the Company sold its active pharmaceutical ingredient ("API") manufacturing business in the Netherlands and, effective December 31, 2013, certain related products within Diversified Brands. In November 2013, Merck sold the U.S. rights to certain ophthalmic products and in January 2014 sold the U.S. marketing rights to Saphris. In addition, the Company sold the U.S. rights to Zioptan in April 2014 and divested certain ophthalmic products in several international markets (most of which closed on July 1, 2014). On October 1, 2014, the Company sold its MCC business to Bayer including the prescription rights to Claritin and Afrin. The sales decline in 2014 attributable to these divestitures was approximately $1.1 billion, of which approximately $575 million related to the Pharmaceutical segment, $345 million related to the Consumer Care segment and $150 million related to the divested API manufacturing business (non-segment revenues). Also, as discussed in Note 8 to the consolidated financial statements, the Company's relationship with AZLP terminated on June 30, 2014; therefore, effective July 1, 2014, the Company no longer records supply sales to AZLP which resulted in a sales decline of approximately $450 million in the Alliances segment.

Worldwide sales totaled $44.0 billion in 2013, a decline of 7% compared with $47.3 billion in 2012. The sales decline was driven primarily by lower sales of Singulair. The patents that provided U.S. market exclusivity and market exclusivity in a number of major European markets for Singulair expired in August 2012 and February 2013, respectively, and the Company experienced a significant and rapid decline in Singulair sales in those markets thereafter. Foreign exchange unfavorably affected global sales performance by 2% in 2013. The revenue decline in 2013 was also driven by lower sales of Maxalt, a product for the acute treatment of migraine, Cozaar and Hyzaar, Temodar, Clarinex, a non-sedating antihistamine, PegIntron, Propecia, a product for male pattern hair loss, Fosamax, for the treatment osteoporosis, and Vytorin. These declines were partially offset by growth in Gardasil, Remicade, Simponi, Janumet, Isentress, a treatment for HIV-1 infection, Dulera Inhalation Aerosol, and Zostavax, a vaccine to help prevent shingles (herpes zoster).

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Sales of the Company's products were as follows:

($ in millions)	2014	2013	2012
Primary Care and Women's Health			
Cardiovascular			
Zetia	$2,650	$2,658	$2,567
Vytorin	1,516	1,643	1,747
Diabetes			
Januvia	3,931	4,004	4,086
Janumet	2,071	1,829	1,659
General Medicine and Women's Health			
NuvaRing	723	686	623
Implanon/Nexplanon	502	403	348
Dulera	460	324	207
Follistim AQ	412	481	468
Hospital and Specialty			
Hepatitis			
PegIntron	381	496	653
Victrelis	153	428	502
HIV			
Isentress	1,673	1,643	1,515
Acute Care			
Cancidas	681	660	619
Invanz	529	488	445
Noxafil	402	309	258
Bridion	340	288	261
Primaxin	329	335	384
Immunology			
Remicade	2,372	2,271	2,076
Simponi	689	500	331
Other			
Cosopt/Trusopt	257	416	444
Oncology			
Emend	553	507	489
Temodar	350	708	917
Keytruda	55	—	—
Diversified Brands			
Respiratory			
Nasonex	1,099	1,335	1,268
Singulair	1,092	1,196	3,853
Clarinex	232	235	393
Other			
Cozaar/Hyzaar	806	1,006	1,284
Arcoxia	519	484	453
Fosamax	470	560	676
Propecia	264	283	424
Zocor	258	301	383
Remeron	193	206	232
Vaccines [1]			
Gardasil	1,738	1,831	1,631

ProQuad/M-M-R II/Varivax	1,394	1,306	1,273
Zostavax	765	758	651
Pneumovax 23	746	653	580
RotaTeq	659	636	601
Other pharmaceutical [2]	4,778	5,570	6,300
Total Pharmaceutical segment sales	36,042	37,437	40,601
Other segment sales [3]	5,585	6,325	6,412
Total segment sales	41,627	43,762	47,013
Other [4]	610	271	254
	$42,237	$44,033	$47,267

(1) These amounts do not reflect sales of vaccines sold in most major European markets through the Company's joint venture, Sanofi Pasteur MSD, the results of which are reflected in Equity income from affiliates. These amounts do, however, reflect supply sales to Sanofi Pasteur MSD.

(2) Other pharmaceutical primarily reflects sales of other human health pharmaceutical products, including products within the franchises not listed separately.

(3) Represents the non-reportable segments of Animal Health and Alliances, as well as Consumer Care until its divestiture on October 1, 2014. The Alliances segment includes revenue from the Company's relationship with AZLP until termination on June 30,2014.

(4) Other revenues are primarily comprised of miscellaneous corporate revenues, including revenue hedging activities, sales related to divested products or businesses, and other supply sales not included in segment results. Other revenues in 2014 include $232 million received by Merck in connection with the sale of the U.S. marketing rights to Saphris. Other revenues in 2013 reflect $50 million of revenue for the out-license of a pipeline compound. Other revenues also include third-party manufacturing sales, a substantial portion of which was divested in October 2013.

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Pharmaceutical Segment

Primary Care and Women's Health

Cardiovascular

Combined global sales of Zetia (marketed in most countries outside the United States as Ezetrol) and Vytorin (marketed outside the United States as Inegy), medicines for lowering LDL cholesterol, were $4.2 billion in 2014, a decline of 3% compared with 2013. Foreign exchange unfavorably affected global sales performance by 1% in 2014. The sales decline was driven primarily by lower volumes of Vytorin in the United States and Zetia in Canada where it lost market exclusivity. Combined worldwide sales of Zetia and Vytorin were $4.3 billion in 2013, essentially flat as compared with 2012 including a 1% unfavorable impact from foreign exchange, reflecting higher sales of Zetia in the United States due to pricing, partially offset by lower volumes of Vytorin in the United States.

In November 2014, Merck announced that the investigational IMPROVE-IT study met its primary and all secondary composite efficacy endpoints. In IMPROVE-IT, patients taking Vytorin - which combines simvastatin with Zetia (ezetimibe) - experienced significantly fewer major cardiovascular events (as measured by a composite of cardiovascular death, non-fatal myocardial infarction, non-fatal stroke, re-hospitalization for unstable angina or coronary revascularization occurring at least 30 days after randomization) than patients treated with simvastatin alone. The results from this 18,144 patient study of high-risk patients presenting with acute coronary syndromes were presented at the American Heart Association 2014 Scientific Sessions. Merck plans to submit the data from IMPROVE-IT to the FDA in mid-2015 to support a new indication for reduction of major cardiovascular events for Vytorin and Zetia. Vytorin and Zetia are currently indicated for use along with a healthy diet to reduce elevated LDL cholesterol in patients with hyperlipidemia. The current U.S. Prescribing Information for both products states that the effect of ezetimibe on cardiovascular morbidity and mortality, alone or incremental to statin therapy, has not been determined.

By agreement, a generic manufacturer may launch a generic version of Zetia in the United States in December 2016. The U.S. patent and exclusivity periods for Zetia and Vytorin otherwise expire in April 2017. The Company has market exclusivity for Zetia in major European markets until October 2017; however, the Company expects to apply for pediatric extensions to the term which would extend the date to April 2018. The Company has market exclusivity for Vytorin in those markets until April 2019.

For business reasons, the Company has no plans at this time to reintroduce Liptruzet to the U.S. market. The Company has not supplied Liptruzet in the United States since its January 2014 voluntary recall of that product due to packaging defects. The two active ingredients in Liptruzet remain available: Zetia from Merck, and atorvastatin as a generic from multiple manufacturers.

In May 2014, Merck announced that the FDA approved Zontivity for the reduction of thrombotic cardiovascular events in patients with a history of myocardial infarction or with peripheral arterial disease. The U.S. prescribing information for Zontivity includes a boxed warning regarding bleeding risk. In January 2015, Zontivity was approved by the European Commission (the "EC") for coadministration with acetylsalicylic acid and, where appropriate, clopidogrel, to reduce atherothrombotic events in adult patients with a history of myocardial infarction. Merck currently plans to launch Zontivity in the EU in late 2015 or early 2016.

Diabetes

Worldwide combined sales of Januvia and Janumet, medicines that help lower blood sugar levels in adults with type 2 diabetes, were $6.0 billion in 2014, an increase of 3% compared with 2013 including a 1% unfavorable effect from foreign exchange. The growth was driven primarily by higher sales of both Januvia and Janumet in the United States and by volume growth in Europe, partially offset by lower sales of Januvia in Japan due to lower pricing. In April 2014, all dipeptidyl peptidase-4 ("DPP-4") inhibitors, including Januvia, were subject to repricing in Japan. Combined global sales of Januvia and Janumet were $5.8 billion in 2013, an increase of 2% compared with 2012 including a 3% unfavorable effect from foreign exchange. The sales growth reflects higher volumes outside of the United States.

The Trial Evaluating Cardiovascular Outcomes with Sitagliptin ("TECOS"), an event-driven, cardiovascular outcomes study with sitagliptin, began in 2008 and enrolled over 14,000 patients. TECOS will evaluate the impact of sitagliptin on cardiovascular outcomes when added to usual care compared to usual care without sitagliptin in a large, high-risk type 2 diabetes population across multiple countries. TECOS is expected to be completed in the first quarter of 2015

and the Company expects that the results of TECOS will be presented at the annual scientific meeting of the

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American Diabetes Association in June 2015. If the results of the TECOS trial show a negative effect on cardiovascular outcomes or reveal another safety issue related to the use of sitagliptin, that could have a material adverse effect on the sales of Januvia and Janumet/Janumet XR.

General Medicine and Women's Health

Worldwide sales of NuvaRing, a vaginal contraceptive product, were $723 million in 2014, an increase of 5% compared with 2013 including a 1% unfavorable impact from foreign exchange, largely reflecting higher pricing in the United States. Global sales of NuvaRing were $686 million in 2013, an increase of 10% compared with 2012, primarily reflecting volume growth and favorable pricing in the United States.

Worldwide sales of Implanon/Nexplanon, a single-rod subdermal contraceptive implant, grew 25% to $502 million in 2014 compared with 2013 driven primarily by higher demand in the United States. Implanon/Nexplanon sales increased 16% to $403 million in 2013 compared with 2012 driven primarily by volume growth in the United States that was partially offset by declines in the emerging markets from pricing pressures.

Global sales of Dulera Inhalation Aerosol, a combination medicine for the treatment of asthma, were $460 million in 2014, $324 million in 2013 and $207 million in 2012 reflecting higher demand in the United States. Dulera Inhalation Aerosol was approved by the FDA in June 2010.

Global sales of Follistim AQ (marketed in most countries outside the United States as Puregon), a fertility treatment, declined 14% to $412 million in 2014 compared with 2013 driven largely by lower pricing in the United States, as well as by lower sales in Europe driven primarily by volume declines. Sales of Follistim AQ grew 3% to $481 million in 2013 compared with 2012 driven largely by positive performance in the United States. The patent that provides market exclusivity for Follistim AQ in the United States expires in June 2015.

In August 2014, Merck announced that the FDA approved Belsomra (suvorexant) for the treatment of adults with insomnia who have difficulty falling asleep and/or staying asleep. Belsomra became available in the United States in early 2015. Following receipt of marketing approval, Belsomra was launched in Japan in November 2014. The Company is continuing with plans to seek approval for suvorexant in other countries around the world.

In April 2014, Merck announced that the FDA approved Grastek and Ragwitek tablets for sublingual use. Grastek is an allergen extract indicated as immunotherapy for the treatment of grass pollen-induced allergic rhinitis with or without conjunctivitis confirmed by positive skin test or in vitro testing for pollen-specific IgE antibodies for Timothy Grass or cross-reactive grass pollens. Grastek is approved for use in persons 5 through 65 years of age. Ragwitek is an allergen extract indicated as immunotherapy for the treatment of short ragweed pollen-induced allergic rhinitis with or without conjunctivitis confirmed by positive skin test or in vitro testing for pollen-specific IgE antibodies for short ragweed pollen. Ragwitek is approved for use in adults 18 through 65 years of age. Neither Grastek nor Ragwitek is indicated for the immediate relief of allergic symptoms. The prescribing information for Grastek and Ragwitek includes a boxed warning regarding severe allergic reactions. Both Grastek and Ragwitek, as well as an ongoing Phase 3 program for sublingual immunotherapy tablets for allergic rhinitis associated with house dust mites, are part of a North America partnership between Merck and ALK-Abello.

Hospital and Specialty

Hepatitis

Worldwide sales of PegIntron, a treatment for chronic HCV, were $381 million in 2014, a decline of 23% compared with 2013, driven by lower volumes in most regions as the availability of new therapeutic options has resulted in loss of market share or led to patient treatment delays in markets anticipating the availability of new therapeutic options. Foreign exchange unfavorably affected global sales performance by 3% in 2014. Global sales of PegIntron declined 24% to $496 million in 2013 compared with 2012 reflecting declines in all regions that were attributable in part to patient treatment being delayed by health care providers in anticipation of new therapeutic options becoming available. Foreign exchange unfavorably affected global sales performance by 3% in 2013.

Global sales of Victrelis, an oral medicine for the treatment of chronic HCV, were $153 million in 2014, a decline of 64% compared with 2013, driven by lower volumes in nearly all regions, particularly within the United States, as the availability of new therapeutic options has resulted in loss of market share or led to patient treatment delays in markets anticipating the availability of new therapeutic options. Worldwide sales of Victrelis were $428 million in 2013, a

decline of 15% compared with 2012 including a 1% unfavorable effect from foreign exchange. Sales declines

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in the United States, Europe and Canada were partially offset by growth across the emerging markets. The sales declines in the United States, Europe and Canada were attributable in part to patient treatment being delayed by health care providers in anticipation of new therapeutic options becoming available.

Sales of the Company's products indicated for treatment of chronic HCV including Victrelis and PegIntron discussed above, as well as Rebetol, continue to be adversely affected by new therapeutic options becoming available. During 2014, these trends accelerated more rapidly than previously anticipated by the Company. In addition, developments in the competitive HCV treatment market led to market share losses that were greater than the Company had predicted. These factors caused changes in cash flow projections for PegIntron, Victrelis and Rebetol that indicated the intangible asset values were not recoverable on an undiscounted cash flows basis. The Company utilized market participant assumptions to determine its best estimate of the fair values of the intangible assets related to PegIntron, Victrelis and Rebetol that, when compared with their related carrying values, resulted in impairment charges of $793 million related to PegIntron, $244 million related to Victrelis and $35 million related to Rebetol recorded within Materials and production costs in 2014. Sales of these products were adversely affected in 2013 by patient treatment being delayed by health care providers in anticipation of new therapeutic options becoming available. Sales of Rebetol, a product sold almost entirely in international markets, were particularly adversely affected by this trend given the markets where Rebetol is sold, as well as from generic competition. During 2013, the Company recorded an impairment charge of $156 million on the Rebetol intangible asset. In the event future circumstances arise that significantly reduce current cash flow projections for these products, the Company may record additional intangible asset impairment charges in the future. The carrying value of the intangible assets related to these products was $96 million in the aggregate at December 31, 2014.

Following receipt of market approval, Vanihep, an oral twice-daily protease inhibitor for the treatment of chronic HCV was launched in Japan in November 2014. Vanihep will be available only in Japan.

HIV

Worldwide sales of Isentress, an HIV integrase inhibitor for use in combination with other antiretroviral agents for the treatment of HIV-1 infection, increased 2% in 2014 to $1.7 billion compared with 2013 primarily reflecting volume growth in Europe and the emerging markets, particularly in Latin America resulting from government tenders, partially offset by volume declines in the United States reflecting competitive pressures. Global sales of Isentress grew 8% to $1.6 billion in 2013 compared with 2012 driven primarily by volume growth in the United States and Europe. Foreign exchange unfavorably affected global sales performance by 1% in both 2014 and 2013.

Acute Care

Global sales of Cancidas, an anti-fungal product, increased 3% in 2014 to $681 million compared with 2013 largely reflecting volume growth in the Asia Pacific region, particularly in China. Sales of Cancidas increased 7% to $660 million in 2013 compared with 2012 reflecting growth in most emerging markets, as well as in Europe and Japan. Worldwide sales of Noxafil, for the prevention of invasive fungal infections, grew 30% in 2014 to $402 million and increased 20% in 2013 to $309 million driven by volume growth in the United States and Europe reflecting a positive impact from the approval of new formulations.

Bridion, for the reversal of two types of neuromuscular blocking agents used during surgery, is approved and has been launched in many countries outside of the United States. Sales of Bridion rose 18% in 2014 to $340 million compared with 2013 driven by volume growth in all markets. Foreign exchange unfavorably affected global sales performance by 6% in 2014. Sales of Bridion were $288 million in 2013, an increase of 10% compared with 2012. The sales growth was driven by volume growth in Europe, the emerging markets and Japan, partially offset by a 13% unfavorable effect of foreign exchange primarily on sales in Japan. In September 2013, the Company received a CRL from the FDA for the resubmission of the NDA for Bridion. To address the CRL, the Company conducted a new hypersensitivity study and, in October 2014, resubmitted the NDA to the FDA. The Company anticipates an FDA advisory committee meeting will be held on March 18, 2015 to review Bridion. If approved, the Company expects to launch Bridion in the United States later in 2015.

In January 2015, Merck acquired Cubist, a leader in the development of new therapies to treat serious and potentially life-threatening infections caused by a broad range of increasingly drug-resistant bacteria. Cubist's products include Cubicin, an I.V. antibiotic for complicated skin and skin structure infections or bacteremia, when caused by

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designated susceptible organisms, Zerbaxa, a combination product recently approved by the FDA for the treatment of adults with complicated urinary tract infections caused by designated susceptible Gram-negative organisms or with complicated intra-abdominal infections caused by designated susceptible Gram-negative and Gram-positive organisms, and Sivextro for the treatment of acute bacterial skin and skin structure infections ("ABSSSI") in adults caused by designated susceptible Gram-positive organisms. Both Zerbaxa and Sivextro are under review in the EU.

Immunology

Sales of Remicade, a treatment for inflammatory diseases (marketed by the Company in Europe, Russia and Turkey), were $2.4 billion in 2014, an increase of 4% compared with 2013 reflecting sales growth in Europe, partially offset by a decline in Russia. Sales of Remicade were $2.3 billion in 2013, an increase of 9% compared with 2012 including a 2% favorable effect from foreign exchange. Sales growth reflects volume growth in Europe, as well as Russia. In September 2013, the EC approved an infliximab biosimilar. While the Company is experiencing biosimilar competition in certain smaller European markets, the Company anticipates a more substantial decline in Remicade sales following loss of market exclusivity in major European markets in February 2015. Additionally, the Company anticipates mandatory price reductions in certain European markets.

Sales of Simponi, a once-monthly subcutaneous treatment for certain inflammatory diseases (marketed by the Company in Europe, Russia and Turkey), grew 38% in 2014 to $689 million compared with 2013 driven by demand in Europe reflecting in part a positive impact from the ulcerative colitis indication. In September 2013, the EC approved Simponi for the treatment of adult patients with moderately to severely active ulcerative colitis who have had an inadequate response to conventional therapy or who are intolerant to or have medical contraindications for such therapies. Sales of Simponi were $500 million in 2013 compared with $331 million in 2012 driven by continued launch activities.

Other

Worldwide sales of ophthalmic products Cosopt and Trusopt declined 38% in 2014 to $257 million compared with 2013 driven largely by the divestiture of Cosopt and Trusopt in many international markets in 2014 and the sale of the U.S. rights to Cosopt and Cosopt PF in 2013 as discussed below. Sales of Cosopt and Trusopt were $416 million in 2013, a decline of 6% compared with 2012, reflecting a 7% unfavorable effect from foreign exchange and lower sales in Europe and Canada due to generic competition, partially offset by volume growth in Japan.

In November 2013, Merck sold the U.S. rights to ophthalmic products Cosopt and Cosopt PF (as well as AzaSite through the sale of its Inspire Pharmaceuticals, Inc. subsidiary) to Akorn, Inc ("Akorn"). Also, as noted above, in May 2014, Merck entered into an agreement to sell certain ophthalmic products, including Cosopt and Trusopt, to Santen in Japan and markets in Europe and Asia Pacific. The transaction closed in most markets on July 1, 2014. The remaining markets closed on October 1, 2014. Merck continues to sell its ophthalmic products in markets not included in the transactions with Santen and Akorn.

Merck's sales of Saphris (asenapine), an antipsychotic indicated for the treatment of schizophrenia and bipolar I disorder in adults, were $84 million in 2014, $158 million in 2013 and $166 million in 2012. In January 2014, Merck sold the U.S. marketing rights to Saphris to Forest Laboratories, Inc. ("Forest"). Under the terms of the agreement, Forest made upfront payments of $232 million, which are reflected in Sales in 2014, and will make additional payments to Merck based on defined sales milestones. In addition, as part of this transaction, Merck has agreed to supply product to Forest (subsequently acquired by Actavis plc) until patent expiry. Asenapine, sold under the brand name Sycrest, is also approved in the EU for the treatment of bipolar I disorder in adults. Under a commercialization agreement for Sycrest sublingual tablets (5 mg, 10 mg), H. Lundbeck A/S makes product supply payments in exchange for exclusive commercial rights to Sycrest in all markets outside the United States, China and Japan. During 2013, the Company recorded an impairment charge on the Saphris/Sycrest intangible asset (see Note 7 to the consolidated financial statements).

Other products contained in Hospital and Specialty include among others, Invanz, for the treatment of certain infections; and Primaxin, an anti-bacterial product.

Oncology

Global sales of Emend, for the prevention of chemotherapy-induced and post-operative nausea and vomiting, were $553 million in 2014, an increase of 9% compared with 2013 including a 1% unfavorable effect from foreign

exchange, largely reflecting volume growth in most regions. Sales of Emend were $507 million in 2013, an increase

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of 4% compared with 2012 including a 1% unfavorable effect from foreign exchange, largely reflecting volume growth in the United States and the emerging markets, partially offset by a decline in Japan.

Sales of Temodar (marketed as Temodal outside the United States), a treatment for certain types of brain tumors, declined 51% to $350 million in 2014 and decreased 23% to $708 million in 2013. Foreign exchange unfavorably affected global sales performance by 3% in both 2014 and 2013. The sales declines were driven primarily by generic competition in the United States, as well as in Europe. As previously disclosed, by agreement, a generic manufacturer launched a generic version of Temodar in the United States in August 2013. The U.S. patent and exclusivity periods otherwise expired in February 2014. Temodar lost patent exclusivity in the EU in 2009. Accordingly, the Company is experiencing sales declines due to the loss of exclusivity in these markets and the Company expects these declines to continue.

In September 2014, Merck announced that the FDA granted accelerated approval of Keytruda at a dose of 2 mg/kg every three weeks for the treatment of patients with unresectable or metastatic melanoma and disease progression following ipilimumab and, if BRAF V600 mutation positive, a BRAF inhibitor. Keytruda is the first anti-PD-1 (programmed death receptor-1) therapy approved in the United States. In June 2014, Merck announced the European Medicines Agency (the “EMA”) accepted for review a Marketing Authorization Application (“MAA”) for Keytruda for the treatment of advanced melanoma. The Company has made additional regulatory filings in other countries and further filings are planned. In December 2014, the Company estimates 2,000 patients were receiving treatment with Keytruda. Sales of Keytruda were $55 million in 2014.

The Keytruda clinical development program also includes studies across a broad range of cancer types (see “Research and Development” below). In October 2014, Keytruda was granted Breakthrough Therapy Designation by the FDA for the treatment of patients with Epidermal Growth Factor Receptor mutation-negative, and Anaplastic Lymphoma Kinase rearrangement-negative non-small-cell lung cancer whose disease has progressed on or following platinum-based chemotherapy. The Company anticipates submitting an sBLA to the FDA in mid-2015 for Keytruda.

Diversified Brands

Merck’s diversified brands include human health pharmaceutical products that are approaching the expiration of their marketing exclusivity or are no longer protected by patents in developed markets, but continue to be a core part of the Company’s offering in other markets around the world.

Respiratory

Global sales of Nasonex, an inhaled nasal corticosteroid for the treatment of nasal allergy symptoms, declined 18% to $1.1 billion in 2014 compared with 2013. Foreign exchange unfavorably affected global sales performance by 2% in 2014. The sales decline was driven primarily by lower demand in the United States, as well as by lower volumes in Europe and Canada from generic competition. By agreement, generic manufacturers were able to launch a generic version of Nasonex in most European markets on January 1, 2014 and generic versions of Nasonex have since launched in several of these markets. Accordingly, the Company experienced a rapid decline in Nasonex sales in Europe in 2014 and expects the decline to continue. Sales of Nasonex increased 5% to $1.3 billion in 2013 compared with 2012 driven primarily by increases in the United States, reflecting net favorable adjustments to indirect customer discounts, as well as by volume growth in Japan, partially offset by declines in Latin America, Canada and Europe. Foreign exchange unfavorably affected global sales performance by 3% in 2013. In 2009, Apotex Inc. and Apotex Corp. (collectively, “Apotex”) filed an application with the FDA seeking approval to sell its generic version of Nasonex. In June 2012, the U.S. District Court for the District of New Jersey ruled against the Company in a patent infringement suit against Apotex holding that Apotex’s generic version of Nasonex does not infringe on the Company’s formulation patent. In June 2013, the Court of Appeals for the Federal Circuit issued a decision affirming the U.S. District Court decision and the Company has exhausted all of its appeal options. If Apotex’s generic version becomes available, significant losses of U.S. Nasonex sales could occur and the Company may take a non-cash impairment charge with respect to the carrying value of the Nasonex intangible asset, which was $719 million at December 31, 2014. If the Nasonex intangible asset is determined to be impaired, the impairment charge could be material. U.S. sales of Nasonex were $577 million in 2014.

Worldwide sales of Singulair, a once-a-day oral medicine for the chronic treatment of asthma and for the relief of symptoms of allergic rhinitis, were $1.1 billion in 2014, a decline of 9% compared with 2013 including a 5%

unfavorable effect from foreign exchange, primarily reflecting lower sales in Europe as a result of generic competition.

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The patents that provided market exclusivity for Singulair expired in a number of major European markets in February 2013 and the Company experienced significant and rapid declines in sales of Singulair in those markets following the patent expiries and expects the declines to continue. Global sales of Singulair fell 69% to $1.2 billion in 2013 compared with 2012 driven primarily by lower sales in the United States and Europe as a result of generic competition. The patent that provided U.S. market exclusivity for Singulair expired in August 2012. The patent that provides market exclusivity for Singulair in Japan will expire in 2016. Singulair sales in Japan were $537 million in 2014.

Global sales of Cozaar and its companion agent Hyzaar (a combination of Cozaar and hydrochlorothiazide), treatments for hypertension, declined 20% in 2014 to $806 million and decreased 22% in 2013 to $1.0 billion. Foreign exchange unfavorably affected global sales performance by 4% and 8% in 2014 and 2013, respectively. The patents that provided market exclusivity for Cozaar and Hyzaar in the United States and in most major international markets have expired. Accordingly, the Company is experiencing significant declines in Cozaar and Hyzaar sales and expects the declines to continue.

Worldwide sales of Fosamax (marketed as Fosamac in Japan) and Fosamax Plus D (marketed as Fosavance throughout the EU) for the treatment and, in the case of Fosamax, prevention of osteoporosis, decreased 16% in 2014 to $470 million and declined 17% in 2013 to $560 million driven by declines in all regions. These medicines have lost market exclusivity in the United States and in most major international markets. The Company expects the sales declines within the Fosamax product franchise to continue.

Other products contained in Diversified Brands include among others, Clarinex, a non-sedating antihistamine; Arcoxia for the treatment of arthritis and pain; Propecia, a product for the treatment of male pattern hair loss, Zocor, a statin for modifying cholesterol; and Remeron, an antidepressant.

Vaccines

The following discussion of vaccines does not include sales of vaccines sold in most major European markets through Sanofi Pasteur MSD (“SPMSD”), the Company’s joint venture with Sanofi Pasteur, the results of which are reflected in Equity income from affiliates (see “Selected Joint Venture and Affiliate Information” below). Supply sales to SPMSD, however, are included.

Merck’s sales of Gardasil, a vaccine to help prevent certain diseases caused by four types of HPV, were $1.7 billion in 2014, a decline of 5% compared with 2013 including a 2% unfavorable effect from foreign exchange. The decline reflects lower sales in Asia Pacific, Japan and Canada, partially offset by higher government tenders in Brazil from the national immunization program, as well as higher public sector purchases in the United States. Merck’s sales of Gardasil grew 12% to $1.8 billion in 2013 compared with 2012 driven primarily by volume growth in the United States, reflecting continued uptake in both males and females, and volume growth in Latin America, partially offset by lower volumes in Japan. Sales in 2014, 2013 and 2012 included $56 million, $37 million and $44 million, respectively, of purchases for the U.S. Centers for Disease Control and Prevention (“CDC”) Pediatric Vaccine Stockpile. In June 2013, the Japanese Health Ministry issued an advisory to suspend active promotion of HPV vaccines. The Company is a party to certain third-party license agreements with respect to Gardasil (including a cross-license and settlement agreement with GlaxoSmithKline). As a result of these agreements, the Company pays royalties on worldwide Gardasil sales of 19% to 27% which vary by country and are included in Materials and production costs.

In December 2014, the Company announced that the FDA approved Gardasil 9, Merck’s 9-valent HPV vaccine, for use in girls and young women 9 to 26 years of age for the prevention of cervical, vulvar, vaginal, and anal cancers caused by HPV types 16, 18, 31, 33, 45, 52 and 58, pre-cancerous or dysplastic lesions caused by HPV types 6, 11, 16, 18, 31, 33, 45, 52, and 58, and genital warts caused by HPV types 6 and 11. Gardasil 9 is also approved for use in boys 9 to 15 years of age for the prevention of anal cancer caused by HPV types 16, 18, 31, 33, 45, 52 and 58, precancerous or dysplastic lesions caused by HPV types 6, 11, 16, 18, 31, 33, 45, 52 and 58, and genital warts caused by HPV types 6 and 11. Gardasil 9 includes the greatest number of HPV types in any available HPV vaccine.

Merck’s sales of ProQuad, a pediatric combination vaccine to help protect against measles, mumps, rubella and varicella, were $395 million in 2014, $314 million in 2013 and $61 million in 2012. The increase in 2014 as compared with 2013 was driven primarily by higher sales in the United States reflecting approximately $30 million of government purchases for the CDC Pediatric Vaccine Stockpile. Sales of ProQuad in 2012 were affected by supply

constraints. ProQuad became available again in the United States for ordering in October 2012.

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Merck's sales of Varivax, a vaccine to help prevent chickenpox (varicella), were $672 million in 2014, $684 million in 2013 and $846 million in 2012. Sales performance in 2014 reflects lower sales in the United States largely offset by growth in the emerging markets. Merck's sales of M-M-R II, a vaccine to help protect against measles, mumps and rubella, were $326 million in 2014, $307 million in 2013 and $365 million in 2012. Sales of Varivax and M M R II declined in 2013 as compared with 2012 due to the availability of ProQuad discussed above.

Merck's sales of Zostavax, a vaccine to help prevent shingles (herpes zoster) in adults 50 years of age and older, were $765 million in 2014, an increase of 1% compared with 2013, driven primarily by higher sales in the Asia Pacific region due to ongoing launches, partially offset by lower demand in the United States, as well as in Canada. The Company is continuing to educate U.S. customers on the broad managed care coverage for Zostavax and the process for obtaining reimbursement. Merck's sales of Zostavax grew 16% to $758 million in 2013 compared with 2012 driven by higher demand in the United States and Canada, as well as by launches within the Asia Pacific region. Merck is continuing to launch Zostavax outside of the United States.

Merck's sales of Pneumovax 23, a vaccine to help prevent pneumococcal disease, grew 14% in 2014 to $746 million compared with 2013 driven primarily by higher sales in Japan from the national immunization program, as well as higher sales in the United States attributable to both price and volume. Foreign exchange unfavorably affected sales performance by 3% in 2014. Merck's sales of Pneumovax 23 increased 13% in 2013 to $653 million compared with 2012 driven primarily by volume growth in the emerging markets, as well as volume and price increases in the United States.

Merck's sales of RotaTeq, a vaccine to help protect against rotavirus gastroenteritis in infants and children, increased 4% in 2014 to $659 million compared with 2013 primarily reflecting higher sales in certain emerging markets. Merck's sales of RotaTeq grew 6% in 2013 to $636 million compared with 2012 reflecting higher pricing in the United States and volume growth in Japan.

Other Segments

The Company's other segments are the Animal Health and Alliances segments, which are not material for separate reporting. Prior to its disposition on October 1, 2014, the Company also had a Consumer Care segment.

Animal Health

Animal Health includes pharmaceutical and vaccine products for the prevention, treatment and control of disease in all major farm and companion animal species. Animal Health sales are affected by competition and the frequent introduction of generic products. Global sales of Animal Health products totaled $3.5 billion in 2014, growth of 3% compared with 2013 including a 2% unfavorable effect from foreign exchange. The sales growth was driven primarily by higher sales of companion animal products, reflecting the launch of Bravecto in Europe and the United States, as well as higher sales of poultry and aqua products, partially offset by lower sales of Zilmax. In August 2013, Merck Animal Health voluntarily suspended sales of Zilmax, a feed supplement for beef cattle, in the United States and Canada.

In May 2014, Merck announced that the FDA approved Bravecto chewable tablets for dogs to treat fleas and ticks. Bravecto is the first and only treatment that has been shown to quickly and effectively kill fleas and multiple tick species for 12 weeks in a single dose. Bravecto also is effective for eight weeks against Amblyomma americanum ticks. In addition, Bravecto has been approved and launched in approximately 30 countries outside of the United States.

Global sales of Animal Health products were $3.4 billion in 2013, a decline of 1% compared with 2012 including a 2% unfavorable effect from foreign exchange. The sales decline reflects lower sales of ruminant products, primarily Zilmax, partially offset by growth in companion animal and poultry products. The suspension of Zilmax unfavorably affected Animal Health sales by 4% in 2014 and by 2% in 2013.

Alliances

The alliances segment includes results from the Company's relationship with AZLP. On June 30, 2014, AstraZeneca exercised its option to buy Merck's interest in a subsidiary and, through it, Merck's interest in Nexium and Prilosec. As a result, as of July 1, 2014, the Company no longer records equity income from AZLP and supply sales to AZLP, primarily relating to sales of Nexium and Prilosec, have terminated (see "Selected Joint Venture and

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Affiliate Information" below). Revenue from AZLP, primarily relating to sales of Nexium and Prilosec, was $463 million in 2014 through the termination date on June 30, 2014, $920 million in 2013 and $915 million in 2012.

Consumer Care

As noted above, on October 1, 2014, the Company divested its Consumer Care segment. Consumer Care products included over-the-counter, foot care and sun care products. Global sales of Consumer Care were $1.5 billion in 2014, $1.9 billion in 2013 and $2.0 billion in 2012.

Costs, Expenses and Other

($ in millions)	2014	Change	2013	Change	2012
Materials and production	$16,768	-1 %	$16,954	3 %	$16,446
Marketing and administrative	11,606	-3 %	11,911	-7 %	12,776
Research and development [1]	7,180	-4 %	7,503	-8 %	8,168
Restructuring costs	1,013	-41 %	1,709	*	664
Equity income from affiliates	(257)	-36 %	(404)	-37 %	(642)
Other (income) expense, net	(11,356)	*	815	-27 %	1,116
	$24,954	-35 %	$38,488	— %	$38,528

* 100% or greater.

(1) Includes $49 million, $279 million and $200 million of IPR&D impairment charges in 2014, 2013 and 2012, respectively.

Materials and Production

Materials and production costs were $16.8 billion in 2014, $17.0 billion in 2013 and $16.4 billion in 2012. Costs include expenses for the amortization of intangible assets recorded in connection with mergers and acquisitions which totaled $4.2 billion in 2014, $4.7 billion in 2013 and $4.9 billion in 2012. Costs in 2014 and 2013 include intangible asset impairment charges of $1.1 billion and $486 million, respectively, related to marketed products (see Note 7 to the consolidated financial statements). The Company may recognize additional non-cash impairment charges in the future related to product intangibles that were measured at fair value and capitalized in connection with mergers and acquisitions and such charges could be material. Additionally, costs in 2013 include a $41 million intangible asset impairment charge related to a licensing agreement. Also included in materials and production were costs associated with restructuring activities which amounted to $482 million, $446 million and $188 million in 2014, 2013 and 2012, respectively, including accelerated depreciation and asset write-offs related to the planned sale or closure of manufacturing facilities. Separation costs associated with manufacturing-related headcount reductions have been incurred and are reflected in Restructuring costs as discussed below.

Gross margin was 60.3% in 2014 compared with 61.5% in 2013 and 65.2% in 2012. The amortization of intangible assets, as well as the restructuring and impairment charges noted above reduced gross margin by 13.6 percentage points in 2014, 12.8 percentage points in 2013 and 10.7 percentage points in 2012. Excluding these impacts, the gross margin decline in 2014 as compared with 2013 was driven primarily by the unfavorable effects of inventory write-offs largely related to Victrelis, as well as by changes in product mix, partially offset by the sale of the U.S. marketing rights to Saphris. The gross margin decline in 2013 as compared with 2012 was driven in part by the loss of Singulair sales as result of patent expiries in the United States in August 2012 and in major European markets in February 2013. In addition, generic competition in the United States coupled with changes in product mix and continued pricing pressures in mature markets also negatively affected gross margin in 2013 as compared with 2012.

Marketing and Administrative

Marketing and administrative expenses declined 3% in 2014 to $11.6 billion driven primarily by lower selling costs and promotional spending, the divestiture of MCC and the favorable effect of foreign exchange, partially offset by an additional year of expense related to the health care reform fee as discussed below, as well as higher acquisition and divestiture-related costs. Marketing and administrative expenses decreased 7% in 2013 to $11.9 billion largely due to lower promotional spending and selling costs resulting from restructuring activities, and also reflecting the favorable effect of foreign exchange. Expenses for 2014, 2013 and 2012 include restructuring costs of $200 million, $145 million and $90 million, respectively, related primarily to accelerated depreciation for facilities to be closed or

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divested. Separation costs associated with sales force reductions have been incurred and are reflected in Restructuring costs as discussed below. Expenses also include $234 million, $94 million and $272 million of acquisition and divestiture-related costs in 2014, 2013 and 2012, respectively, consisting of incremental, third-party integration costs related to the Merger, including costs related to legal entity and systems integration, as well as transaction and certain other costs related to business acquisitions and divestitures.

On July 28, 2014, the IRS issued final regulations on the annual non-tax deductible health care reform fee imposed by the Patient Protection and Affordable Care Act that is based on an allocation of a company's market share of prior year branded pharmaceutical sales to certain government programs. The final IRS regulations accelerated the recognition criteria for the fee obligation by one year to the year in which the underlying sales used to allocate the fee occurred rather than the year in which the fee was paid. As a result of this change, Merck recorded an additional year of expense of $193 million during 2014.

Research and Development

Research and development expenses were $7.2 billion in 2014, $7.5 billion in 2013 and $8.2 billion in 2012. Research and development expenses are comprised of the costs directly incurred by Merck Research Laboratories ("MRL"), the Company's research and development division that focuses on human health-related activities, which were approximately $3.7 billion in 2014, $4.2 billion in 2013 and $4.5 billion in 2012. Also included in research and development expenses are costs incurred by other divisions in support of research and development activities, including depreciation, production and general and administrative, as well as licensing activity, certain costs from operating segments, including the Pharmaceutical and Animal Health segments, as well as the Consumer Care segment until its divestiture on October 1, 2014, which in the aggregate were $2.8 billion, $2.9 billion and $3.4 billion for 2014, 2013 and 2012, respectively. Costs for 2014 include an $85 million charge related to a collaboration with Bayer (see Note 4 to the consolidated financial statements). The declines in research and development costs were driven by cost savings resulting from restructuring activities, targeted reductions and lower clinical development spend as a result of portfolio prioritization. The decline in these research and development expenses in 2013 as compared with 2012 also reflects lower payments for licensing activity.

Research and development expenses also include acquired in-process research and development ("IPR&D") impairment charges of $49 million, $279 million and $200 million in 2014, 2013 and 2012, respectively (see "Research and Development" below). The Company may recognize additional non-cash impairment charges in the future for the cancellation or delay of other pipeline programs that were measured at fair value and capitalized in connection with mergers and acquisitions and such charges could be material. Also, during 2014, the Company recorded a charge of $316 million to increase the estimated fair value of a liability for contingent consideration related to research projects obtained in connection with the acquisition of a business in a prior year (see Note 5 to the consolidated financial statements). Research and development expenses in 2014, 2013 and 2012 reflect $283 million, $101 million and $57 million, respectively, of accelerated depreciation and asset abandonment costs associated with restructuring activities.

Restructuring Costs

Restructuring costs, primarily representing separation and other related costs associated with restructuring activities, were $1.0 billion, $1.7 billion and $664 million in 2014, 2013 and 2012, respectively. Costs in 2014 and 2013 include $594 million and $898 million, respectively, of costs related to the 2013 Restructuring Program. The remaining costs in 2014 and nearly all of the remaining costs recorded in 2013 and the costs recorded in 2012 related to the Merger Restructuring Program. In 2014, 2013 and 2012, separation costs of $674 million, $1.4 billion and $489 million, respectively, were incurred associated with actual headcount reductions, as well as estimated expenses under existing severance programs for headcount reductions that were probable and could be reasonably estimated. Positions eliminated under the 2013 Restructuring Program were approximately 4,555 in 2014 and 1,540 in 2013. Positions eliminated under the Merger Restructuring Program were approximately 1,530 in 2014, 4,475 in 2013 and 3,975 in 2012. These position eliminations are comprised of actual headcount reductions, and the elimination of contractors and vacant positions. Also included in restructuring costs are asset abandonment, shut-down and other related costs, as well as employee-related costs such as curtailment, settlement and termination charges associated with pension and other postretirement benefit plans and share-based compensation plan costs. For segment reporting, restructuring costs are unallocated expenses. Additional costs associated with the Company's restructuring activities are included in

Materials and production, Marketing and administrative and Research and development as discussed above.

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Equity Income from Affiliates

Equity income from affiliates, which reflects the performance of the Company's joint ventures and other equity method affiliates, declined 36% in 2014 to $257 million compared with 2013. The decline was driven primarily by the termination of the Company's relationship with AZLP. As discussed below, on June 30, 2014, AstraZeneca exercised its option to purchase Merck's interest in a subsidiary and, through it, Merck's interest in Nexium and Prilosec. Effective July 1, 2014, the Company no longer records equity income from AZLP. (See "Selected Joint Venture and Affiliate Information" below.) Equity income from affiliates declined 37% in 2013 to $404 million compared with 2012 driven primarily by lower equity income from SPMSD.

Other (Income) Expense, Net

Other (income) expense, net was $11.4 billion of income in 2014 compared with $815 million of expense in 2013 driven primarily by gains recognized in 2014 including an $11.2 billion gain related to the divestiture of MCC (see Note 4 to the consolidated financial statements), a $741 million gain related to AstraZeneca's option exercise (see Note 8 to the consolidated financial statements), a $480 million gain on the sale of certain ophthalmic products in several international markets (see Note 4 to the consolidated financial statements) and a $204 million gain related to the divestiture of Sirna (see Note 4 to the consolidated financial statements), as well as by lower exchange losses in 2014 due to a Venezuelan currency devaluation in 2013 (see Note 14 to the consolidated financial statements). Partially offsetting the favorability of these items was a $628 million loss on extinguishment of debt in 2014 (see Note 9 to the consolidated financial statements) and a $93 million goodwill impairment charge related to the Company's joint venture with Supera (see Note 4 to the consolidated financial statements).

Other (income) expense, net was $815 million of expense in 2013 compared with $1.1 billion of expense in 2012 reflecting a $493 million net charge in 2012 relating to the settlement of certain shareholder litigation (the "ENHANCE Litigation"), partially offset by higher exchange losses in 2013 driven by $140 million of exchange losses related to a Venezuelan currency devaluation, as well as higher interest expense in 2013 resulting in part from issuances of debt in September 2012 and May 2013.

Segment Profits

($ in millions)	2014	2013	2012
Pharmaceutical segment profits	$22,164	$22,983	$25,852
Other non-reportable segment profits	2,546	3,094	3,163
Other	(7,427)	(20,532)	(20,276)
Income before income taxes	$17,283	$5,545	$8,739

Segment profits are comprised of segment sales less standard costs, certain operating expenses directly incurred by the segment, components of equity income or loss from affiliates and depreciation and amortization expenses. For internal management reporting presented to the chief operating decision maker, Merck does not allocate materials and production costs, other than standard costs, the majority of research and development expenses or general and administrative expenses, nor the cost of financing these activities. Separate divisions maintain responsibility for monitoring and managing these costs, including depreciation related to fixed assets utilized by these divisions and, therefore, they are not included in segment profits. Also excluded from the determination of segment profits are acquisition and divestiture-related costs, including the amortization of purchase accounting adjustments and intangible asset impairment charges, restructuring costs, taxes paid at the joint venture level and a portion of equity income. Additionally, segment profits do not reflect other expenses from corporate and manufacturing cost centers and other miscellaneous income or expense. These unallocated items, including in 2014 gains on divestitures (including MCC), the gain on AstraZeneca's option exercise, the loss on extinguishment of debt and an additional year of expense related to the health care reform fee, as well as the charge recorded in 2012 related to the settlement of the ENHANCE Litigation are reflected in "Other" in the above table. Also included in "Other" are miscellaneous corporate profits (losses), as well as operating profits (losses) related to third-party manufacturing sales, divested products or businesses, and other supply sales.

Pharmaceutical segment profits declined 4% in 2014 compared with 2013 driven primarily by the unfavorable effects of product divestitures and loss of market exclusivity for certain products, partially offset by cost savings from

productivity measures. Pharmaceutical segment profits declined 11% in 2013 compared with 2012 driven primarily by the effects of the loss of market exclusivity for certain products, particularly Singulair. The decline in other segment

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profits in 2014 as compared with 2013 was driven primarily by the termination of the Company's relationship with AZLP, as well as the divestiture of MCC.

Taxes on Income

The effective income tax rates of 30.9% in 2014, 18.5% in 2013 and 27.9% in 2012 reflect the impacts of acquisition and divestiture-related costs and restructuring costs, partially offset by the beneficial impact of foreign earnings. The effective income tax rate for 2014 reflects the impact of the gain on the divestiture of MCC being taxed at combined U.S. federal and state tax rates. The effective income tax rate for 2014 includes a net tax benefit of $517 million recorded in connection with AstraZeneca's option exercise (see Note 8 to the consolidated financial statements) and a benefit of approximately $300 million associated with a capital loss generated in connection with the sale of Sirna (see Note 4 to the consolidated financial statements). The effective income tax rate for 2014 also includes the unfavorable impact of an additional year of expense for the non-tax deductible health care reform fee that the Company recorded in accordance with final regulations issued in the third quarter by the IRS. The effective tax rate in 2013 reflects a net benefit of $165 million from the settlements of certain federal income tax issues, net benefits from reductions in tax reserves upon expiration of applicable statutes of limitations, the favorable impact of tax legislation enacted in the first quarter of 2013 that extended the R&D tax credit for both 2012 and 2013, as well as an out-of-period net tax benefit of approximately $160 million associated with the resolution of a previously disclosed legacy Schering-Plough federal income tax issue (see Note 15 to the consolidated financial statements). The effective tax rate for 2012 also reflects the favorable impacts of a tax settlement with the Canada Revenue Agency (the "CRA"), the realization of foreign tax credits and the impact of a favorable ruling on a state tax matter. In addition, the 2012 effective tax rate reflects the unfavorable impact of the net charge recorded in connection with the settlement of the ENHANCE Litigation for which no tax benefit was recorded and does not reflect any impacts for the R&D tax credit, which expired on December 31, 2011. As a result of legislation passed in 2013 that extended the R&D tax credit, both the 2012 and 2013 R&D tax credits were recognized in 2013 as noted above.

Net Income Attributable to Noncontrolling Interests

Net income attributable to noncontrolling interests was $14 million in 2014, $113 million in 2013 and $131 million in 2012. The decline in 2014 reflects the termination of the Company's relationship with AZLP (see Note 8 to the consolidated financial statements). In addition, the amount for 2014 includes the portion of intangible asset and goodwill impairment charges related to the Company's joint venture with Supera that are attributable to noncontrolling interests.

Net Income and Earnings per Common Share

Net income attributable to Merck & Co., Inc. was $11.9 billion in 2014, $4.4 billion in 2013 and $6.2 billion in 2012. EPS was $4.07 in 2014, $1.47 in 2013 and $2.00 in 2012. The increases in net income and EPS in 2014 as compared with 2013 were due primarily to the gain on the divestiture of MCC, a gain recognized on AstraZeneca's option exercise, gains on other divestitures, lower operating expenses, higher favorability from discrete tax items, revenue recognized from the sale of the U.S. marketing rights to Saphris, partially offset by lower sales, a loss on extinguishment of debt, higher intangible asset impairment charges, and an additional year of expense for the health care reform fee. The declines in net income and EPS in 2013 as compared with 2012 were due primarily to lower sales reflecting the loss of market exclusivity for certain products, particularly Singulair, as well as higher restructuring costs, intangible asset impairment charges and exchange losses, partially offset by the favorable impact of certain tax items and lower operating expenses.

Non-GAAP Income and Non-GAAP EPS

Non-GAAP income and non-GAAP EPS are alternative views of the Company's performance used by management that Merck is providing because management believes this information enhances investors' understanding of the Company's results. Non-GAAP income and non-GAAP EPS exclude certain items because of the nature of these items and the impact that they have on the analysis of underlying business performance and trends. The excluded items consist of acquisition and divestiture-related costs, restructuring costs and certain other items. These excluded items are significant components in understanding and assessing financial performance. Therefore, the information on non-GAAP income and non-GAAP EPS should be considered in addition to, but not in lieu of, net income and EPS prepared in accordance with generally accepted accounting principles in the United States ("GAAP"). Additionally,

since non-GAAP income and non-GAAP EPS are not measures determined in accordance with GAAP, they have no standardized

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meaning prescribed by GAAP and, therefore, may not be comparable to the calculation of similar measures of other companies.

Non-GAAP income and non-GAAP EPS are important internal measures for the Company. Senior management receives a monthly analysis of operating results that includes non-GAAP income and non-GAAP EPS and the performance of the Company is measured on this basis along with other performance metrics. Senior management's annual compensation is derived in part using non-GAAP income and non-GAAP EPS.

A reconciliation between GAAP financial measures and non-GAAP financial measures is as follows:

($ in millions except per share amounts)	2014	2013	2012
Pretax income as reported under GAAP	$17,283	$5,545	$8,739
Increase (decrease) for excluded items:			
Acquisition and divestiture-related costs	5,946	5,549	5,344
Restructuring costs	1,978	2,401	999
Other items:			
Gain on divestiture of Merck Consumer Care	(11,209)	—	—
Gain on AstraZeneca option exercise	(741)	—	—
Gain on the divestiture of certain ophthalmic products	(480)	—	—
Loss on extinguishment of debt	628	—	—
Additional year of expense for health care reform fee	193	—	—
Net charge related to settlement of ENHANCE Litigation	—	—	493
Other	(9)	(13)	—
	13,589	13,482	15,575
Taxes on income as reported under GAAP	5,349	1,028	2,440
Estimated tax (provision) benefit on excluded items [1]	(2,345)	1,573	1,261
Tax benefits related to sale of Sirna Therapeutics, Inc. subsidiary	300	—	—
Net tax benefits from settlements of federal income tax issues	—	325	—
	3,304	2,926	3,701
Non-GAAP net income	10,285	10,556	11,874
Less: Net income attributable to noncontrolling interests as reported under GAAP	14	113	131
Acquisition and divestiture-related costs attributable to non-controlling interests	56	—	—
	70	113	131
Non-GAAP net income attributable to Merck & Co., Inc.	$10,215	$10,443	$11,743
EPS assuming dilution as reported under GAAP	$4.07	$1.47	$2.00
EPS difference [2]	(0.58)	2.02	1.82
Non-GAAP EPS assuming dilution	$3.49	$3.49	$3.82

[1] Amount for 2014 includes a net benefit of $517 million recorded in connection with AstraZeneca's option exercise.

[2] Represents the difference between calculated GAAP EPS and calculated non-GAAP EPS, which may be different than the amount calculated by dividing the impact of the excluded items by the weighted-average shares for the applicable year.

Acquisition and Divestiture-Related Costs

Non-GAAP income and non-GAAP EPS exclude the impact of certain amounts recorded in connection with mergers, acquisitions and divestitures. These amounts include the amortization of intangible assets, intangible asset impairment charges and expense or income related to changes in the fair value measurement of contingent consideration. Also excluded are incremental, third-party integration costs associated with the Merger, such as costs related to legal entity and systems integration, as well as transaction and certain other costs associated with business acquisitions and divestitures. These costs should not be considered non-recurring; however, management excludes these amounts from

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non-GAAP income and non-GAAP EPS because it believes it is helpful for understanding the performance of the continuing business.

Restructuring Costs

Non-GAAP income and non-GAAP EPS exclude costs related to restructuring actions (see Note 3 to the consolidated financial statements). These amounts include employee separation costs and accelerated depreciation associated with facilities to be closed or divested. Accelerated depreciation costs represent the difference between the depreciation expense to be recognized over the revised useful life of the site, based upon the anticipated date the site will be closed or divested, and depreciation expense as determined utilizing the useful life prior to the restructuring actions. Restructuring costs also include asset abandonment, shut-down and other related costs, as well as employee-related costs such as curtailment, settlement and termination charges associated with pension and other postretirement benefit plans and share-based compensation costs. The Company has undertaken restructurings of different types during the covered periods and, therefore, these charges should not be considered non-recurring; however, management excludes these amounts from non-GAAP income and non-GAAP EPS because it believes it is helpful for understanding the performance of the continuing business.

Certain Other Items

Non-GAAP income and non-GAAP EPS exclude certain other items. These items represent substantive, unusual items that are evaluated on an individual basis. Such evaluation considers both the quantitative and the qualitative aspect of their unusual nature and generally represent items that, either as a result of their nature or magnitude, management would not anticipate that they would occur as part of the Company’s normal business on a regular basis. Certain other items are comprised of a gain on the divestiture of MCC, a gain recognized in conjunction with AstraZeneca’s option exercise, including a related net tax benefit on the transaction, a gain on the divestiture of certain ophthalmic products in several international markets, a loss on extinguishment of debt, an additional year of expense related to the health care reform fee, a tax benefit from the sale of Sirna and tax benefits from the settlements of certain federal income tax issues, as well as the net charge recorded in connection with the settlement of the ENHANCE Litigation.

Research and Development

A chart reflecting the Company’s current research pipeline as of February 20, 2015 is set forth in Item 1. “Business — Research and Development” above.

Research and Development Update

The Company currently has several candidates under regulatory review in the United States or internationally. Keytruda is an anti-PD-1 (programmed death receptor-1) therapy under review by the EMA for the treatment of advanced melanoma. In September 2014, the FDA approved Keytruda at a dose of 2 mg/kg every three weeks for the treatment of patients with unresectable or metastatic melanoma and disease progression following ipilimumab and, if BRAF V600 mutation positive, a BRAF inhibitor. Keytruda is the first anti-PD-1 therapy approved in the United States.

The Keytruda clinical development program also includes studies in more than 30 cancer types including: bladder, colorectal, gastric, head and neck, melanoma, non-small-cell lung, renal, triple negative breast and hematological malignancies. In addition, the Company has announced a number of collaborations with other pharmaceutical companies to evaluate novel combination regimens with Keytruda. In October 2014, Keytruda was granted Breakthrough Therapy Designation by the FDA for the treatment of patients with Epidermal Growth Factor Receptor mutation-negative, and Anaplastic Lymphoma Kinase rearrangement-negative non-small-cell lung cancer whose disease has progressed on or following platinum-based chemotherapy. The Company anticipates submitting an sBLA to the FDA in mid-2015 for Keytruda.

MK-8616, Bridion, is an investigational agent for the reversal of neuromuscular blockade induced by rocuronium or vecuronium (neuromuscular blocking agents). Neuromuscular blockade is used in anesthesiology to induce muscle relaxation during surgery. In September 2013, Merck announced that it had received a CRL from the FDA for the resubmission of the NDA for Bridion. To address the CRL, the Company conducted a new hypersensitivity study and, in October 2014, resubmitted the NDA to the FDA. The Company anticipates an FDA advisory committee

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meeting will be held on March 18, 2015 to review Bridion. If approved, the Company expects to launch Bridion in the United States later in 2015. Bridion is approved and has been launched in many countries outside of the United States.
V419, DTaP5-IPV-Hib-HepB, is an investigational pediatric hexavalent vaccine that the Company is developing in partnership with Sanofi Pasteur under review by the FDA and the EMA. If approved,V419 would be the first pediatric combination vaccine in the United States designed to help protect against six important diseases - diphtheria, tetanus, pertussis (whooping cough), polio (poliovirus types 1, 2, and 3), invasive disease caused by Haemophilus influenzae type b (Hib), and hepatitis B. If approved, V419 will be co-promoted in the United States via a partnership with Sanofi Pasteur and marketed via the SPMSD joint venture in Europe.
MK-3102, omarigliptin, is an investigational once-weekly DPP-4 inhibitor in development for the treatment of type 2 diabetes. In November 2014, Merck announced that the Company has submitted a new drug application for omarigliptin to the Japanese Pharmaceuticals and Medical Devices Agency. Omarigliptin is in Phase 3 clinical development in the United States.
MK-1986, Sivextro, a once-daily oxazolidinone antibiotic developed for both intravenous and oral administration for the treatment of ABSSI caused by certain Gram-positive organisms, is under review by the EMA. In January 2015, Merck announced that the Committee for Medicinal Products for Human Use (the “CHMP”) of the EMA has adopted a positive opinion recommending approval of Sivextro for the treatment of ABSSSI in adults. Merck acquired Sivextro as a part of its purchase of Cubist. If the EC affirms the CHMP opinion, it will grant a centralized marketing authorization with unified labeling that is valid in the 28 countries that are members of the EU, as well as European Economic Area members, Iceland, Liechtenstein and Norway. Sivextro is approved in the United States and is indicated for the treatment of adults with ABSSSI caused by designated susceptible Gram-positive organisms. The Company is conducting a Phase 3 clinical trial to assess the safety and efficacy of Sivextro in adult patients with ventilated nosocomial pneumonia, including ventilator-associated bacterial pneumonia (“VABP”) and ventilated hospital-acquired bacterial pneumonia (“ventilated HABP”). In 2013, the FDA designated Sivextro as a Qualified Infectious Disease Product (“QIDP”) for its now approved indication in ABSSSI, as well as for its potential indication in ventilated nosocomial pneumonia, including VABP and ventilated HABP, in each of the I.V. and oral dosage forms.
MK-7625A, Zerbaxa, a combination product for the treatment of certain serious bacterial infections in adults, is under review by the EMA. Merck acquired Zerbaxa as a part of its purchase of Cubist. In December 2014, Zerbaxa was approved by the FDA for the treatment of adults with complicated urinary tract infections caused by designated susceptible Gram-negative organisms or with complicated intra-abdominal infections caused by designated susceptible Gram-negative and Gram-positive organisms. The Company is conducting a Phase 3 clinical trial to assess the safety and efficacy of Zerbaxa in adult patients with ventilated nosocomial pneumonia, including VABP and ventilated HABP. The FDA designated Zerbaxa as a QIDP for its now approved indications as well as for its potential indication in ventilated nosocomial pneumonia, including VABP and ventilated HABP.
V503, Gardasil 9, the Company’s nine-valent HPV vaccine that helps protect against certain HPV-related diseases, is under review by the EMA. V503 incorporates antigens against five additional cancer-causing HPV types as compared with Gardasil. Gardasil 9 was approved by the FDA in December 2014.
MK-8962, corifollitropin alfa injection, is an investigational fertility treatment under review by the FDA for controlled ovarian stimulation in women participating in assisted reproductive technology. In July 2014, Merck received a CRL from the FDA for its NDA for corifollitropin alfa injection. Merck is reviewing its options with respect to this drug candidate in response to the CRL. Corifollitropin alfa injection is marketed as Elonva in certain markets outside of the United States.
In addition to the candidates under regulatory review, the Company has several drug candidates in Phase 3 development. The Company anticipates filing an NDA or a BLA, as applicable, with the FDA with respect to certain of these candidates in 2015.
MK-5172A, a once daily, fixed-dose, combination, chronic HCV treatment regimen consisting of MK-5172, grazoprevir, an investigational HCV NS3/4A protease inhibitor, and MK-8742, elbasvir, an investigational HCV NS5A replication complex inhibitor, began Phase 3 clinical trials in June 2014. MK-5172A is being investigated in a broad clinical program that includes studies in patients with multiple HCV genotypes who are treatment-naïve, treatment failures, or who fit into other important HCV subpopulations such as patients with cirrhosis and those

co-infected with HIV. The Company expects to file an NDA with the FDA in the first half of 2015 for MK-5172A. On January 30, 2015,

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the Company received notification from the FDA of its intent to rescind Breakthrough Therapy Designation status for this combination treatment regimen, citing the availability of other recently approved treatments for Genotype 1 patients. The Company is discussing this matter with the FDA and does not expect that it will impact its ability to file an NDA for this combination regimen or the timing of that filing.

The Company has started the Phase 2 C-CREST studies to study combination regimens of grazoprevir and MK-3682 (formerly IDX21437) with either elbasvir or MK-8408 for the treatment of HCV infection. The Company expects to begin Phase 3 studies in 2015.

MK-0822, odanacatib, is an oral, once-weekly investigational treatment for patients with osteoporosis. Osteoporosis is a disease that reduces bone density and strength and results in an increased risk of bone fractures. Odanacatib is a cathepsin K inhibitor that selectively inhibits the cathepsin K enzyme. Cathepsin K is known to play a central role in the function of osteoclasts, which are cells that break down existing bone tissue, particularly the protein components of bone. Inhibition of cathepsin K is a novel approach to the treatment of osteoporosis. In September 2014, Merck announced data from the pivotal Phase 3 fracture outcomes study for odanacatib in postmenopausal women with osteoporosis. In the Long-Term Odanacatib Fracture Trial (LOFT), odanacatib met its primary endpoints and significantly reduced the risk of three types of osteoporotic fractures (radiographically-assessed vertebral, clinical hip, and clinical non-vertebral) compared to placebo and also reduced the risk of the secondary endpoint of clinical vertebral fractures. In addition, treatment with odanacatib led to progressive increases over five years in bone mineral density at the lumbar spine and total hip. The rates of adverse events overall in LOFT were generally balanced between patients taking odanacatib and placebo. Adjudicated events of morphea-like skin lesions and atypical femoral fractures occurred more often in the odanacatib group than in the placebo group. Adjudicated major adverse cardiovascular events were generally balanced overall between the treatment groups. There were numerically more adjudicated stroke events with odanacatib than with placebo. Adjudicated atrial fibrillation was reported more often in the odanacatib group than in the placebo group. A numeric imbalance in mortality was observed; this numeric difference does not appear to be related to a particular reported cause or causes of death. Merck continues to collect data from the blinded extension study and is planning additional analyses of data from the trial, including an independent re-adjudication of major adverse cardiovascular events, in support of regulatory submissions. Merck plans to submit an NDA to the FDA for odanacatib in 2015. Merck also plans to submit applications to the EMA and the Ministry of Health, Labour, and Welfare in Japan.

MK-8237 is an investigational allergy immunotherapy tablet for house dust mite allergy. In 2014, the FDA approved Grastek, a Timothy grass pollen allergen extract sublingual immunotherapy tablet, and Ragwitek, a short ragweed pollen allergen extract sublingual immunotherapy tablet. Both Grastek and Ragwitek, as well as the ongoing program for MK-8237, are part of a North America partnership between Merck and ALK-Abello.

MK-8931 is Merck’s novel investigational oral ß-amyloid precursor protein site-cleaving enzyme (“BACE”) inhibitor for the treatment of Alzheimer’s disease being studied in a Phase 3 trial (APECS) designed to evaluate the safety and efficacy of MK-8931 versus placebo in patients with amnestic mild cognitive impairment due to Alzheimer’s disease, also known as prodromal Alzheimer’s disease. MK-8931 is also being studied in another Phase 3 trial versus placebo in patients with mild-to-moderate Alzheimer’s disease (EPOCH).

MK-0859, anacetrapib, is an investigational inhibitor of the cholesteryl ester transfer protein (“CETP”) in development for raising HDL-C and reducing LDL-C. Anacetrapib is being evaluated in a large, event-driven cardiovascular clinical outcomes trial, REVEAL (Randomized EValuation of the Effects of Anacetrapib Through Lipid-modification), involving patients with preexisting vascular disease that is predicted to be completed in 2017.

MK-3415A, actoxumab/bezlotoxumab, an investigational candidate for the prevention of Clostridium difficile infection recurrence, is a combination of two monoclonal antibodies used to treat patients with a single infusion.

MK-4261, surotomycin, is an investigational oral antibiotic in development for the treatment of Clostridium difficile associated diarrhea. Merck acquired surotomycin as part of its purchase of Cubist. The FDA has designated surotomycin as a QIDP.

MK-8228, letermovir, is an investigational oral, once-daily antiviral candidate for the prevention and treatment of Human Cytomegalovirus infection. Letermovir has received Orphan Drug Status in the EU and in the United States, where it has also been granted Fast Track Designation.

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MK-8835, ertugliflozin, is an investigational oral sodium glucose cotransporter-2 (“SGLT2”) inhibitor being evaluated for the treatment of type 2 diabetes in collaboration with Pfizer Inc.

MK-1293 is an insulin glargine candidate for the treatment of patients with type 1 and type 2 diabetes. In February 2014, the Company announced that it had expanded its collaboration with Samsung Bioepis to develop, manufacture and commercialize MK-1293. Under the terms of the agreement, the companies will collaborate on clinical development, regulatory filings and manufacturing. If approved, Merck will commercialize this candidate.

V212 is an inactivated varicella zoster virus vaccine in development for the prevention of herpes zoster. The Company is conducting two Phase 3 trials, one in autologous hematopoietic cell transplant patients and the other in patients with solid tumor malignancies undergoing chemotherapy and hematological malignancies.

MK-1439, doravirine, is an investigational, once-daily oral next-generation non-nucleoside reverse transcriptase inhibitor being developed by Merck for the treatment of HIV-1 infection.

MK-2402, bevenopran, is an oral investigational therapy in development as a potential treatment for opioid-induced constipation in patients with chronic, non-cancer pain. Merck acquired bevenopran as a part of its purchase of Cubist.

In September 2014, Merck and Sun Pharmaceutical Industries Ltd. (“Sun Pharma”) entered into an exclusive worldwide licensing agreement for Merck’s investigational therapeutic antibody candidate, MK-3222, tildrakizumab, for the treatment of chronic plaque psoriasis, a skin ailment. Under terms of the agreement, Sun Pharma acquired worldwide rights to tildrakizumab for use in all human indications from Merck in exchange for an upfront payment of $80 million. Merck will continue all clinical development and regulatory activities, which will be funded by Sun Pharma. Upon product approval, Sun Pharma will be responsible for regulatory activities, including subsequent submissions, pharmacovigilance, post approval studies, manufacturing and commercialization of the approved product. Merck is also eligible to receive future payments associated with regulatory (including product approval) and sales milestones, as well as tiered royalties ranging from mid-single digit through teen percentage rates on sales.

In May 2014, Merck and Endocyte, Inc. (“Endocyte”) (the Company’s collaboration partner) announced the withdrawal of the conditional MAA from the EMA for vintafolide for the treatment of adult patients with folate receptor-positive, platinum-resistant ovarian cancer, in combination with pegylated liposomal doxorubicin (“PLD”). The companies’ decision was based on review of interim data from the PROCEED trial. The PROCEED trial has been terminated based on the Data Safety Monitoring Board’s (the “DSMB”) recommendation that the study be stopped because vintafolide in combination with PLD versus PLD alone did not meet the pre-specified criteria for progression-free survival to allow continuation of the study. The DSMB did not identify any safety concerns for the patients enrolled in the PROCEED trial. In June 2014, Merck returned worldwide rights for vintafolide in all indications to Endocyte.

The Company maintains a number of long-term exploratory and fundamental research programs in biology and chemistry as well as research programs directed toward product development. The Company’s research and development model is designed to increase productivity and improve the probability of success by prioritizing the Company’s research and development resources on candidates the Company believes are capable of providing unambiguous, promotable advantages to patients and payers and delivering the maximum value of its approved medicines and vaccines through new indications and new formulations. Merck is pursuing emerging product opportunities independent of therapeutic area or modality (small molecule, biologics and vaccines) and is building its biologics capabilities. Further, Merck has moved to diversify its portfolio through a collaboration on the development of biosimilars, which have the potential to harness the market opportunity presented by biological medicine patent expiries by delivering high quality biosimilars to enhance access for patients worldwide. The Company is committed to making externally sourced programs a greater component of its pipeline strategy, with a renewed focus on supplementing its internal research with a licensing and external alliance strategy focused on the entire spectrum of collaborations from early research to late-stage compounds, as well as access to new technologies.

The Company also reviews its pipeline to examine candidates which may provide more value through out-licensing. The Company is evaluating certain late-stage clinical development and platform technology assets to determine their out-licensing or sale potential.

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The Company's clinical pipeline includes candidates in multiple disease areas, including atherosclerosis, cancer, cardiovascular diseases, diabetes, infectious diseases, inflammatory/autoimmune diseases, neurodegenerative diseases, osteoporosis, respiratory diseases and women's health.

Acquired In-Process Research and Development

In connection with mergers and acquisitions, the Company has recorded the fair value of in-process research projects which, at the time of acquisition, had not yet reached technological feasibility. At December 31, 2014, the balance of IPR&D was $4.3 billion. A majority of this amount relates to the clinical development program for MK-3682, which the Company acquired in 2014 with the acquisition of Idenix as discussed below. Some of the other more significant projects in late-stage development include the Company's BACE inhibitor and Bridion discussed above.

During 2014, 2013 and 2012, approximately $654 million, $346 million and $78 million, respectively, of IPR&D projects received marketing approval in a major market and the Company began amortizing these assets based on their estimated useful lives.

All of the IPR&D projects that remain in development are subject to the inherent risks and uncertainties in drug development and it is possible that the Company will not be able to successfully develop and complete the IPR&D programs and profitably commercialize the underlying product candidates. The time periods to receive approvals from the FDA and other regulatory agencies are subject to uncertainty. Significant delays in the approval process, or the Company's failure to obtain approval at all, would delay or prevent the Company from realizing revenues from these products. Additionally, if certain of the IPR&D programs fail or are abandoned during development, then the Company will not realize the future cash flows it has estimated and recorded as IPR&D as of the acquisition date, and the Company may also not recover the research and development expenditures made since the acquisition to further develop such program. If such circumstances were to occur, the Company's future operating results could be adversely affected and the Company may recognize impairment charges and such charges could be material.

During 2014, the Company recorded $49 million of IPR&D impairment charges within Research and development expenses primarily as a result of changes in cash flow assumptions for certain compounds obtained in connection with the Supera joint venture, as well as for the discontinuation of certain Animal Health programs. During 2013, the Company recorded $279 million of IPR&D impairment charges. Of this amount, $181 million related to the write-off of the intangible asset associated with preladenant as a result of the discontinuation of the clinical development program for this compound. In addition, the Company recorded impairment charges resulting from changes in cash flow assumptions for certain compounds, as well as for pipeline programs that had previously been deprioritized and were subsequently deemed to have no alternative use in the period. During 2012, the Company recorded $200 million of IPR&D impairment charges primarily for pipeline programs that had previously been deprioritized and were subsequently deemed to have no alternative use during the period.

Additional research and development will be required before any of the remaining programs reach technological feasibility. The costs to complete the research projects will depend on whether the projects are brought to their final stages of development and are ultimately submitted to the FDA or other regulatory agencies for approval. As of December 31, 2014, the estimated costs to complete projects acquired in connection with mergers and acquisitions in Phase 3 development for human health and the analogous stage of development for animal health were approximately $1.1 billion.

Acquisitions, Research Collaborations and License Agreements

Merck continues to remain focused on pursuing opportunities that have the potential to drive both near- and long-term growth. Certain of the more significant transactions in 2014 are described below. Merck is actively monitoring the landscape for growth opportunities that meet the Company's strategic criteria.

In August 2014, Merck completed the acquisition of Idenix for approximately $3.9 billion in cash ($3.7 billion net of cash acquired). Idenix is a biopharmaceutical company engaged in the discovery and development of medicines for the treatment of human viral diseases, whose primary focus is on the development of next-generation oral antiviral therapeutics to treat HCV infection. The transaction was accounted for as an acquisition of a business; accordingly, the assets acquired and liabilities assumed were recorded at their respective fair values as of the acquisition date. The

determination of fair value requires management to make significant estimates and assumptions. Merck recognized an intangible asset for IPR&D of $3.2 billion related to MK-3682 (formerly IDX21437), net deferred tax

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liabilities of $856 million and other net assets and liabilities of approximately $20 million. MK-3682 is a nucleotide prodrug in Phase 2 clinical development being evaluated for potential inclusion in the development of all oral, pan-genotypic fixed-dose combination regimens. The excess of the consideration transferred over the fair value of net assets acquired of $1.4 billion was recorded as goodwill that was allocated to the Pharmaceutical segment and is not deductible for tax purposes. The fair value of the identifiable intangible asset related to IPR&D was determined using an income approach, through which fair value is estimated based upon the asset's probability adjusted future net cash flows, which reflects the stage of development of the project and the associated probability of successful completion. The net cash flows were then discounted to present value using a discount rate of 11.5%. This transaction closed on August 5, 2014; accordingly, the results of operations of the acquired business have been included in the Company's results of operations beginning after that date. Pro forma financial information has not been included because Idenix's historical financial results are not significant when compared with the Company's financial results.

In October 2014, the Company entered into a worldwide clinical development collaboration with Bayer to market and develop its portfolio of soluble guanylate cyclase ("sGC") modulators. This includes Bayer's Adempas (riociguat), the first member of this novel class of compounds. Adempas is approved to treat pulmonary arterial hypertension ("PAH") and is the first and only drug treatment approved for patients with chronic thromboembolic pulmonary hypertension ("CTEPH"). Adempas is currently marketed in the United States and Europe for both PAH and CTEPH and in Japan for CTEPH. The two companies will equally share costs and profits from the collaboration and implement a joint development and commercialization strategy. The collaboration also includes clinical development of Bayer's vericiguat, which is currently in Phase 2 trials for worsening heart failure, as well as opt-in rights for other early-stage sGC compounds in development at Bayer. Merck will in turn make available its early-stage sGC compounds under similar terms. In return for these broad collaboration rights, Merck made an upfront payment to Bayer of $1.0 billion with the potential for additional milestone payments upon the achievement of agreed-upon sales goals. For Adempas, Bayer will continue to lead commercialization in the Americas, while Merck will lead commercialization in the rest of the world. For vericiguat and other potential opt-in products, Bayer will lead in the rest of world and Merck will lead in the Americas. For all products and candidates included in the agreement, both companies will share in development costs and profits on sales and will have the right to co-promote in territories where they are not the lead. The Company determined that Merck's payment to access Bayer's compounds constituted an acquisition of an asset. Of the $1.0 billion consideration paid by Merck, $915 million of fair value related to currently marketed product Adempas and was capitalized as an intangible asset subject to amortization over its estimated useful life of 12 years, and the remaining $85 million of fair value related to the vericiguat compound currently in clinical development and expensed within Research and development expenses. The fair values of Adempas and vericiguat were determined using an income approach, through which fair value is estimated based upon probability adjusted future net cash flows, and for vericiguat also for the stage of development of the project and the associated probability of successful completion. The net cash flows were then discounted to present value using a discount rate of 10.0% for Adempas and 10.5% for vericiguat. Future sales based milestones will be accrued when probable and reasonably estimable. The Company and Bayer each have the right to terminate the agreement for cause on a product-by-product basis for all products being developed and commercialized under the agreement (other than Adempas for which Bayer has no termination rights) in the event of the other party's material, uncured breach related to any such product.

In December 2014, Merck acquired OncoEthix, a privately held biotechnology company specializing in oncology drug development. Total purchase consideration in the transaction of $153 million included an upfront cash payment of $110 million and future additional milestone payments of up to $265 million that are contingent upon certain clinical and regulatory milestones being achieved, which the Company determined had a fair value of $43 million at the acquisition date. The transaction was accounted for as an acquisition of a business; accordingly, the assets acquired and liabilities assumed were recorded at their respective fair values as of the acquisition date. The determination of fair value requires management to make significant estimates and assumptions. Merck recognized an intangible asset for IPR&D of $143 million related to MK-8628 (formerly OTX015), an investigational, novel oral BET (bromodomain) inhibitor currently in Phase 2 studies for the treatment of hematological malignancies and advanced solid tumors, as well as a liability for contingent consideration of $43 million and other net assets and liabilities of $10 million. The fair value of the identifiable intangible asset related to IPR&D was determined using an

income approach, through which fair value is estimated based upon the asset's probability adjusted future net cash flows, which reflects the stage of development of the project and the associated probability of successful completion. The net cash flows were then discounted to present value using a discount rate of 11.5%. The fair value of the contingent consideration was determined utilizing a probability weighted estimated cash flow stream adjusted for the expected timing of each payment also

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utilizing a discount rate of 11.5%. This transaction closed on December 18, 2014; accordingly, the results of operations of the acquired business have been included in the Company's results of operations beginning after that date. Pro forma financial information has not been included because OncoEthix's historical financial results are not significant when compared with the Company's financial results.

Also, in December 2014, Merck and Cubist announced a definitive agreement under which Merck would acquire Cubist for a total purchase price of approximately $9.5 billion. Cubist is a leader in the development of new therapies to treat serious and potentially life-threatening infections caused by a broad range of increasingly drug-resistant bacteria. This transaction closed on January 21, 2015; accordingly, the results of operations of the acquired business will be included in the Company's results of operations beginning after that date.

In addition, in February 2015, Merck and NGM Biopharmaceuticals, Inc. ("NGM"), a privately-held biotechnology company, announced they have entered into a multi-year collaboration to research, discover, develop and commercialize novel biologic therapies across a wide range of therapeutic areas. The collaboration includes multiple drug candidates currently in preclinical development at NGM, including NP201, which is being evaluated for the treatment of diabetes, obesity and nonalcoholic steatohepatitis. NGM will lead the research and development of the existing preclinical candidates and have the autonomy to identify and pursue other discovery stage programs at its discretion. Merck will have the option to license all resulting NGM programs following human proof of concept trials. If Merck exercises this option, Merck will lead global product development and commercialization for the resulting products, if approved. Under the terms of the agreement, Merck will make an upfront payment to NGM of $94 million and will purchase a 15% equity stake in NGM for $106 million. Merck will commit up to $250 million to fund all of NGM's efforts under the initial five-year term of the collaboration, with the potential for additional funding if certain conditions are met. Prior to Merck initiating a Phase 3 study for a licensed program, NGM may elect to either receive milestone and royalty payments or, in certain cases, to co-fund development and participate in a global cost and revenue share arrangement of up to 50%. The agreement also provides NGM with the option to participate in the co-promotion of any co-funded program in the United States. Merck will have the option to extend the research agreement for two additional two-year terms. This agreement will become effective upon the expiration of the waiting period under the Hart-Scott-Rodino Antitrust Improvements Act.

Selected Joint Venture and Affiliate Information

AstraZeneca LP

In 1982, Merck entered into an agreement with Astra AB ("Astra") to develop and market Astra products under a royalty-bearing license. In 1993, Merck's total sales of Astra products reached a level that triggered the first step in the establishment of a joint venture business carried on by Astra Merck Inc. ("AMI"), in which Merck and Astra each owned a 50% share. This joint venture, formed in 1994, developed and marketed most of Astra's new prescription medicines in the United States.

In 1998, Merck and Astra completed the restructuring of the ownership and operations of the joint venture whereby Merck acquired Astra's interest in AMI, renamed KBI Inc. ("KBI"), and contributed KBI's operating assets to a new U.S. limited partnership, Astra Pharmaceuticals L.P. (the "Partnership"), in exchange for a 1% limited partner interest. Astra contributed the net assets of its wholly owned subsidiary, Astra USA, Inc., to the Partnership in exchange for a 99% general partner interest. The Partnership, renamed AstraZeneca LP ("AZLP") upon Astra's 1999 merger with Zeneca Group Plc, became the exclusive distributor of the products for which KBI retained rights.

Merck earned revenue based on sales of KBI products and such revenue was $463 million, $920 million and $915 million in 2014, 2013 and 2012, respectively, primarily relating to sales of Nexium, as well as Prilosec. In addition, Merck earned certain Partnership returns which were recorded in Equity income from affiliates. Such returns included a priority return provided for in the Partnership Agreement, a preferential return representing Merck's share of undistributed AZLP GAAP earnings, and a variable return related to the Company's 1% limited partner interest. These returns aggregated $192 million, $352 million and $621 million in 2014, 2013 and 2012, respectively.

On June 30, 2014, AstraZeneca exercised its option to purchase Merck's interest in KBI for $419 million in cash. Of this amount, $327 million reflects an estimate of the fair value of Merck's interest in Nexium and Prilosec. This portion of the exercise price, which is subject to a true-up in 2018 based on actual sales from closing in 2014 to June 2018, was deferred and is being recognized over time in Other (income) expense, net as the contingency is eliminated as

sales occur. The remaining exercise price of $91 million primarily represents a multiple of ten times

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Merck's average 1% annual profit allocation in the partnership for the three years prior to exercise. Merck recognized the $91 million as a gain in 2014 within Other (income) expense, net. As a result of AstraZeneca's option exercise, the Company's remaining interest in AZLP was redeemed. Accordingly, the Company also recognized a non-cash gain of approximately $650 million in 2014 within Other (income) expense, net resulting from the retirement of $2.4 billion of KBI preferred stock (see Note 11 to the consolidated financial statements), the elimination of the Company's $1.4 billion investment in AZLP and a $340 million reduction of goodwill. This transaction resulted in a net tax benefit of $517 million in 2014, primarily reflecting the reversal of deferred taxes on the AZLP investment balance.
As a result of AstraZeneca exercising its option, as of July 1, 2014, the Company no longer records equity income from AZLP and supply sales to AZLP have terminated.

Sanofi Pasteur MSD

In 1994, Merck and Pasteur Mérieux Connaught (now Sanofi Pasteur S.A.) established an equally-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)	2014	2013	2012
Gardasil	$248	$291	$264
Influenza vaccines	159	162	161
Zostavax	103	68	—
Other viral vaccines	87	104	107
RotaTeq	65	55	47
Hepatitis vaccines	38	31	31
Other vaccines	430	453	474
	$1,130	$1,164	$1,084

Capital Expenditures

Capital expenditures were $1.3 billion in 2014, $1.5 billion in 2013 and $2.0 billion in 2012. Expenditures in the United States were $873 million in 2014, $902 million in 2013 and $1.3 billion in 2012.
Depreciation expense was $2.5 billion in 2014, $2.2 billion in 2013 and $2.0 billion in 2012 of which $2.0 billion, $1.5 billion and $1.3 billion, respectively, applied to locations in the United States. Total depreciation expense in 2014, 2013 and 2012 included accelerated depreciation of $900 million, $577 million and $235 million, respectively, associated with restructuring activities (see Note 3 to the consolidated financial statements).

Analysis of Liquidity and Capital Resources

Merck's strong financial profile enables it 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.
Selected Data

($ in millions)	2014	2013	2012
Working capital	$14,407	$17,817	$16,509
Total debt to total liabilities and equity	21.8 %	23.7 %	19.4 %
Cash provided by operations to total debt	0.4:1	0.5:1	0.5:1

Cash provided by operating activities was $7.9 billion in 2014, $11.7 billion in 2013 and $10.0 billion in 2012. The decline in cash provided by operating activities in 2014 as compared with 2013 reflects approximately $5.0 billion of taxes paid on the divestiture of MCC. Cash provided by operating activities in 2013 includes a payment made by the Company of $480 million in connection with the previously disclosed settlement of the ENHANCE Litigation. Cash provided by operating activities in 2012 reflects higher contributions to its defined benefit plans as compared with 2014 and 2013. Cash provided by operating activities in 2012 also includes a payment of $960 million related to the resolution of certain litigation related to Vioxx. Cash provided by operating activities continues to be the Company's primary source of funds to finance operating needs, capital expenditures, a portion of treasury stock purchases and

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dividends paid to shareholders. Global economic conditions and ongoing sovereign debt issues, among other factors, have adversely affected foreign receivables in certain European countries (see Note 5 to the consolidated financial statements).

Cash used in investing activities was $374 million in 2014 compared with $3.1 billion in 2013 reflecting cash received in 2014 from the divestiture of MCC and from other dispositions of businesses, primarily related to the transactions with Aspen and Santen (see Notes 3 and 4 to the consolidated financial statements), as well as cash received in connection with AstraZeneca's option exercise (see Note 8 to the consolidated financial statements), partially offset by higher purchases of and lower proceeds from the sale of securities and other investments, cash used for the acquisition of Idenix (see Note 4 to the consolidated financial statements) and a cash payment made upon formation of the collaboration with Bayer (see Note 4 to the consolidated financial statements). Cash used in investing activities was $3.1 billion in 2013 compared with $6.8 billion in 2012 primarily reflecting higher proceeds from the sales of securities and other investments and lower capital expenditures, partially offset by higher purchases of securities and other investments.

Cash used in financing activities was $15.1 billion in 2014 compared with $6.0 billion in 2013 driven primarily by higher payments on debt, lower proceeds from the issuance of debt, higher purchases of treasury stock and a decrease in short-term borrowings, partially offset by higher proceeds from the exercise of stock options. Cash used in financing activities was $6.0 billion in 2013 compared with $3.3 billion in 2012. The higher use of cash in financing activities was driven primarily by higher purchases of treasury stock, as well as higher payments on debt and a decrease in short-term borrowings, partially offset by higher proceeds from the issuance of debt.

At December 31, 2014, the total of worldwide cash and investments was $29.2 billion, including $15.7 billion of cash, cash equivalents and short-term investments, and $13.5 billion of long-term investments. Generally 80%-90% of these cash and investments are held by foreign subsidiaries and would be subject to significant tax payments if such cash and investments were repatriated in the form of dividends. The Company records U.S. deferred tax liabilities for certain unremitted earnings, but when amounts earned overseas are expected to be indefinitely reinvested outside of the United States, no accrual for U.S. taxes is provided. The amount of cash and investments held by U.S. and foreign subsidiaries fluctuates due to a variety of factors including the timing and receipt of payments in the normal course of business. Cash provided by operating activities in the United States continues to be the Company's primary source of funds to finance domestic operating needs, capital expenditures, a portion of treasury stock purchases and dividends paid to shareholders.

The Company's contractual obligations as of December 31, 2014 are as follows:

Payments Due by Period					
($ in millions)	Total	2015	2016—2017	2018—2019	Thereafter
Purchase obligations [1]	$2,865	$543	$932	$539	$851
Loans payable and current portion of long-term debt	2,701	2,701	—	—	—
Long-term debt [2]	18,535	—	2,380	4,273	11,882
Interest related to debt obligations [2]	7,209	489	915	854	4,951
Unrecognized tax benefits [3]	1,331	1,331	—	—	—
Operating leases	644	232	214	101	97
	$33,285	$5,296	$4,441	$5,767	$17,781

(1) Includes future bulk supply purchases the Company has committed to in connection with certain divestitures, including the disposition of its API manufacturing business in 2013 discussed above.

(2) Amounts do not reflect debt and interest payments related to the Company's February 2015 debt issuance discussed below.

(3) As of December 31, 2014, the Company's Consolidated Balance Sheet reflects liabilities for unrecognized tax benefits, interest and penalties of $4.2 billion, including $1.3 billion reflected as a current liability. Due to the high degree of uncertainty regarding the timing of future cash outflows of liabilities for unrecognized tax benefits beyond one year, a reasonable estimate of the period of cash settlement for years beyond 2015 cannot be made.

Purchase obligations are enforceable and legally binding obligations for purchases of goods and services including minimum inventory contracts, research and development and advertising. Amounts reflected for research and development obligations do not include contingent milestone payments. Also excluded from research and

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development obligations are potential future funding commitments of up to approximately $70 million for investments in research venture capital funds. Loans payable and current portion of long-term debt reflects $143 million of long-dated notes that are subject to repayment at the option of the holders. Required funding obligations for 2015 relating to the Company's pension and other postretirement benefit plans are not expected to be material. However, the Company currently anticipates contributing approximately $40 million to its U.S. pension plans, $150 million to its international pension plans and $65 million to its other postretirement benefit plans during 2015.

In August 2014, the Company terminated its existing credit facility and entered into a new $6.0 billion, five-year credit facility that matures in August 2019. The facility provides backup liquidity for the Company's commercial paper borrowing facility and is to be used for general corporate purposes. The Company has not drawn funding from this facility.

In October 2014, the Company issued euro-denominated senior unsecured notes consisting of €1.0 billion principal amount of 1.125% notes due 2021, €1.0 billion principal amount of 1.875% notes due 2026 and €500 million principal amount of 2.5% notes due 2034. Interest on the notes is payable annually. The notes of each series are redeemable in whole or in part at any time at the Company's option at varying redemption prices. The net proceeds of the offering of $3.1 billion were used in part to repay debt that was validly tendered in connection with tender offers launched by the Company for certain outstanding notes and debentures. The Company paid $2.5 billion in aggregate consideration (applicable purchase price together with accrued interest) to redeem $1.8 billion principal amount of debt. In addition, in November 2014, Merck redeemed its $1.0 billion 4.00% notes due 2015 and its $1.0 billion 6.00% notes due 2017.

In February 2015, Merck issued $8.0 billion aggregate principal amount of senior unsecured notes consisting of $300 million principal amount of floating rate notes due 2017, $700 million principal amount of floating rate notes due 2020, $1.25 billion principal amount of 1.85% notes due 2020, $1.25 billion aggregate principal amount of 2.35% notes due 2022, $2.5 billion aggregate principal amount of 2.75% notes due 2025 and $2.0 billion aggregate principal amount of 3.70% notes due 2045. The Company used a substantial portion of the net proceeds of the offering to repay commercial paper issued to substantially finance the Company's acquisition of Cubist. Any remaining net proceeds will be used for general corporate purposes, including without limitation repurchases of the Company's common stock, and the repayment of outstanding commercial paper borrowings and upcoming debt maturities.

In December 2014, the Company entered into a bridge loan agreement with certain banks pursuant to which the Company had the ability to borrow up to $8.0 billion for the purpose of obtaining short-term financing for the acquisition of Cubist. The Company did not borrow any funds under the bridge loan and, after issuing $8.0 billion of senior unsecured notes as discussed above, terminated the bridge loan on February 20, 2015.

In December 2012, the Company filed a securities registration statement with the U.S. Securities and Exchange Commission (the "SEC") under the automatic shelf registration process available to "well-known seasoned issuers" which is effective for three years.

Effective as of November 3, 2009, the Company executed a full and unconditional guarantee of the then existing debt of its subsidiary Merck Sharp & Dohme Corp. ("MSD") and MSD executed a full and unconditional guarantee of the then existing debt of the Company (excluding commercial paper), including for payments of principal and interest. These guarantees do not extend to debt issued subsequent to that date.

The Company's long-term credit ratings assigned by Moody's Investors Service and Standard & Poor's are A1 with a stable outlook and AA with a stable outlook, respectively. 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. The Company places its cash and investments in instruments that meet high credit quality standards, as specified in its investment policy guidelines. These guidelines also limit the amount of credit exposure to any one issuer. Despite this strong financial profile, certain contingent events, if realized, which are discussed in Note 10 to the consolidated financial statements, 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 November 2014, the Board of Directors declared a quarterly dividend of $0.45 per share on the Company's common stock payable in January 2015.

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On May 1, 2013, the Company announced that its board of directors authorized additional purchases of up to $15 billion of Merck's common stock for its treasury. Purchases may be made in open-market transactions, block transactions, on or off an exchange, or in privately negotiated transactions. The Company purchased $7.7 billion of its common stock (134 million shares) for its treasury during 2014. The Company has approximately $2.7 billion remaining under the May share repurchase program. The Company purchased $6.5 billion and $2.6 billion of its common stock during 2013 and 2012, respectively, under this and previously authorized share repurchase programs.

Financial Instruments Market Risk Disclosures

The Company manages the impact of foreign exchange rate movements and interest rate movements on its earnings, cash flows and fair values of assets and liabilities through operational means and through the use of various financial instruments, including derivative instruments.

A significant portion of the Company's revenues and earnings in foreign affiliates is exposed to changes in foreign exchange rates. The objectives and accounting related to the Company's foreign currency risk management program, as well as its interest rate risk management activities are discussed below.

Foreign Currency Risk Management

The Company has established revenue hedging, balance sheet risk management, and net investment hedging 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 rates 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 hedge a portion of its forecasted foreign currency denominated third-party and intercompany distributor entity 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 third-party and intercompany distributor entity sales hedged as it gets closer to the expected date of the forecasted foreign currency denominated sales. 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 currency risk in the same manner. The Company 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 offset the decline in the expected future U.S. dollar equivalent 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 U.S. dollar equivalent value of the anticipated foreign currency cash flows.

In connection with the Company's revenue hedging program, a purchased collar option strategy may be utilized. With a purchased collar option strategy, the Company writes a local currency call option and purchases a local currency put option. As compared to a purchased put option strategy alone, a purchased collar strategy reduces the upfront costs associated with purchasing puts through the collection of premium by writing call options. If the U.S. dollar weakens relative to the currency of the hedged anticipated sales, the purchased put option value of the collar strategy reduces to zero and the Company benefits from the increase in the U.S. dollar equivalent value of its anticipated foreign currency cash flows; however, this benefit would be capped at the strike level of the written call. If the U.S. dollar strengthens relative to the currency of the hedged anticipated sales, the written call option value of the collar strategy reduces to zero and the changes in the purchased put cash flows of the collar strategy would offset the decline in the expected future U.S. dollar equivalent cash flows of the hedged foreign currency sales.

The Company may also utilize forward contracts in its revenue hedging program. If the U.S. dollar strengthens relative to the currency of the hedged anticipated sales, the increase in the fair value of the forward contracts offsets the decrease in the expected future U.S. dollar cash flows of the hedged foreign currency sales. Conversely, if the U.S. dollar weakens, the decrease in the fair value of the forward contracts offsets 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 Merck's hedges would have declined by an estimated $660 million and $547 million at December 31, 2014 and 2013, respectively, from a uniform 10% weakening of the U.S. dollar. The market value was determined using a foreign

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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 would 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 mitigate the exposure of foreign currency denominated net monetary assets of foreign subsidiaries where the U.S. dollar is the functional currency from the effects of volatility in foreign exchange. In these instances, 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 from the monetary assets. Merck routinely enters into contracts to 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 to partially offset the effects of exchange on exposures 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 cash flows from these contracts are reported as operating activities in the Consolidated Statements of Cash Flows.

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, 2014 and 2013, Income before taxes would have declined by approximately $25 million in 2014 and $109 million in 2013. Because the Company was 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.

In February 2013, the Venezuelan government devalued its currency (Bolívar Fuertes) from 4.30 VEF per U.S. dollar to 6.30 VEF per U.S. dollar. The Company recognized losses due to exchange of approximately $140 million in 2013 resulting from the remeasurement of the local monetary assets and liabilities at the new rate. Since January 2010, Venezuela has been designated hyperinflationary and, as a result, local foreign operations are remeasured in U.S. dollars with the impact recorded in results of operations.

In March 2013, the Venezuelan government announced the creation of a new foreign exchange mechanism called the "Complimentary System of Foreign Currency Acquirement" (known as SICAD1) that operates similar to an auction system and allows entities in specific sectors to bid for U.S. dollars to be used for payments related to international investments and certain intangibles. In March 2014, the Venezuelan government launched another foreign exchange mechanism (known as SICAD2) and indicated that all industry sectors would be able to access SICAD2 and its use would not be restricted as to purpose. Both the SICAD1 and SICAD2 average rates are published by the Central Bank of Venezuela and at December 31, 2014, the average exchange rates inferred were 12.0 VEF per U.S. dollar and 49.99 VEF per U.S. dollar, respectively. Neither SICAD1 nor SICAD2 eliminated or changed the official rate of 6.30 VEF per U.S. dollar. At December 31, 2014, the Company had approximately $670 million (U.S. dollar equivalent at the 6.30 official rate) of net monetary assets in its Venezuelan entities, of which the large majority was cash. In 2014, the Company received approximately $190 million from Venezuela for transactions that were settled at the official rate of 6.30 VEF per U.S. dollar, and has approximately $600 million pending approval for future settlement at the official rate. In February 2015, the Venezuelan government announced that SICAD2 has been replaced with the Sistema Marginal de Divisas (known as SIMADI). The SIMADI market is intended to operate based on the principles of supply and demand with buyers and sellers exchanging offers to transact. According to the Venezuelan Central Bank

the average exchange rate on the first day of trading on February 12, 2015 was 170.0 VEF per U.S. Dollar. The SICAD1 mechanism remains unchanged. Recent announcements by the Venezuelan government have indicated that essential goods, including food and medicine, will remain at the official rate of 6.30 VEF per U.S. dollar. The Company has not used

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either SICAD mechanism to settle any transactions and does not anticipate using either the SICAD1 or SIMADI mechanisms to settle any transactions. Accordingly, the Company concluded it was appropriate to continue to use the official rate of 6.30 VEF per U.S. dollar for remeasurement purposes. If circumstances change such that the Company concludes it would no longer be appropriate to use the official rate, or if a devaluation of the official rate occurs, it could result in a significant charge to the Company's future results of operations.

The Company also uses forward exchange contracts to hedge its net investment in foreign operations against movements in exchange rates. The forward contracts are designated as hedges of the net investment in a foreign operation. The Company hedges a portion of the net investment in certain of its foreign operations and measures ineffectiveness based upon changes in spot foreign exchange rates. The effective portion of the unrealized gains or losses on these contracts is recorded in foreign currency translation adjustment within Other Comprehensive Income ("OCI"), and remains in Accumulated Other Comprehensive Income ("AOCI") until either the sale or complete or substantially complete liquidation of the subsidiary. The cash flows from these contracts are reported as investing activities in the Consolidated Statement of Cash Flows.

Foreign exchange risk is also managed through the use of foreign currency debt. The Company's senior unsecured euro-denominated notes have been designated as, and are effective as, economic hedges of the net investment in a foreign operation. Accordingly, foreign currency transaction gains or losses due to spot rate fluctuations on the euro-denominated debt instruments are included in foreign currency translation adjustment within OCI.

Interest Rate Risk Management

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, 2014, the Company was a party to 17 pay-floating, receive-fixed interest rate swap contracts designated as fair value hedges of fixed-rate notes in which the notional amounts match the amount of the hedged fixed-rate notes as detailed in the table below.

	2014		
Debt Instrument	Par Value of Debt	Number of Interest Rate Swaps Held	Total Swap Notional Amount
0.70% notes due 2016	$1,000	4	$1,000
1.30% notes due 2018	1,000	4	1,000
5.00% notes due 2019	1,250	3	550
3.875% notes due 2021	1,150	5	1,150
2.40% notes due 2022	1,000	1	250

The interest rate swap contracts are designated hedges of the fair value changes in the notes attributable to changes in the benchmark London Interbank Offered Rate ("LIBOR") swap rate. The fair value changes in the notes attributable to changes in the LIBOR are recorded in interest expense and offset by the fair value changes in the swap contracts.

During 2014, the Company terminated interest rate swap contracts that effectively converted the Company's 6.00% fixed-rate notes due in 2017 to floating-rate instruments. The interest rate swap contracts were designated hedges of the fair value changes in the notes attributable to changes in the benchmark LIBOR swap rate. As a result of the swap terminations, the Company received $3 million in cash. The cash flows from these contracts are reported as operating activities in the Consolidated Statement of Cash Flows.

In February 2015, in connection with the Company's February debt offering (see Note 9 to the consolidated financial statements), Merck entered into ten additional interest rate swap contracts with notional amounts of $250 million each that effectively convert the Company's 1.85% notes due in 2020 and the Company's 2.35% notes due in 2022 to floating-rate instruments.

The Company's investment portfolio includes cash equivalents and short-term investments, the market values of which are not significantly affected by changes in interest rates. The market value of the Company's medium- to long-term fixed-rate investments is modestly affected by changes in U.S. interest rates. Changes in medium- to long-term

U.S. interest rates 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

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Merck’s investments and debt from a change in interest rates indicated that a one percentage point increase in interest rates at December 31, 2014 and 2013 would have positively affected the net aggregate market value of these instruments by $1.0 billion and $1.1 billion, respectively. A one percentage point decrease at December 31, 2014 and 2013 would have negatively affected the net aggregate market value by $1.2 billion and $1.3 billion, respectively. The fair value of Merck’s debt was determined using pricing models reflecting one percentage point shifts in the appropriate yield curves. The fair values of Merck’s investments were determined using a combination of pricing and duration models.

Critical Accounting Policies

The Company’s consolidated financial statements are prepared in conformity with GAAP and, accordingly, include certain amounts that are based on management’s best estimates and judgments. Estimates are used when accounting for amounts recorded in connection with mergers and acquisitions, including initial fair value determinations of assets and liabilities, primarily IPR&D and other intangible assets, as well as subsequent fair value measurement. Additionally, estimates are used in determining such items as provisions for sales discounts and returns, depreciable and amortizable lives, recoverability of inventories, including those produced in preparation for product launches, amounts recorded for contingencies, environmental liabilities and other reserves, pension and other postretirement benefit plan assumptions, share-based compensation assumptions, restructuring costs, impairments of long-lived assets (including intangible assets and goodwill) and investments, 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.

Mergers and Acquisitions

To determine whether acquisitions qualify as business combinations or asset acquisitions, the Company makes certain judgments, which include assessment of the inputs, processes, and outputs associated with the acquired set of activities. If the Company determines that the acquisition consists of inputs, as well as processes that when applied to those inputs have the ability to create outputs, the acquisition is determined to be a business combination.

In a business combination, the acquisition method of accounting requires that the assets acquired and liabilities assumed be recorded as of the date of the merger or acquisition at their respective fair values with limited exceptions. Assets acquired and liabilities assumed in a business combination that arise from contingencies are recognized at fair value if fair value can reasonably be estimated. If the acquisition date fair value of an asset acquired or liability assumed that arises from a contingency cannot be determined, the asset or liability is recognized if probable and reasonably estimable; if these criteria are not met, no asset or liability is recognized. Fair value is defined as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. Accordingly, the Company may be required to value assets at fair value measures that do not reflect the Company’s intended use of those assets. Any excess of the purchase price (consideration transferred) over the estimated fair values of net assets acquired is recorded as goodwill. Transaction costs and costs to restructure the acquired company are expensed as incurred. The operating results of the acquired business are reflected in the Company’s consolidated financial statements after the date of the merger or acquisition. The fair values of intangible assets, including acquired IPR&D, are determined utilizing information available near the merger or acquisition date based on expectations and assumptions that are deemed reasonable by management. Given the considerable judgment involved in determining fair values, the Company typically obtains assistance from third-party valuation specialists for significant items. Amounts allocated to acquired IPR&D are capitalized and accounted for as indefinite-lived intangible assets, subject to impairment testing until completion or abandonment of the projects. Upon successful completion of each project, Merck will make a separate determination as to the then useful life of the asset and begin amortization. Certain of the Company’s business acquisitions involve the potential for future payment of consideration that is contingent upon the achievement of performance milestones, including product development milestones and royalty payments on future product sales. The fair value of contingent consideration liabilities is determined at the acquisition date using unobservable inputs. These inputs include the estimated amount and timing of projected cash flows, the probability of success (achievement of the contingent event) and the risk-adjusted discount rate used to present value the probability-weighted cash flows. Subsequent to the acquisition date, at each reporting period, the

contingent consideration liability is remeasured at current fair value with changes recorded in earnings. Changes in any of the inputs may result in a significantly different fair value adjustment.

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The judgments made in determining estimated fair values assigned to assets acquired and liabilities assumed in a business combination, as well as asset lives, can materially affect the Company's results of operations.

If the Company determines the transaction will not be accounted for as an acquisition of a business, the transaction will be accounted for as an acquisition of assets rather than a business combination and, therefore, no goodwill will be recorded. In an asset acquisition, acquired IPR&D with no alternative future use is charged to expense at the acquisition date.

The fair values of identifiable intangible assets related to currently marketed products and product rights are primarily determined by using an "income approach" through which fair value is estimated based on each asset's discounted projected net cash flows. The Company's estimates of market participant net cash flows consider historical and projected pricing, margins and expense levels; the performance of competing products where applicable; relevant industry and therapeutic area growth drivers and factors; current and expected trends in technology and product life cycles; the time and investment that will be required to develop products and technologies; the ability to obtain marketing and regulatory approvals; the ability to manufacture and commercialize the products; the extent and timing of potential new product introductions by the Company's competitors; and the life of each asset's underlying patent, if any. The net cash flows are then probability-adjusted where appropriate to consider the uncertainties associated with the underlying assumptions, as well as the risk profile of the net cash flows utilized in the valuation. The probability-adjusted future net cash flows of each product are then discounted to present value utilizing an appropriate discount rate.

The fair values of identifiable intangible assets related to IPR&D are determined using an income approach, through which fair value is estimated based on each asset's probability-adjusted future net cash flows, which reflect the different stages of development of each product and the associated probability of successful completion. The net cash flows are then discounted to present value using an appropriate discount rate.

Revenue Recognition

Revenues from sales of products are recognized when title and risk of loss passes to the customer, typically at 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, indirectly through an intermediary wholesaler, 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. In addition, revenues are recorded net of time value of money discounts for customers for which collection of accounts receivable is expected to be in excess of one year.

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 wholesaler. 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 and Medicare Part D) 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 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, health maintenance organizations, pharmacy benefit managers 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 2014, 2013 or 2012.

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

($ in millions)	2014	2013
Balance January 1	$1,688	$1,873
Current provision	6,560	5,451
Adjustments to prior years	(18)	(70)
Payments	(6,076)	(5,566)
Balance December 31	$2,154	$1,688

Accruals for chargebacks are reflected as a direct reduction to accounts receivable and accruals for rebates as current liabilities. The accrued balances relative to these provisions included in Accounts receivable and Accrued and other current liabilities were $112 million and $2.0 billion, respectively, at December 31, 2014 and were $87 million and $1.6 billion, respectively, at December 31, 2013.

The Company maintains a returns policy that allows its U.S. pharmaceutical customers to return product within a specified period prior to and subsequent to the expiration date (generally, three to six months before and 12 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, among others. The product returns provision for U.S. pharmaceutical sales as a percentage of U.S. net pharmaceutical sales was 1.7% in 2014, 1.5% in 2013 and 1.4% in 2012.

Through its distribution programs with U.S. wholesalers, the Company encourages wholesalers to align purchases with underlying demand and maintain inventories below specified levels. The terms of the programs 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 programs 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 estimated initial market demand. Typically, capitalization of such inventory does not begin until the related product candidates are in Phase 3 clinical trials and are considered to have a high probability of regulatory approval. The Company monitors 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. Expiry dates of the inventory are affected 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. For inventories that are capitalized, anticipated future sales and shelf lives support the realization of the inventory value as the inventory shelf life is sufficient to meet initial product launch requirements. Inventories produced in preparation for product launches capitalized at December 31, 2014 and 2013 were $74 million and $177 million, respectively.

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 certain additional matters (see Note 10 to the consolidated financial statements.) 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

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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. Some of the significant factors considered in the review of these legal defense reserves are as follows: the actual costs incurred by the Company; the development of the Company's legal defense strategy and structure in light of the scope of its litigation; the number of cases being brought against the Company; the costs and outcomes of completed trials and the most current information regarding anticipated timing, progression, and related costs of pre-trial activities and trials in the associated litigation. The amount of legal defense reserves as of December 31, 2014 and 2013 of approximately $215 million and $160 million, respectively, represents the Company's best estimate of the minimum amount of defense costs to be incurred in connection with its outstanding litigation; however, events such as additional trials and other events that could arise in the course of its litigation could affect the ultimate amount of legal defense costs to be incurred by the Company. The Company will continue to monitor its legal defense costs and review the adequacy of the associated reserves and may determine to increase the reserves at any time in the future if, based upon the factors set forth, it believes it would be appropriate to do so.

The Company and its subsidiaries are parties to a number of proceedings brought under the Comprehensive Environmental Response, Compensation and Liability Act, commonly known as Superfund, and other federal and state equivalents. 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 site investigations, feasibility studies and related cost assessments of remedial techniques are completed, and as the extent to which other potentially responsible parties 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. In the past, Merck performed a worldwide survey 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. As definitive information became available during the course of investigations and/or remedial efforts at each site, estimates were refined and accruals were established or adjusted accordingly. These estimates and related accruals continue to be refined annually.

The Company believes that there are no compliance issues associated with applicable environmental laws and regulations that would have a material adverse effect on the Company. Expenditures for remediation and environmental liabilities were $12 million in 2014, and are estimated at $53 million in the aggregate for the years 2015 through 2019. In management's opinion, the liabilities for all environmental matters that are probable and reasonably estimable have been accrued and totaled $125 million and $213 million at December 31, 2014 and 2013, respectively. These liabilities are undiscounted, do not consider potential recoveries from 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 $66 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.

Share-Based Compensation

The Company expenses all share-based payment awards to employees, including grants of stock options, over the requisite service period based on the grant date fair value of the awards. The Company determines the fair value of certain share-based awards using the Black-Scholes option-pricing model which uses both historical and current market data to estimate the fair value. This method incorporates various assumptions such as the risk-free interest rate, expected volatility, expected dividend yield and expected life of the options. Total pretax share-based compensation expense was $278 million in 2014, $276 million in 2013 and $335 million in 2012. At December 31, 2014, there was $401 million of total pretax unrecognized compensation expense related to nonvested stock option, restricted stock

unit and performance share unit awards which will be recognized over a weighted average period of 1.9 years. For segment reporting, share-based compensation costs are unallocated expenses.

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Pensions and Other Postretirement Benefit Plans

Net periodic benefit cost for pension and other postretirement benefit plans totaled $169 million in 2014, $716 million in 2013 and $509 million in 2012. 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 decrease in net periodic benefit cost for pension and other postretirement benefit plans in 2014 as compared with 2013 is largely attributable to a change in the discount rate.

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 on measurement dates and modified to reflect the prevailing market rate 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, 2014, the discount rates for the Company's U.S. pension and other postretirement benefit plans ranged from 3.20% to 4.20% compared with a range of 3.60% to 5.20% at December 31, 2013.

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. 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 target 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 2015, the Company's expected rate of return will range from 7.30% to 8.75%, the same range as in 2014 for its U.S. pension and other postretirement benefit plans.

In October 2014, the Society of Actuaries issued new retirement plan mortality assumptions that are used in measuring U.S. pension plan obligations. The Company has reflected an impact of these new assumptions in the measurement of its U.S. pension plan obligations at December 31, 2014.

The Company has established investment guidelines for its U.S. pension and other postretirement plans to create an asset allocation that is expected to deliver a rate of return sufficient to meet the long-term obligation of each plan, given an acceptable level of risk. The target investment portfolio of the Company's U.S. pension and other postretirement benefit plans is allocated 40% to 60% in U.S. equities, 20% to 40% in international equities, 15% to 25% in fixed-income investments, and up to 5% in cash and other investments. The portfolio's equity weighting is consistent with the long-term nature of the plans' benefit obligations. 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. For non-U.S. pension plans, the targeted investment portfolio varies based on the duration of pension liabilities and local government rules and regulations. Although a significant percentage of plan assets are invested in U.S. equities, concentration risk is mitigated through the use of strategies that are diversified within management guidelines.

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 $46 million favorable (unfavorable) impact on its net periodic 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 $23 million favorable (unfavorable) impact on its net periodic benefit cost. Required funding obligations for 2015 relating to the Company's pension and other postretirement benefit plans are not expected to be material. The preceding hypothetical changes in the discount rate and expected rate of return assumptions would not impact the Company's funding requirements.

Net loss amounts, which 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, are recorded as a component of AOCI. Expected returns for pension plans 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. Also, net loss amounts in AOCI in excess of certain thresholds are amortized into net periodic benefit cost over the average remaining service life of employees.

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Restructuring Costs

Restructuring costs have been recorded in connection with restructuring programs designed to reduce the cost structure, increase efficiency and enhance competitiveness. As a result, the Company has made estimates and judgments regarding its future plans, including future termination benefits and other exit costs to be incurred when the restructuring actions take place. When accruing these costs, the Company will recognize the amount within a range of costs that is the best estimate within the range. When no amount within the range is a better estimate than any other amount, the Company recognizes the minimum amount within the range. In connection with these actions, management also assesses the recoverability of long-lived assets employed in the business. In certain instances, asset lives have been shortened based on changes in the expected useful lives of the affected assets. Severance and other related costs are reflected within Restructuring costs. Asset-related charges are reflected within Materials and production costs, Marketing and administrative expenses and Research and development expenses depending upon the nature of the asset.

Impairments of Long-Lived Assets

The Company assesses changes in economic, regulatory and legal conditions and makes assumptions regarding estimated future cash flows in evaluating the value of the Company’s property, plant and equipment, goodwill and other intangible assets.

The Company periodically evaluates whether current facts or circumstances indicate that the carrying values of its long-lived assets to be held and used may not be recoverable. If such circumstances are determined to exist, an estimate of the undiscounted future cash flows of these assets, or appropriate asset groupings, is compared to the carrying value to determine whether an impairment exists. If the asset is determined to be impaired, the loss is measured based on the difference between the asset’s fair value and its carrying value. If quoted market prices are not available, the Company will estimate fair value using a discounted value of estimated future cash flows approach.

Goodwill represents the excess of the consideration transferred over the fair value of net assets of businesses purchased and is assigned to reporting units. The Company tests its goodwill for impairment on at least an annual basis, or more frequently if impairment indicators exist, by first assessing qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount. Some of the factors considered in the assessment include general macro economic conditions, conditions specific to the industry and market, cost factors which could have a significant effect on earnings or cash flows, the overall financial performance of the reporting unit, and whether there have been sustained declines in the Company’s share price. Additionally, the Company evaluates the extent to which the fair value exceeded the carrying value of the reporting unit at the last date a valuation was performed. If the Company concludes it is more likely than not that the fair value of a reporting unit is less than its carrying amount, a quantitative fair value test is performed.

Other acquired intangibles (excluding IPR&D) are recorded at fair value, assigned an estimated useful life, and are amortized primarily on a straight-line basis over their estimated useful lives. When events or circumstances warrant a review, the Company will assess recoverability from future operations using pretax undiscounted cash flows derived from the lowest appropriate asset groupings. Impairments are recognized in operating results to the extent that the carrying value of the intangible asset exceeds its fair value, which is determined based on the net present value of estimated future cash flows.

IPR&D that the Company acquires through business combinations represents the fair value assigned to incomplete research projects which, at the time of acquisition, have not reached technological feasibility. The amounts are capitalized and accounted for as indefinite-lived intangible assets, subject to impairment testing until completion or abandonment of the project. The Company tests IPR&D for impairment at least annually, or more frequently if impairment indicators exist, by first assessing qualitative factors to determine whether it is more likely than not that the fair value of the IPR&D intangible asset is less than its carrying amount. If the Company concludes it is more likely than not that the fair value is less than the carrying amount, a quantitative test that compares the fair value of the IPR&D intangible asset with its carrying value is performed. For impairment testing purposes, the Company may combine separately recorded IPR&D intangible assets into one unit of account based on the relevant facts and circumstances. Generally, the Company will combine IPR&D intangible assets for testing purposes if they operate as a single asset and are essentially inseparable. If the fair value is less than the carrying amount, an impairment loss is

recognized within the Company's operating results.

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The judgments made in evaluating impairment of long-lived intangibles can materially affect the Company's results of operations.

Impairments of Investments

The Company reviews its investments for impairments based on the determination of whether the decline in market value of the investment below the carrying value is other-than-temporary. The Company considers available evidence in evaluating potential impairments of its investments, including the duration and extent to which fair value is less than cost and, for equity securities, the Company's ability and intent to hold the investments. For debt securities, an other-than-temporary impairment has occurred if the Company does not expect to recover the entire amortized cost basis of the debt security. If the Company does not intend to sell the impaired debt security, and it is not more likely than not it will be required to sell the debt security before the recovery of its amortized cost basis, the amount of the other-than-temporary impairment recognized in earnings is limited to the portion attributed to credit loss. The remaining portion of the other-than-temporary impairment related to other factors is recognized in OCI.

Taxes on Income

The Company's effective tax rate is based on pretax income, statutory tax rates and tax planning opportunities available in the various jurisdictions in which the Company operates. An estimated effective tax rate for a year is applied to the Company's quarterly operating results. In the event that there is a significant unusual or one-time item recognized, or expected to be recognized, in the Company's quarterly 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. The Company considers the resolution of prior year tax matters to be such items. Significant judgment is required in determining the Company's tax provision and in evaluating its tax positions. The recognition and measurement of a tax position is based on management's best judgment given the facts, circumstances and information available at the reporting date. The Company evaluates tax positions to determine whether the benefits of tax positions are more likely than not of being sustained upon audit based on the technical merits of the tax position. For tax positions that are more likely than not of being sustained upon audit, the Company recognizes the largest amount of the benefit that is greater than 50% likely of being realized upon ultimate settlement in the financial statements. For tax positions that are not more likely than not of being sustained upon audit, the Company does not recognize any portion of the benefit in the financial statements. If the more likely than not threshold is not met in the period for which a tax position is taken, the Company may subsequently recognize the benefit of that tax position if the tax matter is effectively settled, the statute of limitations expires, or if the more likely than not threshold is met in a subsequent period (see Note 15 to the consolidated financial statements.)

Tax regulations require items to be included in the tax return at different times than the items are reflected in the financial statements. 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, 2014, foreign earnings of $60.0 billion have been retained indefinitely by subsidiary companies for reinvestment; therefore, no provision has been made for income taxes that would be payable upon the distribution of such earnings and it would not be practicable to determine the amount of the related unrecognized deferred income tax liability.

Recently Issued Accounting Standards

In May 2014, the Financial Accounting Standards Board issued amended accounting guidance on revenue recognition that will be applied to all contracts with customers. The objective of the new guidance is to improve comparability of revenue recognition practices across entities and to provide more useful information to users of financial statements through improved disclosure requirements. This guidance is effective for annual and interim periods beginning in 2017. Early adoption is not permitted. The Company is currently assessing the impact of adoption on its consolidated financial statements.

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Cautionary Factors That May Affect Future Results

This 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 based on management’s current expectations and are subject to risks and uncertainties which may cause results to differ materially from those set forth in the statements. One can identify these forward-looking statements by their use of words such as “anticipates,” “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 development, product approvals, product potential and development programs. One must carefully consider any such statement and should understand that many factors could cause actual results to differ materially 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, including risk factors, described in the Company’s filings with the Securities and Exchange Commission, especially on this Form 10-K and Forms 10-Q and 8-K. In Item 1A. “Risk Factors” of this annual report on Form 10-K the Company discusses in more detail various important risk 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. 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.

Item 7a. Quantitative and Qualitative Disclosures about Market Risk.

The information required by this Item is incorporated by reference to the discussion under “Financial Instruments Market Risk Disclosures” in Item 7. “Management’s Discussion and Analysis of Financial Condition and Results of Operations.”

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Item 8. Financial Statements and Supplementary Data.

(a) Financial Statements

The consolidated balance sheet of Merck & Co., Inc. and subsidiaries as of December 31, 2014 and 2013, and the related consolidated statements of income, of comprehensive income, of equity and of cash flows for each of the three years in the period ended December 31, 2014, the notes to consolidated financial statements, and the report dated February 27, 2015 of PricewaterhouseCoopers LLP, independent registered public accounting firm, are as follows:

Consolidated Statement of Income
Merck & Co., Inc. and Subsidiaries
Years Ended December 31
($ in millions except per share amounts)

	2014	2013	2012
Sales	$42,237	$44,033	$47,267
Costs, Expenses and Other			
Materials and production	16,768	16,954	16,446
Marketing and administrative	11,606	11,911	12,776
Research and development	7,180	7,503	8,168
Restructuring costs	1,013	1,709	664
Equity income from affiliates	(257)	(404)	(642)
Other (income) expense, net	(11,356)	815	1,116
	24,954	38,488	38,528
Income Before Taxes	17,283	5,545	8,739
Taxes on Income	5,349	1,028	2,440
Net Income	11,934	4,517	6,299
Less: Net Income Attributable to Noncontrolling Interests	14	113	131
Net Income Attributable to Merck & Co., Inc.	$11,920	$4,404	$6,168
Basic Earnings per Common Share Attributable to Merck & Co., Inc. Common Shareholders	$4.12	$1.49	$2.03
Earnings per Common Share Assuming Dilution Attributable to Merck & Co., Inc. Common Shareholders	$4.07	$1.47	$2.00

Consolidated Statement of Comprehensive Income
Merck & Co., Inc. and Subsidiaries
Years Ended December 31
($ in millions)

	2014	2013	2012
Net Income Attributable to Merck & Co., Inc.	$11,920	$4,404	$6,168
Other Comprehensive Income (Loss) Net of Taxes:			
Net unrealized gain (loss) on derivatives, net of reclassifications	398	229	(101)
Net unrealized gain (loss) on investments, net of reclassifications	57	(19)	52
Benefit plan net (loss) gain and prior service (cost) credit, net of amortization	(2,077)	2,758	(1,321)
Cumulative translation adjustment	(504)	(483)	(180)
	(2,126)	2,485	(1,550)
Comprehensive Income Attributable to Merck & Co., Inc.	$9,794	$6,889	$4,618

The accompanying notes are an integral part of these consolidated financial statements.

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Consolidated Balance Sheet
Merck & Co., Inc. and Subsidiaries
December 31
($ in millions except per share amounts)

	2014	2013
Assets		
Current Assets		
Cash and cash equivalents	$7,441	$15,621
Short-term investments	8,278	1,865
Accounts receivable (net of allowance for doubtful accounts of $153 in 2014 and $146 in 2013) (excludes accounts receivable of $80 in 2014 and $275 in 2013 classified in Other assets - see Note 5)	6,626	7,184
Inventories (excludes inventories of $1,664 in 2014 and $1,704 in 2013 classified in Other assets - see Note 6)	5,571	6,226
Deferred income taxes and other current assets	5,257	4,789
Total current assets	33,173	35,685
Investments	13,515	9,770
Property, Plant and Equipment (at cost)		
Land	541	550
Buildings	13,101	13,627
Machinery, equipment and office furnishings	16,050	17,106
Construction in progress	1,448	1,811
	31,140	33,094
Less: accumulated depreciation	18,004	18,121
	13,136	14,973
Goodwill	12,992	12,301
Other Intangibles, Net	20,386	23,801
Other Assets	5,133	9,115
	$98,335	$105,645
Liabilities and Equity		
Current Liabilities		
Loans payable and current portion of long-term debt	$2,704	$4,521
Trade accounts payable	2,625	2,274
Accrued and other current liabilities	10,523	9,501
Income taxes payable	1,606	251
Dividends payable	1,308	1,321
Total current liabilities	18,766	17,868
Long-Term Debt	18,699	20,539
Deferred Income Taxes	4,266	6,776
Other Noncurrent Liabilities	7,813	8,136
Merck & Co., Inc. Stockholders' Equity		
Common stock, $0.50 par value		
Authorized - 6,500,000,000 shares	1,788	1,788
Issued - 3,577,103,522 shares in 2014 and 2013		
Other paid-in capital	40,423	40,508
Retained earnings	46,021	39,257
Accumulated other comprehensive loss	(4,323)	(2,197)
	83,909	79,356
Less treasury stock, at cost:	35,262	29,591

738,963,326 shares in 2014 and 649,576,808 shares in 2013		
Total Merck & Co., Inc. stockholders' equity	48,647	49,765
Noncontrolling Interests	144	2,561
Total equity	48,791	52,326
	$98,335	$105,645

The accompanying notes are an integral part of this consolidated financial statement.

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Consolidated Statement of Equity
Merck & Co., Inc. and Subsidiaries
Years Ended December 31
($ in millions except per share amounts)

	Common Stock	Other Paid-In Capital	Retained Earnings	Accumulated Other Comprehensive Loss	Treasury Stock	Non-controlling Interests	Total
Balance January 1, 2012	$1,788	$40,663	$38,990	$ (3,132)	$(23,792)	$ 2,426	$56,943
Net income attributable to Merck & Co., Inc.	—	—	6,168	—	—	—	6,168
Other comprehensive loss, net of tax	—	—	—	(1,550)	—	—	(1,550)
Cash dividends declared on common stock ($1.69 per share)	—	—	(5,173)	—	—	—	(5,173)
Treasury stock shares purchased	—	—	—	—	(2,591)		(2,591)
Net income attributable to noncontrolling interests	—	—	—	—	—	131	131
Distributions attributable to noncontrolling interests	—	—	—	—		(120)	(120)
Share-based compensation plans and other	—	(17)	—	—	1,666	6	1,655
Balance December 31, 2012	1,788	40,646	39,985	(4,682)	(24,717)	2,443	55,463
Net income attributable to Merck & Co., Inc.	—	—	4,404	—	—	—	4,404
Other comprehensive income, net of tax	—	—	—	2,485	—	—	2,485
Cash dividends declared on common stock ($1.73 per share)	—	—	(5,132)	—	—	—	(5,132)
Supera joint venture formation	—	116	—	—	—	112	228
Treasury stock shares purchased	—	—	—	—	(6,516)	—	(6,516)
Net income attributable to noncontrolling interests	—	—	—	—	—	113	113
Distributions attributable to noncontrolling interests	—	—	—	—	—	(120)	(120)
Share-based compensation plans and other	—	(254)	—	—	1,642	13	1,401
Balance December 31, 2013	1,788	40,508	39,257	(2,197)	(29,591)	2,561	52,326
Net income attributable to Merck & Co., Inc.	—	—	11,920	—	—	—	11,920
Other comprehensive loss, net of tax	—	—	—	(2,126)	—	—	(2,126)
Cash dividends declared on common stock ($1.77 per share)	—	—	(5,156)	—	—	—	(5,156)
Treasury stock shares purchased	—	—	—	—	(7,703)	—	(7,703)
AstraZeneca option exercise	—	—	—	—	—	(2,400)	(2,400)
Net income attributable to noncontrolling interests	—	—	—	—	—	14	14
Distributions attributable to noncontrolling interests	—	—	—	—	—	(77)	(77)
	—	(85)	—	—	2,032	46	1,993

Share-based compensation plans and other							
Balance December 31, 2014	$1,788	$40,423	$46,021	$ (4,323)	$(35,262)	$ 144	$48,791

The accompanying notes are an integral part of this consolidated financial statement.

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Consolidated Statement of Cash Flows
Merck & Co., Inc. and Subsidiaries
Years Ended December 31
($ in millions)

	2014	2013	2012
Cash Flows from Operating Activities			
Net income	$11,934	$4,517	$6,299
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	6,691	6,988	6,978
Intangible asset impairment charges	1,222	765	200
Gain on divestiture of Merck Consumer Care	(11,209)	—	—
Gain on AstraZeneca option exercise	(741)	—	—
Loss on extinguishment of debt	628	—	—
Equity income from affiliates	(257)	(404)	(642)
Dividends and distributions from equity method affiliates	185	237	291
Deferred income taxes	(2,600)	(330)	669
Share-based compensation	278	276	335
Other	(95)	399	28
Net changes in assets and liabilities:			
Accounts receivable	(554)	436	349
Inventories	79	(365)	(482)
Trade accounts payable	593	522	(302)
Accrued and other current liabilities	1,635	(397)	(717)
Income taxes payable	(21)	(1,421)	(34)
Noncurrent liabilities	190	(132)	(1,747)
Other	(98)	563	(1,203)
Net Cash Provided by Operating Activities	7,860	11,654	10,022
Cash Flows from Investing Activities			
Capital expenditures	(1,317)	(1,548)	(1,954)
Purchases of securities and other investments	(24,944)	(17,991)	(12,841)
Proceeds from sales of securities and other investments	15,114	16,298	7,783
Divestiture of Consumer Care business, net of cash divested	13,951	—	—
Dispositions of other businesses, net of cash divested	1,169	46	—
Proceeds from AstraZeneca option exercise	419	—	—
Acquisition of Idenix Pharmaceuticals, Inc., net of cash acquired	(3,700)	—	—
Acquisitions of other businesses, net of cash acquired	(181)	(246)	—
Acquisition of Bayer AG collaboration rights	(1,000)	—	—
Cash inflows from net investment hedges	195	350	39
Other	(80)	(57)	168
Net Cash Used in Investing Activities	(374)	(3,148)	(6,805)
Cash Flows from Financing Activities			
Net change in short-term borrowings	(460)	(159)	624
Payments on debt	(6,617)	(1,775)	(22)
Proceeds from issuance of debt	3,146	6,467	2,562
Purchases of treasury stock	(7,703)	(6,516)	(2,591)
Dividends paid to stockholders	(5,170)	(5,157)	(5,116)
Other dividends paid	(77)	(120)	(120)
Proceeds from exercise of stock options	1,560	1,210	1,310
Other	208	60	86

Net Cash Used in Financing Activities	(15,113)	(5,990)	(3,267)
Effect of Exchange Rate Changes on Cash and Cash Equivalents	(553)	(346)	(30)
Net (Decrease) Increase in Cash and Cash Equivalents	(8,180)	2,170	(80)
Cash and Cash Equivalents at Beginning of Year	15,621	13,451	13,531
Cash and Cash Equivalents at End of Year	$7,441	$15,621	$13,451

The accompanying notes are an integral part of this consolidated financial statement.

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Notes to Consolidated Financial Statements
Merck & Co., Inc. and Subsidiaries
($ in millions except per share amounts)

1. Nature of Operations

Merck & Co., Inc. (“Merck” or “the Company”) is a global health care company that delivers innovative health solutions through its prescription medicines, vaccines, biologic therapies and animal health products, which it markets directly and through its joint ventures. The Company’s operations are principally managed on a products basis and are comprised of three operating segments, which are the Pharmaceutical, Animal Health and Alliances segments, and one reportable segment, which is the Pharmaceutical segment. The Pharmaceutical segment includes human health pharmaceutical and vaccine products marketed either directly by the Company or through joint ventures. Human health pharmaceutical products consist of therapeutic and preventive agents, generally sold by prescription, for the treatment of human disorders. The Company sells these human health pharmaceutical products primarily to drug wholesalers and retailers, hospitals, government agencies and managed health care providers such as health maintenance organizations, pharmacy benefit managers and other institutions. Vaccine products consist of preventive pediatric, adolescent and adult vaccines, primarily administered at physician offices. The Company sells these human health vaccines primarily to physicians, wholesalers, physician distributors and government entities. The Company also has animal health operations that discover, develop, manufacture and market animal health products, including vaccines, which the Company sells to veterinarians, distributors and animal producers. On October 1, 2014, the Company divested its Consumer Care segment (see Note 4) that developed, manufactured and marketed over-the-counter, foot care and sun care products.

2. Summary of Accounting Policies

Principles of Consolidation — The consolidated financial statements include the accounts of the Company and all of its subsidiaries in which a controlling interest is maintained. Intercompany balances and transactions are eliminated. Controlling interest is determined by majority ownership interest and the absence of substantive third-party participating rights or, in the case of variable interest entities, by majority exposure to expected losses, residual returns or both. For those consolidated subsidiaries where Merck ownership is less than 100%, the outside shareholders’ interests are shown as Noncontrolling interests in equity. Investments in affiliates over which the Company has significant influence but not a controlling interest, such as interests in entities owned equally by the Company and a third party that are under shared control, are carried on the equity basis.

Mergers and Acquisitions — In a business combination, the acquisition method of accounting requires that the assets acquired and liabilities assumed be recorded as of the date of the merger or acquisition at their respective fair values with limited exceptions. Assets acquired and liabilities assumed in a business combination that arise from contingencies are recognized at fair value if fair value can reasonably be estimated. If the acquisition date fair value of an asset acquired or liability assumed that arises from a contingency cannot be determined, the asset or liability is recognized if probable and reasonably estimable; if these criteria are not met, no asset or liability is recognized. Fair value is defined as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. Accordingly, the Company may be required to value assets at fair value measures that do not reflect the Company’s intended use of those assets. Any excess of the purchase price (consideration transferred) over the estimated fair values of net assets acquired is recorded as goodwill. Transaction costs and costs to restructure the acquired company are expensed as incurred. The operating results of the acquired business are reflected in the Company’s consolidated financial statements after the date of the merger or acquisition. If the Company determines the assets acquired do not meet the definition of a business under the acquisition method of accounting, the transaction will be accounted for as an acquisition of assets rather than a business combination and, therefore, no goodwill will be recorded.

Foreign Currency Translation — The net assets of international subsidiaries where the local currencies have been determined to be the functional currencies are translated into U.S. dollars using current exchange rates. The U.S. dollar effects that arise from translating the net assets of these subsidiaries at changing rates are recorded in the foreign currency translation account, which is included in Accumulated other comprehensive income (loss) (“AOCI”)

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and reflected as a separate component of equity. For those subsidiaries that operate in highly inflationary economies and for those subsidiaries where the U.S. dollar has been determined to be the functional currency, non-monetary foreign currency assets and liabilities are translated using historical rates, while monetary assets and liabilities are translated at current rates, with the U.S. dollar effects of rate changes included in Other (income) expense, net.

Cash Equivalents — Cash equivalents are comprised of certain highly liquid investments with original maturities of less than three months.

Inventories — Inventories are valued at the lower of cost or market. The cost of a substantial majority of domestic pharmaceutical and vaccine inventories is determined using the last-in, first-out ("LIFO") method for both financial reporting and tax purposes. The cost of all other inventories is determined using the first-in, first-out ("FIFO") method. Inventories consist of currently marketed products, as well as certain inventories produced in preparation for product launches that are considered to have a high probability of regulatory approval. In evaluating the recoverability of inventories produced in preparation for product launches, the Company considers the likelihood that revenue will be obtained from the future sale of the related inventory together with the status of the product within the regulatory approval process.

Investments — Investments in marketable debt and equity securities classified as available-for-sale are reported at fair value. Fair values of the Company's investments are determined using quoted market prices in active markets for identical assets or liabilities or quoted prices for similar assets or liabilities or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities. Changes in fair value that are considered temporary are reported net of tax in Other Comprehensive Income ("OCI"). For declines in the fair value of equity securities that are considered other-than-temporary, impairment losses are charged to Other (income) expense, net. The Company considers available evidence in evaluating potential impairments of its investments, including the duration and extent to which fair value is less than cost and, for equity securities, the Company's ability and intent to hold the investments. For debt securities, an other-than-temporary impairment has occurred if the Company does not expect to recover the entire amortized cost basis of the debt security. If the Company does not intend to sell the impaired debt security, and it is not more likely than not it will be required to sell the debt security before the recovery of its amortized cost basis, the amount of the other-than-temporary impairment recognized in earnings, recorded in Other (income) expense, net, is limited to the portion attributed to credit loss. The remaining portion of the other-than-temporary impairment related to other factors is recognized in OCI. Realized gains and losses for both debt and equity securities are included in Other (income) expense, net.

Revenue Recognition — Revenues from sales of products are recognized when title and risk of loss passes to the customer, typically upon 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, indirectly through an intermediary wholesaler, 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. In addition, revenues are recorded net of time value of money discounts if collection of accounts receivable is expected to be in excess of one year. Accruals for chargebacks are reflected as a direct reduction to accounts receivable and accruals for rebates are recorded as current liabilities. The accrued balances relative to the provisions for chargebacks and rebates included in Accounts receivable and Accrued and other current liabilities were $112 million and $2.0 billion, respectively, at December 31, 2014 and $87 million and $1.6 billion, respectively, at December 31, 2013.

The Company recognizes revenue from the sales of vaccines to the Federal government for placement into vaccine stockpiles in accordance with Securities and Exchange Commission ("SEC") Interpretation, Commission Guidance Regarding Accounting for Sales of Vaccines and BioTerror Countermeasures to the Federal Government for Placement into the Pediatric Vaccine Stockpile or the Strategic National Stockpile.

Depreciation — Depreciation is provided over the estimated useful lives of the assets, principally using the straight-line method. For tax purposes, accelerated tax methods are used. The estimated useful lives primarily range from 10 to 50 years for Buildings, and from 3 to 15 years for Machinery, equipment and office furnishings. Depreciation expense was $2.5 billion in 2014, $2.2 billion in 2013 and $2.0 billion in 2012.

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Advertising and Promotion Costs — Advertising and promotion costs are expensed as incurred. The Company recorded advertising and promotion expenses of $2.3 billion, $2.5 billion and $2.8 billion in 2014, 2013 and 2012, respectively.
Software Capitalization — The Company capitalizes certain costs incurred in connection with obtaining or developing internal-use software including external direct costs of material and services, and payroll costs for employees directly involved with the software development. Capitalized software costs are included in Property, plant and equipment and amortized beginning when the software project is substantially complete and the asset is ready for its intended use. Capitalized software costs associated with projects that are being amortized over 6 to 10 years (including the Company's on-going multi-year implementation of an enterprise-wide resource planning system) were $505 million and $548 million, net of accumulated amortization at December 31, 2014 and 2013, respectively. All other capitalized software costs are being amortized over periods ranging from 3 to 5 years. Costs incurred during the preliminary project stage and post-implementation stage, as well as maintenance and training costs, are expensed as incurred.
Goodwill — Goodwill represents the excess of the consideration transferred over the fair value of net assets of businesses purchased. Goodwill is assigned to reporting units and evaluated for impairment on at least an annual basis, or more frequently if impairment indicators exist, by first assessing qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount. If the Company concludes it is more likely than not that the fair value of a reporting unit is less than its carrying amount, a quantitative fair value test is performed.
Acquired Intangibles — Acquired intangibles include products and product rights, tradenames and patents, which are recorded at fair value, assigned an estimated useful life, and are amortized primarily on a straight-line basis over their estimated useful lives ranging from 3 to 20 years (see Note 7). The Company periodically evaluates whether current facts or circumstances indicate that the carrying values of its acquired intangibles may not be recoverable. If such circumstances are determined to exist, an estimate of the undiscounted future cash flows of these assets, or appropriate asset groupings, is compared to the carrying value to determine whether an impairment exists. If the asset is determined to be impaired, the loss is measured based on the difference between the carrying value of the intangible asset and its fair value, which is determined based on the net present value of estimated future cash flows.
Acquired In-Process Research and Development — Acquired in-process research and development ("IPR&D") that the Company acquires through business combinations represents the fair value assigned to incomplete research projects which, at the time of acquisition, have not reached technological feasibility. The amounts are capitalized and are accounted for as indefinite-lived intangible assets, subject to impairment testing until completion or abandonment of the projects. Upon successful completion of each project, Merck will make a determination as to the then useful life of the intangible asset, generally determined by the period in which the substantial majority of the cash flows are expected to be generated, and begin amortization. The Company tests IPR&D for impairment at least annually, or more frequently if impairment indicators exist, by first assessing qualitative factors to determine whether it is more likely than not that the fair value of the IPR&D intangible asset is less than its carrying amount. If the Company concludes it is more likely than not that the fair value is less than the carrying amount, a quantitative test that compares the fair value of the IPR&D intangible asset with its carrying value is performed. If the fair value is less than the carrying amount, an impairment loss is recognized in operating results.
Contingent Consideration — Certain of the Company's business acquisitions involve the potential for future payment of consideration that is contingent upon the achievement of performance milestones, including product development milestones and royalty payments on future product sales. The fair value of contingent consideration liabilities is determined at the acquisition date using unobservable inputs. These inputs include the estimated amount and timing of projected cash flows, the probability of success (achievement of the contingent event) and the risk-adjusted discount rate used to present value the probability-weighted cash flows. Subsequent to the acquisition date, at each reporting period, the contingent consideration liability is remeasured at current fair value with changes recorded in earnings. Changes in any of the inputs may result in a significantly different fair value adjustment.
Research and Development — Research and development is expensed as incurred. Upfront and milestone payments due to third parties in connection with research and development collaborations prior to regulatory approval are expensed as incurred. Payments due to third parties upon or subsequent to regulatory approval are capitalized and

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amortized over the shorter of the remaining license or product patent life. Amounts due from collaborative partners related to development activities are generally reflected as a reduction of research and development expenses when the specific milestone has been achieved. Nonrefundable advance payments for goods and services that will be used in future research and development activities are expensed when the activity has been performed or when the goods have been received rather than when the payment is made. Research and development expenses include restructuring costs and IPR&D impairment charges in all periods. In addition, research and development expenses in 2014 include a charge to increase the fair value of a liability for contingent consideration.

Share-Based Compensation — The Company expenses all share-based payments to employees over the requisite service period based on the grant-date fair value of the awards.

Restructuring Costs — The Company records liabilities for costs associated with exit or disposal activities in the period in which the liability is incurred. In accordance with existing benefit arrangements, employee termination costs are accrued when the restructuring actions are probable and estimable. When accruing these costs, the Company will recognize the amount within a range of costs that is the best estimate within the range. When no amount within the range is a better estimate than any other amount, the Company recognizes the minimum amount within the range. Costs for one-time termination benefits in which the employee is required to render service until termination in order to receive the benefits are recognized ratably over the future service period.

Contingencies and Legal Defense Costs — The Company records accruals for contingencies and legal defense costs expected to be incurred in connection with a loss contingency when it is probable that a liability has been incurred and the amount can be reasonably estimated.

Taxes on Income — Deferred taxes are recognized for the future tax effects of temporary differences between financial and income tax reporting based on enacted tax laws and rates. The Company evaluates tax positions to determine whether the benefits of tax positions are more likely than not of being sustained upon audit based on the technical merits of the tax position. For tax positions that are more likely than not of being sustained upon audit, the Company recognizes the largest amount of the benefit that is greater than 50% likely of being realized upon ultimate settlement in the financial statements. For tax positions that are not more likely than not of being sustained upon audit, the Company does not recognize any portion of the benefit in the financial statements. The Company recognizes interest and penalties associated with uncertain tax positions as a component of Taxes on income in the Consolidated Statement of Income.

Use of Estimates — The consolidated financial statements are prepared in conformity with accounting principles generally accepted in the United States (“GAAP”) and, accordingly, include certain amounts that are based on management’s best estimates and judgments. Estimates are used when accounting for amounts recorded in connection with mergers and acquisitions, including initial fair value determinations of assets and liabilities, primarily IPR&D and other intangible assets, as well as subsequent fair value measurements. Additionally, estimates are used in determining such items as provisions for sales discounts and returns, depreciable and amortizable lives, recoverability of inventories, including those produced in preparation for product launches, amounts recorded for contingencies, environmental liabilities and other reserves, pension and other postretirement benefit plan assumptions, share-based compensation assumptions, restructuring costs, impairments of long-lived assets (including intangible assets and goodwill) and investments, and taxes on income. Because of the uncertainty inherent in such estimates, actual results may differ from these estimates.

Reclassifications — Certain reclassifications have been made to prior year amounts to conform to the current year presentation.

Recently Issued Accounting Standards — In May 2014, the Financial Accounting Standards Board issued amended accounting guidance on revenue recognition that will be applied to all contracts with customers. The objective of the new guidance is to improve comparability of revenue recognition practices across entities and to provide more useful information to users of financial statements through improved disclosure requirements. This guidance is effective for annual and interim periods beginning in 2017. Early adoption is not permitted. The Company is currently assessing the impact of adoption on its consolidated financial statements.

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3. Restructuring

2013 Restructuring Program

In 2013, the Company announced a global restructuring program (the "2013 Restructuring Program") as part of a global initiative to sharpen its commercial and research and development focus. As part of the program, the Company expects to reduce its total workforce by approximately 8,500 positions. These workforce reductions will primarily come from the elimination of positions in sales, administrative and headquarters organizations, as well as research and development. The Company will also reduce its global real estate footprint and continue to improve the efficiency of its manufacturing and supply network. The Company will continue to hire employees in strategic growth areas of the business as necessary.

The Company recorded total pretax costs of $1.2 billion in both 2014 and 2013 related to this restructuring program. Since inception of the 2013 Restructuring Program through December 31, 2014, Merck has recorded total pretax accumulated costs of approximately $2.5 billion and eliminated approximately 6,095 positions comprised of employee separations, as well as the elimination of contractors and vacant positions. The actions under the 2013 Restructuring Program are expected to be substantially completed by the end of 2015 with the cumulative pretax costs estimated to be approximately $3.0 billion. The Company estimates that approximately two-thirds of the cumulative pretax costs will result in cash outlays, primarily related to employee separation expense. Approximately one-third of the cumulative pretax costs are non-cash, relating primarily to the accelerated depreciation of facilities to be closed or divested.

Merger Restructuring Program

In 2010, subsequent to the Merck and Schering-Plough Corporation ("Schering-Plough") merger (the "Merger"), the Company commenced actions under a global restructuring program (the "Merger Restructuring Program") designed to streamline the cost structure of the combined company. Further actions under this program were initiated in 2011. The actions under this program primarily reflect the elimination of positions in sales, administrative and headquarters organizations, as well as from the sale or closure of certain manufacturing and research and development sites and the consolidation of office facilities.

On October 1, 2013, the Company sold its active pharmaceutical ingredient ("API") manufacturing business, including the related manufacturing facility, in the Netherlands to Aspen Holdings ("Aspen") as part of planned manufacturing facility rationalizations under the Merger Restructuring Program. In conjunction with the sale, the parties entered into a strategic long-term supply agreement whereby Aspen will supply API to the Company and approximately 960 employees who support the API business were transferred from Merck to Aspen. Also in connection with the sale, Aspen acquired certain branded products from Merck, which transferred to Aspen effective December 31, 2013. Consideration for the transaction included cash of $705 million and notes receivable with a present value of $198 million at the time of disposition. The notes receivable consist of a $261 million note with a present value of $138 million due in 2023 and a $67.5 million note with a present value of $60 million that is payable over five years beginning on December 31, 2014. Of the cash portion of the consideration, the Company received $172 million in the fourth quarter of 2013. The remaining $533 million was received by the Company in January 2014; therefore, at December 31, 2013, this amount was recorded as a receivable within Deferred income taxes and other current assets on the Consolidated Balance Sheet. In conjunction with this transaction, the Company transferred inventory of $420 million, property, plant and equipment of $220 million and cash of $125 million to Aspen, reduced goodwill by $45 million, other intangible assets by $45 million and other assets by $23 million and recorded $90 million of transaction-related liabilities. This transaction resulted in a loss of $65 million that was recorded within Restructuring costs in 2013.

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The Company recorded total pretax costs of $730 million in 2014, $1.1 billion in 2013 and $951 million in 2012 related to this restructuring program. Since inception of the Merger Restructuring Program through December 31, 2014, Merck has recorded total pretax accumulated costs of approximately $7.9 billion and eliminated approximately 28,410 positions comprised of employee separations, as well as the elimination of contractors and vacant positions. Approximately 3,440 position eliminations remain pending under this program as of December 31, 2014, which include the remaining actions under the 2008 Restructuring Program that are being reported as part of the Merger Restructuring Program as discussed below. The non-manufacturing related restructuring actions under the Merger Restructuring Program were substantially completed by the end of 2013. The remaining actions under this program primarily relate to ongoing manufacturing facility rationalizations, which are expected to be substantially completed by 2016. The Company expects the estimated total cumulative pretax costs for this program to be approximately $8.5 billion. The Company estimates that approximately two-thirds of the cumulative pretax costs relate to cash outlays, primarily related to employee separation expense. Approximately one-third of the cumulative pretax costs are non-cash, relating primarily to the accelerated depreciation of facilities to be closed or divested.

2008 Restructuring Program

In 2008, Merck announced a global restructuring program (the “2008 Restructuring Program”) to reduce its cost structure, increase efficiency, and enhance competitiveness. Pretax costs of $54 million and $48 million were recorded in 2013 and 2012, respectively, related to the 2008 Restructuring Program. Effective July 1, 2013, any remaining activities under the 2008 Restructuring Program are being accounted for as part of the Merger Restructuring Program. For segment reporting, restructuring charges are unallocated expenses.

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The following table summarizes the charges related to restructuring program activities by type of cost:

Year Ended December 31, 2014	Separation Costs	Accelerated Depreciation	Other	Total
2013 Restructuring Program				
Materials and production	$—	$204	$23	$227
Marketing and administrative	—	142	3	145
Research and development	—	273	9	282
Restructuring costs	566	—	28	594
	566	619	63	1,248
Merger Restructuring Program				
Materials and production	—	225	30	255
Marketing and administrative	—	56	(1)	55
Research and development	—	—	1	1
Restructuring costs	108	—	311	419
	108	281	341	730
	$674	$900	$404	$1,978
Year Ended December 31, 2013				
2013 Restructuring Program				
Materials and production	$—	$186	$7	$193
Marketing and administrative	—	72	3	75
Research and development	—	76	(1)	75
Restructuring costs	866	—	32	898
	866	334	41	1,241
Merger Restructuring Program				
Materials and production	—	151	98	249
Marketing and administrative	—	63	3	66
Research and development	—	27	(1)	26
Restructuring costs	481	—	284	765
	481	241	384	1,106
2008 Restructuring Program				
Materials and production	—	(2)	6	4
Marketing and administrative	—	4	—	4
Restructuring costs	34	—	12	46
	34	2	18	54
	$1,381	$577	$443	$2,401
Year Ended December 31, 2012				
Merger Restructuring Program				
Materials and production	$—	$92	$70	$162
Marketing and administrative	—	75	6	81
Research and development	—	53	4	57
Restructuring costs	497	—	154	651
	497	220	234	951
2008 Restructuring Program				
Materials and production	—	7	19	26
Marketing and administrative	—	8	1	9
Restructuring costs	(8)	—	21	13
	(8)	15	41	48
	$489	$235	$275	$999

Separation costs are associated with actual headcount reductions, as well as those headcount reductions which were probable and could be reasonably estimated. Positions eliminated under the 2013 Restructuring Program were approximately 4,555 in 2014 and 1,540 in 2013. Positions eliminated under the Merger Restructuring Program were approximately 1,530 in 2014, 4,475 in 2013 and 3,975 in 2012. These position eliminations were comprised of actual headcount reductions and the elimination of contractors and vacant positions.

Accelerated depreciation costs primarily relate to manufacturing, research and administrative facilities and equipment to be sold or closed as part of the programs. Accelerated depreciation costs represent the difference between the depreciation expense to be recognized over the revised useful life of the site, based upon the anticipated date the

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site will be closed or divested, and depreciation expense as determined utilizing the useful life prior to the restructuring actions. All of the sites have and will continue to operate up through the respective closure dates and, since future undiscounted cash flows were sufficient to recover the respective book values, Merck was required to accelerate depreciation of the site assets rather than record an impairment charge. Anticipated site closure dates, particularly related to manufacturing locations, have been and may continue to be adjusted to reflect changes resulting from regulatory or other factors.

Other activity in 2014, 2013 and 2012 includes $240 million, $259 million and $155 million, respectively, of asset abandonment, shut-down and other related costs. Additionally, other activity includes certain employee-related costs associated with pension and other postretirement benefit plans (see Note 13) and share-based compensation. Other activity also reflects net pretax (losses) gains resulting from sales of facilities and related assets of $(133) million in 2014, $(64) million in 2013 (primarily reflecting the loss on the transaction with Aspen discussed above) and $28 million in 2012.

Adjustments to previously recorded amounts were not material in any period.

The following table summarizes the charges and spending relating to restructuring activities by program:

	Separation Costs	Accelerated Depreciation	Other	Total
2013 Restructuring Program				
Restructuring reserves January 1, 2013	$—	$—	$—	$—
Expenses	866	334	41	1,241
(Payments) receipts, net	(121)	—	9	(112)
Non-cash activity	—	(334)	(27)	(361)
Restructuring reserves December 31, 2013	745	—	23	768
Expenses	566	619	63	1,248
(Payments) receipts, net	(816)	—	(124)	(940)
Non-cash activity	—	(619)	52	(567)
Restructuring reserves December 31, 2014 [1]	$495	$—	$14	$509
Merger Restructuring Program				
Restructuring reserves January 1, 2013	$699	$—	$19	$718
Expenses	481	241	384	1,106
(Payments) receipts, net	(517)	—	(258)	(775)
Non-cash activity	62	(241)	(133)	(312)
Restructuring reserves December 31, 2013	725	—	12	737
Expenses	108	281	341	730
(Payments) receipts, net	(297)	—	(232)	(529)
Non-cash activity	—	(281)	(115)	(396)
Restructuring reserves December 31, 2014 [1]	$536	$—	$6	$542

(1) The cash outlays associated with the 2013 Restructuring Program are expected to be substantially completed by the end of 2015. The non-manufacturing cash outlays associated with the Merger Restructuring Program were substantially completed by the end of 2013; the remaining cash outlays are expected to be substantially completed by the end of 2016.

4. Acquisitions, Divestitures, Research Collaborations and License Agreements

The Company continues its strategy of establishing external alliances to complement its substantial internal research capabilities, including research collaborations, licensing preclinical and clinical compounds to drive both near- and long-term growth. The Company supplements its internal research with a licensing and external alliance strategy focused on the entire spectrum of collaborations from early research to late-stage compounds, as well as access to new technologies. These arrangements often include upfront payments, as well as expense reimbursements or payments to the third party, and milestone, royalty or profit share payments, contingent upon the occurrence of certain future events linked to the success of the asset in development. The Company also reviews its pipeline to examine candidates which may provide more value through out-licensing and, as part of its portfolio assessment process, may also divest

certain products.

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In December 2014, Merck and Cubist Pharmaceuticals, Inc. (“Cubist”) announced a definitive agreement under which Merck would acquire Cubist for a total purchase price of approximately $9.5 billion. Cubist is a leader in the development of new therapies to treat serious and potentially life-threatening infections caused by a broad range of increasingly drug-resistant bacteria. This transaction closed on January 21, 2015; accordingly, the results of operations of the acquired business will be included in the Company’s results of operations beginning after that date.

Also in December 2014, Merck acquired OncoEthix, a privately held biotechnology company specializing in oncology drug development. Total purchase consideration in the transaction of $153 million included an upfront cash payment of $110 million and future additional milestone payments of up to $265 million that are contingent upon certain clinical and regulatory milestones being achieved, which the Company determined had a fair value of $43 million at the acquisition date. The transaction was accounted for as an acquisition of a business; accordingly, the assets acquired and liabilities assumed were recorded at their respective fair values as of the acquisition date. The determination of fair value requires management to make significant estimates and assumptions. Merck recognized an intangible asset for IPR&D of $143 million related to MK-8628 (formerly OTX015), an investigational, novel oral BET (bromodomain) inhibitor currently in Phase 2 studies for the treatment of hematological malignancies and advanced solid tumors, as well as a liability for contingent consideration of $43 million and other net assets and liabilities of $10 million. The fair value of the identifiable intangible asset related to IPR&D was determined using an income approach, through which fair value is estimated based upon the asset’s probability adjusted future net cash flows, which reflects the stage of development of the project and the associated probability of successful completion. The net cash flows were then discounted to present value using a discount rate of 11.5%. The fair value of the contingent consideration was determined utilizing a probability weighted estimated cash flow stream adjusted for the expected timing of each payment also utilizing a discount rate of 11.5%. This transaction closed on December 18, 2014; accordingly, the results of operations of the acquired business have been included in the Company’s results of operations beginning after that date. Pro forma financial information has not been included because OncoEthix’s historical financial results are not significant when compared with the Company’s financial results.

On October 1, 2014, the Company completed the sale of its Merck Consumer Care (“MCC”) business to Bayer AG (“Bayer”) for $14.2 billion ($14.0 billion net of cash divested), less customary closing adjustments as well as certain contingent amounts held back that will be payable upon the manufacturing site transfer in Canada and regulatory approval in Korea. Under the terms of the agreement, Bayer acquired Merck’s existing over-the-counter business, including the global trademark and prescription rights for Claritin and Afrin. The Company recognized a pretax gain from the sale of MCC of $11.2 billion in 2014.

Also on October 1, 2014, the Company entered into a worldwide clinical development collaboration with Bayer to market and develop its portfolio of soluble guanylate cyclase (“sGC”) modulators. This includes Bayer’s Adempas (riociguat), the first member of this novel class of compounds. Adempas is approved to treat pulmonary arterial hypertension (“PAH”) and is the first and only drug treatment approved for patients with chronic thromboembolic pulmonary hypertension (“CTEPH”). Adempas is currently marketed in the United States and Europe for both PAH and CTEPH and in Japan for CTEPH. The two companies will equally share costs and profits from the collaboration and implement a joint development and commercialization strategy. The collaboration also includes clinical development of Bayer’s vericiguat, which is currently in Phase 2 trials for worsening heart failure, as well as opt-in rights for other early-stage sGC compounds in development at Bayer. Merck will in turn make available its early-stage sGC compounds under similar terms. In return for these broad collaboration rights, Merck made an upfront payment to Bayer of $1.0 billion with the potential for additional milestone payments upon the achievement of agreed-upon sales goals. For Adempas, Bayer will continue to lead commercialization in the Americas, while Merck will lead commercialization in the rest of the world. For vericiguat and other potential opt-in products, Bayer will lead in the rest of world and Merck will lead in the Americas. For all products and candidates included in the agreement, both companies will share in development costs and profits on sales and will have the right to co-promote in territories where they are not the lead. The Company determined that Merck’s payment to access Bayer’s compounds constituted an acquisition of an asset. Of the $1.0 billion consideration paid by Merck, $915 million of fair value related to currently marketed product Adempas and was capitalized as an intangible asset subject to amortization over its estimated useful life of 12 years, and the remaining $85 million of fair value related to the vericiguat compound

currently in clinical development and expensed within Research and development expenses. The fair values of Adempas and vericiguat were determined using an income approach, through which fair value is estimated based upon probability adjusted future net cash flows, and for vericiguat also for the stage of development of the project and the associated probability

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of successful completion. The net cash flows were then discounted to present value using a discount rate of 10.0% for Adempas and 10.5% for vericiguat. Future sales based milestones will be accrued when probable and reasonably estimable. The Company and Bayer each have the right to terminate the agreement for cause on a product-by-product basis for all products being developed and commercialized under the agreement (other than Adempas for which Bayer has no termination rights) in the event of the other party's material, uncured breach related to any such product.

In September 2014, Merck and Sun Pharmaceutical Industries Ltd. ("Sun Pharma") entered into an exclusive worldwide licensing agreement for Merck's investigational therapeutic antibody candidate, MK-3222, tildrakizumab, for the treatment of chronic plaque psoriasis, a skin ailment. Under terms of the agreement, Sun Pharma acquired worldwide rights to tildrakizumab for use in all human indications from Merck in exchange for an upfront payment of $80 million. Merck will continue all clinical development and regulatory activities, which will be funded by Sun Pharma. Upon product approval, Sun Pharma will be responsible for regulatory activities, including subsequent submissions, pharmacovigilance, post approval studies, manufacturing and commercialization of the approved product. Merck is also eligible to receive future payments associated with regulatory (including product approval) and sales milestones, as well as tiered royalties ranging from mid-single digit through teen percentage rates on sales. Merck recorded a loss of $47 million on the transaction included in Other (income) expense, net.

In August 2014, Merck completed the acquisition of Idenix Pharmaceuticals, Inc. ("Idenix") for approximately $3.9 billion in cash ($3.7 billion net of cash acquired). Idenix is a biopharmaceutical company engaged in the discovery and development of medicines for the treatment of human viral diseases, whose primary focus is on the development of next-generation oral antiviral therapeutics to treat hepatitis C virus ("HCV") infection. The transaction was accounted for as an acquisition of a business; accordingly, the assets acquired and liabilities assumed were recorded at their respective fair values as of the acquisition date. The determination of fair value requires management to make significant estimates and assumptions. Merck recognized an intangible asset for IPR&D of $3.2 billion related to MK-3682 (formerly IDX21437), net deferred tax liabilities of $856 million and other net assets and liabilities of approximately $20 million. MK-3682 is a nucleotide prodrug in Phase 2 clinical development being evaluated for potential inclusion in the development of all oral, pan-genotypic fixed-dose combination regimens. The excess of the consideration transferred over the fair value of net assets acquired of $1.4 billion was recorded as goodwill that was allocated to the Pharmaceutical segment and is not deductible for tax purposes. The fair value of the identifiable intangible asset related to IPR&D was determined using an income approach, through which fair value is estimated based upon the asset's probability adjusted future net cash flows, which reflects the stage of development of the project and the associated probability of successful completion. The net cash flows were then discounted to present value using a discount rate of 11.5%. This transaction closed on August 5, 2014; accordingly, the results of operations of the acquired business have been included in the Company's results of operations beginning after that date. Pro forma financial information has not been included because Idenix's historical financial results are not significant when compared with the Company's financial results.

In May 2014, Merck entered into an agreement to sell certain ophthalmic products to Santen Pharmaceutical Co., Ltd. ("Santen") in Japan and markets in Europe and Asia Pacific. The ophthalmic products included in the agreement are Cosopt (dorzolamide hydrochloride-timolol maleate ophthalmic solution), Cosopt PF (dorzolamide hydrochloride-timolol maleate ophthalmic solution) 2%/0.5%, Trusopt (dorzolamide hydrochloride ophthalmic solution) sterile ophthalmic solution 2%, Trusopt PF (dorzolamide hydrochloride ophthalmic solution) preservative-free, Timoptic (timolol maleate ophthalmic solution), Timoptic PF (timolol maleate preservative free ophthalmic solution in unit dose dispenser), Timoptic XE (timolol maleate ophthalmic gel forming solution), Saflutan (tafluprost) and Taptiqom (tafluprost-timolol maleate ophthalmic solution, in development). The agreement provides that Santen make upfront payments and additional payments based on defined sales milestones. Santen will also purchase supply of ophthalmology products covered by the agreement for a two- to five-year period. Upon closing of the transaction in most markets on July 1, 2014, the Company received $515 million of upfront payments from Santen, net of certain adjustments, and an additional $50 million upon closing of the remaining markets on October 1, 2014. Merck recognized gains of $480 million on the transactions in 2014 included in Other (income) expense, net.

In March 2014, Merck divested its Sirna Therapeutics, Inc. ("Sirna") subsidiary to Alnylam Pharmaceuticals, Inc. ("Alnylam") for consideration of $25 million and 2,520,044 shares of Alnylam common stock. Merck is eligible to

receive future payments associated with the achievement of certain regulatory and commercial milestones, as well as royalties on future sales. Under the terms of the agreement, Merck received 85% of the Alnylam shares in the first quarter of 2014 (valued at $172 million at the time of closing) and the remaining 15% of the shares in the second quarter

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of 2014 (valued at $22 million at the time the shares were received). Merck recorded gains of $204 million in 2014 related to this transaction that are included in Other (income) expense, net. The excess of Merck's tax basis in its investment in Sirna over the value received resulted in an approximate $300 million tax benefit recorded in 2014.

In January 2014, Merck sold the U.S. marketing rights to Saphris (asenapine), an antipsychotic indicated for the treatment of schizophrenia and bipolar I disorder in adults to Forest Laboratories, Inc. ("Forest"). Under the terms of the agreement, Forest made upfront payments of $232 million, which were recorded in Sales in 2014, and will make additional payments to Merck based on defined sales milestones. In addition, as part of this transaction, Merck has agreed to supply product to Forest (subsequently acquired by Actavis plc) until patent expiry.

In September 2013, Merck and AstraZeneca announced a worldwide out-licensing agreement for Merck's oral small molecule inhibitor of WEE1 kinase (MK-1775) being evaluated in clinical studies in combination with standard-of-care therapies for the treatment of patients with certain types of ovarian cancer. Under the terms of the agreement, AstraZeneca paid Merck a $50 million upfront fee, which the Company recorded as revenue. In addition, Merck will be eligible to receive future payments tied to development and regulatory milestones, plus sales-related payments and tiered royalties. AstraZeneca will be responsible for all future clinical development, manufacturing and marketing.

In April 2013, Merck and Pfizer Inc. ("Pfizer") announced a worldwide (except Japan) collaboration agreement for the development and commercialization of Pfizer's ertugliflozin, an investigational oral sodium glucose cotransporter ("SGLT2") inhibitor being evaluated for the treatment of type 2 diabetes. The Company has initiated Phase 3 clinical trials for ertugliflozin with Pfizer. Under the terms of the agreement, Merck and Pfizer will collaborate on the clinical development and commercialization of ertugliflozin and ertugliflozin-containing fixed-dose combinations with metformin and with Januvia (sitagliptin) tablets. Merck will continue to retain the rights to its existing portfolio of sitagliptin-containing products. Through the end of 2013, Merck recorded research and development expenses of $125 million for upfront and milestone payments made to Pfizer. Pfizer will be eligible for additional payments associated with the achievement of pre-specified future clinical, regulatory and commercial milestones. The companies will share potential revenues and certain costs 60% to Merck and 40% to Pfizer. Each party will have certain manufacturing and supply obligations. The Company and Pfizer each have the right to terminate the agreement due to a material, uncured breach by, or insolvency of, the other party, or in the event of a safety issue. Pfizer has the right to terminate the agreement upon 12 months notice at any time following the first anniversary of the first commercial sale of a collaboration product, but must assign all rights to ertugliflozin to Merck. Upon termination of the agreement, depending upon the circumstances, the parties have varying rights and obligations with respect to the continued development and commercialization of ertugliflozin and certain payment obligations.

In February 2013, Merck and Supera Farma Laboratorios S.A. ("Supera"), a Brazilian pharmaceutical company co-owned by Cristália and Eurofarma, established a joint venture that markets, distributes and sells a portfolio of pharmaceutical and branded generic products from Merck, Cristália and Eurofarma in Brazil. Merck owns 51% of the joint venture, and Cristália and Eurofarma collectively own 49%. The transaction was accounted for as an acquisition of a business; accordingly, the assets acquired and liabilities assumed were recorded at their respective fair values. This resulted in Merck recognizing intangible assets for currently marketed products of $89 million, IPR&D of $100 million, goodwill of $103 million, and deferred tax liabilities of $64 million. The Company also recorded increases to Noncontrolling interests and Other paid-in capital in the amounts of $112 million and $116 million, respectively. This transaction closed on February 1, 2013; accordingly, the results of operations of the acquired business have been included in the Company's results of operations beginning after that date. During 2014, as a result of changes in cash flow assumptions for certain compounds, the Company recorded $31 million of asset impairment charges related to IPR&D recorded in the Supera transaction. The changes in cash flow assumptions for these compounds, as well as for certain currently marketed products, also resulted in the write-off of the goodwill balance related to the joint venture with Supera, which was $93 million at existing exchange rates. The Company had previously recorded $15 million of impairment charges in the fourth quarter of 2013 related to the IPR&D recorded in the Supera transaction as a result of changes in cash flow assumptions for certain compounds.

Remicade/Simponi

In 1998, a subsidiary of Schering-Plough entered into a licensing agreement with Centocor Ortho Biotech Inc. ("Centocor"), a Johnson & Johnson ("J&J") company, to market Remicade, which is prescribed for the treatment of inflammatory diseases. In 2005, Schering-Plough's subsidiary exercised an option under its contract with Centocor

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for license rights to develop and commercialize Simponi, a fully human monoclonal antibody. The Company has exclusive marketing rights to both products throughout Europe, Russia and Turkey. In December 2007, Schering-Plough and Centocor revised their distribution agreement regarding the development, commercialization and distribution of both Remicade and Simponi, extending the Company's rights to exclusively market Remicade to match the duration of the Company's exclusive marketing rights for Simponi. In addition, Schering-Plough and Centocor agreed to share certain development costs relating to Simponi's auto-injector delivery system. On October 6, 2009, the European Commission approved Simponi as a treatment for rheumatoid arthritis and other immune system disorders in two presentations — a novel auto-injector and a prefilled syringe. As a result, the Company's marketing rights for both products extend for 15 years from the first commercial sale of Simponi in the European Union (the "EU") following the receipt of pricing and reimbursement approval within the EU. Remicade lost market exclusivity in major European markets in February 2015. All profits derived from Merck's exclusive distribution of the two products are equally divided between Merck and J&J.

5. Financial Instruments

Derivative Instruments and Hedging Activities

The Company manages the impact of foreign exchange rate movements and interest rate movements on its earnings, cash flows and fair values of assets and liabilities through operational means and through the use of various financial instruments, including derivative instruments.

A significant portion of the Company's revenues and earnings in foreign affiliates is exposed to changes in foreign exchange rates. The objectives and accounting related to the Company's foreign currency risk management program, as well as its interest rate risk management activities are discussed below.

Foreign Currency Risk Management

The Company has established revenue hedging, balance sheet risk management and net investment hedging 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 rates 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 hedge a portion of its forecasted foreign currency denominated third-party and intercompany distributor entity 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 third-party and intercompany distributor entity sales hedged as it gets closer to the expected date of the forecasted foreign currency denominated sales. 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 currency risk in the same manner. The Company 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 offset the decline in the expected future U.S. dollar equivalent 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 U.S. dollar equivalent value of the anticipated foreign currency cash flows.

In connection with the Company's revenue hedging program, a purchased collar option strategy may be utilized. With a purchased collar option strategy, the Company writes a local currency call option and purchases a local currency put option. As compared to a purchased put option strategy alone, a purchased collar strategy reduces the upfront costs associated with purchasing puts through the collection of premium by writing call options. If the U.S. dollar weakens relative to the currency of the hedged anticipated sales, the purchased put option value of the collar strategy reduces to zero and the Company benefits from the increase in the U.S. dollar equivalent value of its anticipated foreign currency cash flows; however, this benefit would be capped at the strike level of the written call. If the U.S. dollar strengthens

relative to the currency of the hedged anticipated sales, the written call option value of the collar

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strategy reduces to zero and the changes in the purchased put cash flows of the collar strategy would offset the decline in the expected future U.S. dollar equivalent cash flows of the hedged foreign currency sales.

The Company may also utilize forward contracts in its revenue hedging program. If the U.S. dollar strengthens relative to the currency of the hedged anticipated sales, the increase in the fair value of the forward contracts offsets the decrease in the expected future U.S. dollar cash flows of the hedged foreign currency sales. Conversely, if the U.S. dollar weakens, the decrease in the fair value of the forward contracts offsets the increase in the value of the anticipated foreign currency cash flows.

The fair values of these derivative contracts are recorded as either assets (gain positions) or liabilities (loss positions) in the Consolidated Balance Sheet. Changes in the fair value of derivative contracts are recorded each period in either current earnings or OCI, depending on whether the derivative is designated as part of a hedge transaction and, if so, the type of hedge transaction. For derivatives that are designated as cash flow hedges, the effective portion of the unrealized gains or losses on these contracts is recorded in AOCI and reclassified into Sales when the hedged anticipated revenue is recognized. The hedge relationship is highly effective and hedge ineffectiveness has been de minimis. For those derivatives which are not designated as cash flow hedges, but serve as economic hedges of forecasted sales, unrealized gains or losses are recorded in Sales each period. The cash flows from both designated and non-designated contracts are reported as operating activities in the Consolidated Statement of Cash Flows. The Company does not enter into derivatives for trading or speculative purposes.

The primary objective of the balance sheet risk management program is to mitigate the exposure of foreign currency denominated net monetary assets of foreign subsidiaries where the U.S. dollar is the functional currency from the effects of volatility in foreign exchange. In these instances, 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 from the monetary assets. Merck routinely enters into contracts to 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 to partially offset the effects of exchange on exposures 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 cash flows from these contracts are reported as operating activities in the Consolidated Statement of Cash Flows.

Monetary assets and liabilities denominated in a currency other than the functional currency of a given subsidiary are remeasured at spot rates in effect on the balance sheet date with the effects of changes in spot rates reported in Other (income) expense, net. The forward contracts are not designated as hedges and are marked to market through Other (income) expense, net. Accordingly, fair value changes in the forward contracts help mitigate the changes in the value of the remeasured assets and liabilities attributable to changes in foreign currency exchange rates, except to the extent of the spot-forward differences. These differences are not significant due to the short-term nature of the contracts, which typically have average maturities at inception of less than one year.

The Company also uses forward exchange contracts to hedge its net investment in foreign operations against movements in exchange rates. The forward contracts are designated as hedges of the net investment in a foreign operation. The Company hedges a portion of the net investment in certain of its foreign operations and measures ineffectiveness based upon changes in spot foreign exchange rates. The effective portion of the unrealized gains or losses on these contracts is recorded in foreign currency translation adjustment within OCI, and remains in AOCI until either the sale or complete or substantially complete liquidation of the subsidiary. The cash flows from these contracts are reported as investing activities in the Consolidated Statement of Cash Flows.

Foreign exchange risk is also managed through the use of foreign currency debt. The Company’s senior unsecured euro-denominated notes have been designated as, and are effective as, economic hedges of the net investment in a foreign operation. Accordingly, foreign currency transaction gains or losses due to spot rate fluctuations on the euro-denominated debt instruments are included in foreign currency translation adjustment within OCI. Included in the cumulative translation adjustment are pretax gains of $294 million in 2014 and pretax losses of $84 million in 2013 and $31 million in 2012 from the euro-denominated notes.

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Interest Rate Risk Management

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, 2014, the Company was a party to 17 pay-floating, receive-fixed interest rate swap contracts designated as fair value hedges of fixed-rate notes in which the notional amounts match the amount of the hedged fixed-rate notes as detailed in the table below.

	2014		
Debt Instrument	Par Value of Debt	Number of Interest Rate Swaps Held	Total Swap Notional Amount
0.70% notes due 2016	$1,000	4	$1,000
1.30% notes due 2018	1,000	4	1,000
5.00% notes due 2019	1,250	3	550
3.875% notes due 2021	1,150	5	1,150
2.40% notes due 2022	1,000	1	250

The interest rate swap contracts are designated hedges of the fair value changes in the notes attributable to changes in the benchmark London Interbank Offered Rate (“LIBOR”) swap rate. The fair value changes in the notes attributable to changes in the LIBOR are recorded in interest expense and offset by the fair value changes in the swap contracts.

During 2014, the Company terminated interest rate swap contracts that effectively converted the Company’s 6.00% fixed-rate notes due in 2017 to floating-rate instruments. The interest rate swap contracts were designated hedges of the fair value changes in the notes attributable to changes in the benchmark LIBOR swap rate. As a result of the swap terminations, the Company received $3 million in cash. The cash flows from these contracts are reported as operating activities in the Consolidated Statement of Cash Flows.

In February 2015, in connection with the Company’s February debt offering (see Note 9), Merck entered into ten additional interest rate swap contracts with notional amounts of $250 million each that effectively convert the Company’s 1.85% notes due in 2020 and the Company’s 2.35% notes due in 2022 to floating-rate instruments.

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Presented in the table below is the fair value of derivatives on a gross basis segregated between those derivatives that are designated as hedging instruments and those that are not designated as hedging instruments as of December 31:

		2014			2013		
		Fair Value of Derivative		U.S. Dollar Notional	Fair Value of Derivative		U.S. Dollar Notional
	Balance Sheet Caption	Asset	Liability		Asset	Liability	
Derivatives Designated as Hedging Instruments							
Interest rate swap contracts (non-current)	Other assets	$19	$—	$1,950	$13	$—	$1,550
Interest rate swap contracts (non-current)	Other noncurrent liabilities	—	15	2,000	—	25	2,000
Foreign exchange contracts (current)	Deferred income taxes and other current assets	772	—	5,513	493	—	4,427
Foreign exchange contracts (non-current)	Other assets	691	—	6,253	515	—	6,676
Foreign exchange contracts (current)	Accrued and other current liabilities	—	—	—	—	19	1,659
		$1,482	$15	$15,716	$1,021	$44	$16,312
Derivatives Not Designated as Hedging Instruments							
Foreign exchange contracts (current)	Deferred income taxes and other current assets	$365	$—	$6,966	$69	$—	$5,705
Foreign exchange contracts (current)	Accrued and other current liabilities	—	88	3,386	—	140	7,892
		$365	$88	$10,352	$69	$140	$13,597
		$1,847	$103	$26,068	$1,090	$184	$29,909

As noted above, the Company records its derivatives on a gross basis in the Consolidated Balance Sheet. The Company has master netting agreements with several of its financial institution counterparties (see Concentrations of Credit Risk below). The following table provides information on the Company's derivative positions subject to these master netting arrangements as if they were presented on a net basis, allowing for the right of offset by counterparty and cash collateral exchanged per the master agreements and related credit support annexes at December 31:

	2014		2013	
	Asset	Liability	Asset	Liability
Gross amounts recognized in the consolidated balance sheet	$1,847	$103	$1,090	$184
Gross amount subject to offset in master netting arrangements not offset in the consolidated balance sheet	(97)	(97)	(147)	(147)
Cash collateral (received) posted	(1,410)	—	(652)	—
Net amounts	$340	$6	$291	$37

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The table below provides information on the location and pretax gain or loss amounts for derivatives that are: (i) designated in a fair value hedging relationship, (ii) designated in a foreign currency cash flow hedging relationship, (iii) designated in a foreign currency net investment hedging relationship and (iv) not designated in a hedging relationship:

Years Ended December 31	2014	2013	2012
Derivatives designated in a fair value hedging relationship			
Interest rate swap contracts			
Amount of (gain) loss recognized in Other (income) expense, net on derivatives [1]	$(17)	$12	$—
Amount of loss (gain) recognized in Other (income) expense, net on hedged item [1]	14	(14)	—
Derivatives designated in foreign currency cash flow hedging relationships			
Foreign exchange contracts			
Amount of (gain) loss reclassified from AOCI to Sales	(143)	45	50
Amount of (gain) loss recognized in OCI on derivatives	(775)	(306)	204
Derivatives designated in foreign currency net investment hedging relationships			
Foreign exchange contracts			
Amount of gain recognized in Other (income) expense, net on derivatives [2]	(6)	(10)	(20)
Amount of gain recognized in OCI on derivatives	(192)	(363)	(208)
Derivatives not designated in a hedging relationship			
Foreign exchange contracts			
Amount of (gain) loss recognized in Other (income) expense, net on derivatives [3]	(516)	183	382
Amount of loss recognized in Sales	15	8	30

(1) There was $3 million and $2 million of ineffectiveness on the hedge during 2014 and 2013, respectively.

(2) There was no ineffectiveness on the hedge. Represents the amount excluded from hedge effectiveness testing.

(3) These derivative contracts mitigate changes in the value of remeasured foreign currency denominated monetary assets and liabilities attributable to changes in foreign currency exchange rates.

At December 31, 2014, the Company estimates $457 million of pretax net unrealized gains on derivatives maturing within the next 12 months that hedge foreign currency denominated sales over that same period will be reclassified from AOCI to Sales. The amount ultimately reclassified to Sales may differ as foreign exchange rates change. Realized gains and losses are ultimately determined by actual exchange rates at maturity.

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Investments in Debt and Equity Securities

Information on available-for-sale investments at December 31 is as follows:

	2014				2013			
	Fair Value	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses
Corporate notes and bonds	$10,107	$10,102	$22	$(17)	$7,054	$7,037	$32	$(15)
Commercial paper	6,970	6,970	—	—	1,206	1,206	—	—
U.S. government and agency securities	1,774	1,775	1	(2)	1,236	1,239	1	(4)
Asset-backed securities	1,460	1,462	1	(3)	1,300	1,303	1	(4)
Mortgage-backed securities	602	604	2	(4)	476	479	2	(5)
Foreign government bonds	385	385	—	—	125	126	—	(1)
Equity securities	730	557	173	—	471	397	74	—
	$22,028	$21,855	$199	$(26)	$11,868	$11,787	$110	$(29)

Available-for-sale debt securities included in Short-term investments totaled $8.3 billion at December 31, 2014. Of the remaining debt securities, $12.0 billion mature within five years. At December 31, 2014 and 2013, there were no debt securities pledged as collateral.

Fair Value Measurements

Fair value is defined as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. The Company uses a fair value hierarchy which maximizes the use of observable inputs and minimizes the use of unobservable inputs when measuring fair value. There are three levels of inputs used to measure fair value with Level 1 having the highest priority and Level 3 having the lowest:

Level 1 — Quoted prices (unadjusted) in active markets for identical assets or liabilities.

Level 2 — Observable inputs other than Level 1 prices, such as quoted prices for similar assets or liabilities, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.

Level 3 — Unobservable inputs that are supported by little or no market activity. Level 3 assets or liabilities are those whose values are determined using pricing models, discounted cash flow methodologies, or similar techniques with significant unobservable inputs, as well as assets or liabilities for which the determination of fair value requires significant judgment or estimation.

If the inputs used to measure the financial assets and liabilities fall within more than one level described above, the categorization is based on the lowest level input that is significant to the fair value measurement of the instrument.

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Financial Assets and Liabilities Measured at Fair Value on a Recurring Basis

Financial assets and liabilities measured at fair value on a recurring basis at December 31 are summarized below:

	Fair Value Measurements Using				Fair Value Measurements Using			
	Quoted Prices In Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total	Quoted Prices In Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
	2014				2013			
Assets								
Investments								
Corporate notes and bonds	$—	$ 10,107	$ —	$ 10,107	$—	$ 7,054	$ —	$ 7,054
Commercial paper	—	6,970	—	6,970	—	1,206	—	1,206
U.S. government and agency securities	—	1,774	—	1,774	—	1,236	—	1,236
Asset-backed securities [1]	—	1,460	—	1,460	—	1,300	—	1,300
Mortgage-backed securities [1]	—	602	—	602	—	476	—	476
Foreign government bonds	—	385	—	385	—	125	—	125
Equity securities	495	—	—	495	238	—	—	238
	495	21,298	—	21,793	238	11,397	—	11,635
Other assets								
Securities held for employee compensation	181	54	—	235	186	47	—	233
Derivative assets [2]								
Purchased currency options	—	1,252	—	1,252	—	868	—	868
Forward exchange contracts	—	576	—	576	—	209	—	209
Interest rate swaps	—	19	—	19	—	13	—	13
	—	1,847	—	1,847	—	1,090	—	1,090
Total assets	$676	$ 23,199	$ —	$ 23,875	$424	$ 12,534	$ —	$ 12,958
Liabilities								
Other liabilities								
Contingent consideration	$—	$—	$ 428	$428	$—	$—	$ 69	$69
Derivative liabilities [2]								
Forward exchange contracts	—	46	—	46	—	134	—	134
Written currency options	—	42	—	42	—	25	—	25
Interest rate swaps	—	15	—	15	—	25	—	25
	—	103	—	103	—	184	—	184
Total liabilities	$—	$ 103	$ 428	$531	$—	$ 184	$ 69	$253

(1) Primarily all of the asset-backed securities are highly-rated (Standard & Poor's rating of AAA and Moody's Investors Service rating of Aaa), secured primarily by credit card, auto loan, and home equity receivables, with weighted-average lives of primarily 5 years or less. Mortgage-backed securities represent AAA-rated securities issued or unconditionally guaranteed as to payment of principal and interest by U.S. government agencies.

(2) The fair value determination of derivatives includes the impact of the credit risk of counterparties to the derivatives and the Company's own credit risk, the effects of which were not significant.

There were no transfers between Level 1 and Level 2 during 2014. As of December 31, 2014, Cash and cash equivalents of $7.4 billion included $6.1 billion of cash equivalents (considered Level 2 in the fair value hierarchy).

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Contingent Consideration

Summarized information about the changes in liabilities for contingent consideration is as follows:

	2014	2013
Fair value January 1	$69	$49
Changes in fair value (recorded in Research and development expenses)	316	8
Additions	43	12
Fair value December 31	$428	$69

During 2014, the fair value of a liability for contingent consideration related to an acquisition that occurred in 2010 increased by $316 million resulting from the progression of the program from preclinical to Phase 1. The increase resulted from a higher fair value of future regulatory milestone and royalty payments due to an increased probability of success of the program given its progression into Phase 1. In addition, during 2014, the Company recognized a liability of $43 million for contingent consideration related to the acquisition of OncoEthix in 2014 (see Note 4).

Other Fair Value Measurements

Some of the Company’s financial instruments, such as cash and cash equivalents, receivables and payables, are reflected in the balance sheet at carrying value, which approximates fair value due to their short-term nature.

The estimated fair value of loans payable and long-term debt (including current portion) at December 31, 2014, was $22.5 billion compared with a carrying value of $21.4 billion and at December 31, 2013, was $25.5 billion compared with a carrying value of $25.1 billion. Fair value was estimated using recent observable market prices and would be considered Level 2 in the fair value hierarchy.

Concentrations of Credit Risk

On an ongoing basis, the Company monitors concentrations of credit risk associated with corporate and government issuers of securities and financial institutions with which it conducts business. Credit exposure limits are established to limit a concentration with any single issuer or institution. Cash and investments are placed in instruments that meet high credit quality standards, as specified in the Company’s investment policy guidelines.

The majority of the Company’s accounts receivable arise from product sales in the United States and Europe and are primarily due from drug wholesalers and retailers, hospitals, government agencies, managed health care providers and pharmacy benefit managers. The Company monitors the financial performance and creditworthiness of its customers so that it can properly assess and respond to changes in their credit profile. The Company also continues to monitor economic conditions, including the volatility associated with international sovereign economies, and associated impacts on the financial markets and its business, taking into consideration global economic conditions and the ongoing sovereign debt issues in certain European countries. The Company continues to monitor the credit and economic conditions within Greece, Italy, Spain and Portugal, among other members of the EU. These economic conditions, as well as inherent variability of timing of cash receipts, have resulted in, and may continue to result in, an increase in the average length of time that it takes to collect accounts receivable outstanding. As such, time value of money discounts have been recorded for those customers for which collection of accounts receivable is expected to be in excess of one year. At December 31, 2014 and 2013, Other assets included $80 million and $275 million, respectively, of accounts receivable not expected to be collected within one year. The Company does not expect to have write-offs or adjustments to accounts receivable which would have a material adverse effect on its financial position, liquidity or results of operations.

As of December 31, 2014, the Company’s accounts receivable in Greece, Italy, Spain and Portugal totaled approximately $600 million. Of this amount, hospital and public sector receivables were approximately $330 million in the aggregate, of which approximately 14%, 27%, 46% and 13% related to Greece, Italy, Spain and Portugal, respectively. As of December 31, 2014, the Company’s total net accounts receivable outstanding for more than one year were approximately $100 million, of which approximately 31% related to accounts receivable in Greece, Italy, Spain and Portugal, mostly comprised of hospital and public sector receivables.

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During 2014, the Company completed non-recourse factorings in Spain of approximately $100 million and in Italy of approximately $100 million of hospital and public sector receivables. During 2013, the Company completed non-recourse factorings of approximately $210 million of hospital and public sector receivables in Spain. During 2012, the Company collected approximately $500 million of accounts receivable in connection with the Spanish government's debt stabilization/stimulus plan. In addition, the Company completed non-recourse factorings of approximately $230 million in 2012 of hospital and public sector accounts receivable in Italy.

Additionally, the Company continues to expand in the emerging markets. Payment terms in these markets tend to be longer, resulting in an increase in accounts receivable balances in certain of these markets.

The Company's customers with the largest accounts receivable balances are: AmerisourceBergen Corporation, Cardinal Health, Inc., McKesson Corporation, AAH Pharmaceuticals Ltd (U.K.) and Zuellig Pharma Ltd. (Asia Pacific), which represented, in aggregate, approximately 30% of total accounts receivable at December 31, 2014. The Company monitors the creditworthiness of its customers to which it grants credit terms in the normal course of business. Bad debts have been minimal. The Company does not normally require collateral or other security to support credit sales.

Derivative financial instruments are executed under International Swaps and Derivatives Association master agreements. The master agreements with several of the Company's financial institution counterparties also include credit support annexes. These annexes contain provisions that require collateral to be exchanged depending on the value of the derivative assets and liabilities, the Company's credit rating, and the credit rating of the counterparty. As of December 31, 2014 and 2013, the Company had received cash collateral of $1.4 billion and $652 million, respectively, from various counterparties and the obligation to return such collateral is recorded in Accrued and other current liabilities. The Company had not advanced any cash collateral to counterparties as of December 31, 2014 or 2013.

6. Inventories

Inventories at December 31 consisted of:

	2014	2013
Finished goods	$1,588	$1,738
Raw materials and work in process	5,141	5,894
Supplies	197	225
Total (approximates current cost)	6,926	7,857
Increase to LIFO costs	309	73
	$7,235	$7,930
Recognized as:		
Inventories	$5,571	$6,226
Other assets	1,664	1,704

Inventories valued under the LIFO method comprised approximately $2.6 billion and $2.3 billion of inventories at December 31, 2014 and 2013, respectively. Amounts recognized as Other assets are comprised almost entirely of raw materials and work in process inventories. At December 31, 2014 and 2013, these amounts included $1.6 billion and $1.5 billion, respectively, of inventories not expected to be sold within one year. In addition, these amounts included $74 million and $177 million at December 31, 2014 and 2013, respectively, of inventories produced in preparation for product launches.

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7. Goodwill and Other Intangibles

The following table summarizes goodwill activity by segment:

	Pharmaceutical	All Other	Total
Balance January 1, 2013	$10,086	$2,048	$12,134
Acquisitions	103	188	291
Divestitures	(45)	—	(45)
Other [1]	(79)	—	(79)
Balance December 31, 2013	10,065	2,236	12,301
Acquisitions	1,369	38	1,407
Divestitures	(200)	(362)	(562)
Impairments	(93)	—	(93)
Other [1]	(33)	(28)	(61)
Balance December 31, 2014 [2]	$11,108	$1,884	$12,992

[1] Other includes cumulative translation adjustments on goodwill balances and certain other adjustments.

[2] Accumulated goodwill impairment losses at December 31, 2014 were $93 million.

In 2014, the additions to goodwill in the Pharmaceutical segment primarily resulted from the acquisition of Idenix and the reductions resulted both from the sale of MCC and the divestiture of certain ophthalmic products in several international markets (see Note 4). The reductions to goodwill in other segments during 2014 resulted from the termination of the Company's relationship with AstraZeneca LP ("AZLP") (see Note 8) and the divestiture of MCC. Also, during the third quarter of 2014, the Company recorded an impairment charge on the goodwill related to the Supera joint venture (see Note 4).

The Company performed its most recent annual impairment test as of October 1, 2014 and concluded that goodwill was not impaired.

The additions to Pharmaceutical segment goodwill in 2013 resulted from the formation of the Supera joint venture (see Note 4) and the reductions resulted from the divestiture of the Company's API manufacturing business and related branded products (see Note 3).

In July 2013, the Company acquired the remaining shares of Physicians Interactive, a provider of on-line and mobile clinical resources and solutions for health care professionals in which Merck had an existing 24% ownership interest, for $97 million. In November 2013, Merck acquired Health Management Resources Corporation, a leader in medical weight management, for $87 million. These transactions collectively resulted in the addition of approximately $175 million of goodwill during 2013 included in other segments. Pro forma financial information has not been included for these transactions because the historical financial results are not significant when compared with the Company's financial results.

Other intangibles at December 31 consisted of:

	2014			2013		
	Gross Carrying Amount	Accumulated Amortization	Net	Gross Carrying Amount	Accumulated Amortization	Net
Products and product rights	$38,714	$23,830	$14,884	$41,691	$21,216	$20,475
In-process research and development	4,345	—	4,345	1,856	—	1,856
Tradenames	198	71	127	1,632	310	1,322
Other	1,527	497	1,030	958	810	148
	$44,784	$24,398	$20,386	$46,137	$22,336	$23,801

Acquired intangibles include products and product rights, tradenames and patents, which are recorded at fair value, assigned an estimated useful life, and are amortized primarily on a straight-line basis over their estimated useful lives. Some of the Company's more significant acquired intangibles related to marketed products (included in product and product rights above) at December 31, 2014 include Zetia, $3.6 billion; Vytorin, $2.1 billion; Nasonex,

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$719 million; NuvaRing, $684 million; and Implanon/Nexplanon $703 million. During 2014, the Company recognized an intangible asset related to Adempas as a result of the formation of a collaboration with Bayer (see Note 4) that had a carrying value of $858 million at December 31, 2014 reflected in other in the table above. Also, during 2014, $2.2 billion of other intangible assets were divested in connection with the sale of MCC (see Note 4).

During 2014 and 2013, the Company recorded impairment charges related to marketed products of $1.1 billion and $486 million, respectively, within Material and production costs. Of the amount recorded in 2014, $793 million related to PegIntron, $244 million related to Victrelis and $35 million related to Rebetol, all of which are products marketed by the Company for the treatment of chronic HCV. During 2014, sales of these products were adversely affected by loss of market share or patient treatment delays in markets anticipating the availability of new therapeutic options. In 2014, these trends accelerated more rapidly than previously anticipated by the Company. In addition, developments in the competitive HCV treatment market led to market share losses that were greater than the Company had predicted. These factors caused changes in cash flow projections for PegIntron, Victrelis and Rebetol that indicated the intangible asset values were not recoverable on an undiscounted cash flows basis. The Company utilized market participant assumptions to determine its best estimate of the fair values of the intangible assets related to PegIntron, Victrelis and Rebetol that, when compared with their related carrying values, resulted in the impairment charges noted above. Of the amount recorded in 2013, $330 million resulted from lower cash flow projections for Saphris/Sycrest, due to reduced expectations in international markets and in the United States. These revisions to cash flows indicated that the Saphris/Sycrest intangible asset value was not recoverable on an undiscounted cash flows basis. The Company utilized market participant assumptions and considered several different scenarios to determine its best estimate of the fair value of the intangible asset related to Saphris/Sycrest that, when compared with its related carrying value, resulted in the impairment charge noted above. The remaining $156 million of impairment charges in 2013 resulted from lower cash flow projections for Rebetol due to reduced expectations in Japan and Europe. These revisions to cash flows indicated that the Rebetol intangible asset value was not recoverable on an undiscounted cash flows basis. The Company utilized market participant assumptions to determine its best estimate of the fair value of the intangible asset related to Rebetol that, when compared with its related carrying value, resulted in the impairment charge noted above.

IPR&D that the Company acquires through business combinations represents the fair value assigned to incomplete research projects which, at the time of acquisition, have not reached technological feasibility. Amounts capitalized as IPR&D are accounted for as indefinite-lived intangible assets, subject to impairment testing until completion or abandonment of the projects. During 2014, the Company recorded IPR&D of $3.2 billion related to the acquisition of Idenix (see Note 4). Upon successful completion of each project, the Company will make a separate determination as to the then useful life of the assets and begin amortization. During 2014, 2013 and 2012, $654 million, $346 million and $78 million, respectively, of IPR&D was reclassified to products and product rights upon receipt of marketing approval in a major market.

During 2014, the Company recorded $49 million of IPR&D impairment charges within Research and development expenses primarily as a result of changes in cash flow assumptions for certain compounds obtained in connection with the Supera joint venture, as well as for the discontinuation of certain Animal Health programs. During 2013, the Company recorded $279 million of IPR&D impairment charges. Of this amount, $181 million related to the write-off of the intangible asset associated with preladenant as a result of the discontinuation of the clinical development program for this compound. In addition, the Company recorded impairment charges resulting from changes in cash flow assumptions for certain compounds, as well as for pipeline programs that had previously been deprioritized and were subsequently deemed to have no alternative use in the period. During 2012, the Company recorded $200 million of IPR&D impairment charges primarily for pipeline programs that had previously been deprioritized and were subsequently deemed to have no alternative use during the period.

All of the IPR&D projects that remain in development are subject to the inherent risks and uncertainties in drug development and it is possible that the Company will not be able to successfully develop and complete the IPR&D programs and profitably commercialize the underlying product candidates.

The Company may recognize additional non-cash impairment charges in the future related to other marketed products or pipeline programs and such charges could be material.

Aggregate amortization expense primarily recorded within Materials and production costs was $4.2 billion in 2014, $4.8 billion in 2013 and $5.0 billion in 2012. The estimated aggregate amortization expense for each of the

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next five years is as follows: 2015, $3.9 billion; 2016, $3.2 billion; 2017, $2.9 billion; 2018, $1.4 billion; 2019, $638 million.

8. Joint Ventures and Other Equity Method Affiliates

Equity income from affiliates reflects the performance of the Company's joint ventures and other equity method affiliates and was comprised of the following:

Years Ended December 31	2014	2013	2012
AstraZeneca LP [1]	$192	$352	$621
Other [2]	65	52	21
	$257	$404	$642

[1] As noted below, as of July 1, 2014, the Company no longer records equity income from AZLP.

[2] Includes results from Sanofi Pasteur MSD.

AstraZeneca LP

In 1982, Merck entered into an agreement with Astra AB ("Astra") to develop and market Astra products under a royalty-bearing license. In 1993, Merck's total sales of Astra products reached a level that triggered the first step in the establishment of a joint venture business carried on by Astra Merck Inc. ("AMI"), in which Merck and Astra each owned a 50% share. This joint venture, formed in 1994, developed and marketed most of Astra's new prescription medicines in the United States.

In 1998, Merck and Astra completed the restructuring of the ownership and operations of the joint venture whereby Merck acquired Astra's interest in AMI, renamed KBI Inc. ("KBI"), and contributed KBI's operating assets to a new U.S. limited partnership, Astra Pharmaceuticals L.P. (the "Partnership"), in exchange for a 1% limited partner interest. Astra contributed the net assets of its wholly owned subsidiary, Astra USA, Inc., to the Partnership in exchange for a 99% general partner interest. The Partnership, renamed AstraZeneca LP ("AZLP") upon Astra's 1999 merger with Zeneca Group Plc, became the exclusive distributor of the products for which KBI retained rights.

Merck earned revenue based on sales of KBI products and such revenue was $463 million, $920 million and $915 million in 2014, 2013 and 2012, respectively, primarily relating to sales of Nexium, as well as Prilosec. In addition, Merck earned certain Partnership returns, which were recorded in Equity income from affiliates, as reflected in the table above. Such returns included a priority return provided for in the Partnership Agreement, a preferential return representing Merck's share of undistributed AZLP GAAP earnings, and a variable return related to the Company's 1% limited partner interest.

On June 30, 2014, AstraZeneca exercised its option to purchase Merck's interest in KBI for $419 million in cash. Of this amount, $327 million reflects an estimate of the fair value of Merck's interest in Nexium and Prilosec. This portion of the exercise price, which is subject to a true-up in 2018 based on actual sales from closing in 2014 to June 2018, was deferred and is being recognized over time in Other (income) expense, net as the contingency is eliminated as sales occur. During 2014, $140 million of the deferred revenue was recognized in Other (income) expense, net. The remaining exercise price of $91 million primarily represents a multiple of ten times Merck's average 1% annual profit allocation in the partnership for the three years prior to exercise. Merck recognized the $91 million as a gain in 2014 within Other (income) expense, net. As a result of AstraZeneca's option exercise, the Company's remaining interest in AZLP was redeemed. Accordingly, the Company also recognized a non-cash gain of approximately $650 million in 2014 within Other (income) expense, net resulting from the retirement of $2.4 billion of KBI preferred stock (see Note 11), the elimination of the Company's $1.4 billion investment in AZLP and a $340 million reduction of goodwill. This transaction resulted in a net tax benefit of $517 million in 2014 primarily reflecting the reversal of deferred taxes on the AZLP investment balance.

As a result of AstraZeneca exercising its option, as of July 1, 2014, the Company no longer records equity income from AZLP and supply sales to AZLP have terminated.

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Summarized financial information for AZLP is as follows:

Years Ended December 31	2014 [1]	2013	2012
Sales	$2,205	$4,611	$4,694
Materials and production costs	1,044	2,222	2,177
Other expense, net	604	1,175	1,312
Income before taxes [2]	557	1,214	1,205
December 31			2013
Current assets			$4,832
Noncurrent assets			182
Current liabilities			3,958

[1] Includes results through the June 30, 2014 termination date.

[2] Merck's partnership returns from AZLP were generally contractually determined as noted above and were not based on a percentage of income from AZLP, other than with respect to Merck's 1% limited partnership interest.

Sanofi Pasteur MSD

In 1994, Merck and Pasteur Mérieux Connaught (now Sanofi Pasteur S.A.) established an equally-owned joint venture to market vaccines in Europe and to collaborate in the development of combination vaccines for distribution in Europe. Joint venture vaccine sales were $1.1 billion for 2014, $1.2 billion for 2013 and $1.1 billion for 2012. Investments in affiliates accounted for using the equity method, including the above joint ventures, totaled $337 million at December 31, 2014 and $1.6 billion at December 31, 2013. These amounts are reported in Other assets. Amounts due from the above joint ventures included in Deferred income taxes and other current assets were $45 million at December 31, 2014 and $277 million at December 31, 2013.

Summarized information for those affiliates (excluding AZLP disclosed separately above) is as follows:

Years Ended December 31	2014	2013	2012
Sales	$1,370	$1,326	$1,295
Materials and production costs	577	581	573
Other expense, net	641	691	705
Income before taxes	152	54	17
December 31		2014	2013
Current assets		$1,819	$1,486
Noncurrent assets		208	149
Current liabilities		469	456
Noncurrent liabilities		129	154

9. Loans Payable, Long-Term Debt and Other Commitments

Loans payable at December 31, 2014 included $1.0 billion of notes due in 2015, $1.5 billion of commercial paper, $55 million of short-term foreign borrowings and $143 million of long-dated notes that are subject to repayment at the option of the holder. Loans payable at December 31, 2013 included $2.1 billion of notes due in 2014, $1.6 billion of commercial paper, $402 million of short-term foreign borrowings and $370 million of long-dated notes that are subject to repayment at the option of the holders. The weighted-average interest rate of the commercial paper borrowings was 0.15% and 0.09% at December 31, 2014 and 2013, respectively.

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Long-term debt at December 31 consisted of:

	2014	2013
2.80% notes due 2023	$1,749	$1,749
5.00% notes due 2019	1,291	1,293
4.15% notes due 2043	1,246	1,246
1.125% euro-denominated notes due 2021	1,218	—
1.875% euro-denominated notes due 2026	1,210	—
3.875% notes due 2021	1,150	1,148
2.40% notes due 2022	1,000	1,000
Floating-rate borrowing due 2018	1,000	1,000
1.10% notes due 2018	999	998
0.70% notes due 2016	998	997
1.30% notes due 2018	984	975
2.25% notes due 2016	858	866
6.50% notes due 2033	812	1,306
2.50% euro-denominated notes due 2034	603	—
6.55% notes due 2037	597	1,143
Floating-rate borrowing due 2016	500	500
3.60% notes due 2042	493	492
5.85% notes due 2039	418	749
5.75% notes due 2036	371	498
5.95% debentures due 2028	356	498
6.40% debentures due 2028	326	499
6.30% debentures due 2026	152	249
6.00% notes due 2017	—	1,095
4.00% notes due 2015	—	1,029
4.75% notes due 2015	—	1,023
Other	368	186
	$18,699	$20,539

Other (as presented in the table above) included $309 million and $119 million at December 31, 2014 and 2013, respectively, of borrowings at variable rates averaging 0.0% for 2014 and 2013. Other also included foreign borrowings of $53 million and $64 million at December 31, 2014 and 2013, respectively, at varying rates up to 6.25% and 4.50%, respectively.

With the exception of the 6.30% debentures due 2026, the notes listed in the table above are redeemable in whole or in part, at Merck’s option at any time, at varying redemption prices.

In October 2014, the Company issued euro-denominated senior unsecured notes consisting of €1.0 billion principal amount of 1.125% notes due 2021, €1.0 billion principal amount of 1.875% notes due 2026 and €500 million principal amount of 2.5% notes due 2034. Interest on the notes is payable annually. The notes of each series are redeemable in whole or in part at any time at the Company’s option at varying redemption prices. The net proceeds of the offering of $3.1 billion were used in part to repay debt that was validly tendered in connection with tender offers launched by the Company for certain outstanding notes and debentures. The Company paid $2.5 billion in aggregate consideration (applicable purchase price together with accrued interest) to redeem $1.8 billion principal amount of debt. In addition, in November 2014, Merck redeemed its $1.0 billion 4.00% notes due 2015 and its $1.0 billion 6.00% notes due 2017. The Company recorded a pretax loss of $628 million in 2014 in connection with these transactions.

In February 2015, Merck issued $8.0 billion aggregate principal amount of senior unsecured notes consisting of $300 million principal amount of floating rate notes due 2017, $700 million principal amount of floating rate notes due 2020, $1.25 billion principal amount of 1.85% notes due 2020, $1.25 billion aggregate principal amount of 2.35% notes due 2022, $2.5 billion aggregate principal amount of 2.75% notes due 2025 and $2.0 billion aggregate principal amount of 3.70% notes due 2045. The Company used a substantial portion of the net proceeds of the offering to repay

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commercial paper issued to substantially finance the Company's acquisition of Cubist. Any remaining net proceeds will be used for general corporate purposes, including without limitation repurchases of the Company's common stock, and the repayment of outstanding commercial paper borrowings and upcoming debt maturities.

In December 2014, the Company entered into a bridge loan agreement with certain banks pursuant to which the Company had the ability to borrow up to $8.0 billion for the purpose of obtaining short-term financing for the acquisition of Cubist. The Company did not borrow any funds under the bridge loan and, after issuing $8.0 billion of senior unsecured notes as discussed above, terminated the bridge loan on February 20, 2015.

Effective as of November 3, 2009, the Company executed a full and unconditional guarantee of the then existing debt of its subsidiary Merck Sharp & Dohme Corp. ("MSD") and MSD executed a full and unconditional guarantee of the then existing debt of the Company (excluding commercial paper), including for payments of principal and interest. These guarantees do not extend to debt issued subsequent to that date.

Certain of the Company's borrowings require that Merck comply with financial covenants including a requirement that the Total Debt to Capitalization Ratio (as defined in the applicable agreements) not exceed 60%. At December 31, 2014, the Company was in compliance with these covenants.

The aggregate maturities of long-term debt for each of the next five years are as follows: 2015, $1.0 billion; 2016, $2.4 billion; 2017, $19 million; 2018, $3.0 billion; 2019, $1.3 billion. These amounts do not reflect debt maturities related to the Company's February 2015 debt issuance described above.

In August 2014, the Company terminated its existing credit facility and entered into a new $6.0 billion, five-year credit facility that matures in August 2019. The facility provides backup liquidity for the Company's commercial paper borrowing facility and is to be used for general corporate purposes. The Company has not drawn funding from this facility.

Rental expense under operating leases, net of sublease income, was $350 million in 2014, $367 million in 2013 and $396 million in 2012. The minimum aggregate rental commitments under noncancellable leases are as follows: 2015, $232 million; 2016, $122 million; 2017, $92 million; 2018, $55 million; 2019, $46 million and thereafter, $97 million. The Company has no significant capital leases.

10. 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 certain additional matters including environmental matters. Except for the Vioxx Litigation (as defined below) for which a separate assessment is provided in this Note, in the opinion of the Company, it is unlikely that the resolution of these matters will be material to the Company's financial position, results of operations or cash flows.

Given the nature of the litigation discussed below, including the Vioxx Litigation, and the complexities involved in these matters, the Company is unable to reasonably estimate a possible loss or range of possible loss for such matters until the Company knows, among other factors, (i) what claims, if any, will survive dispositive motion practice, (ii) the extent of the claims, including the size of any potential class, particularly when damages are not specified or are indeterminate, (iii) how the discovery process will affect the litigation, (iv) the settlement posture of the other parties to the litigation and (v) any other factors that may have a material effect on the litigation.

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.

The Company's decision to obtain insurance coverage is dependent on market conditions, including cost and availability, existing at the time such decisions are made. The Company has evaluated its risks and has determined that the cost of obtaining product liability insurance outweighs the likely benefits of the coverage that is available and, as such, has no insurance for certain product liabilities effective August 1, 2004.

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Vioxx Litigation

Product Liability Lawsuits

As previously disclosed, Merck is a defendant in approximately 25 active federal and state lawsuits (the "Vioxx Product Liability Lawsuits") alleging personal injury as a result of the use of Vioxx. Most of these cases are coordinated in a multidistrict litigation in the U.S. District Court for the Eastern District of Louisiana (the "Vioxx MDL") before Judge Eldon E. Fallon.

As previously disclosed, Merck is also a defendant in approximately 30 putative class action lawsuits alleging economic injury as a result of the purchase of Vioxx. All but one of those cases are in the Vioxx MDL. Merck has reached a resolution, approved by Judge Fallon, of these class actions in the Vioxx MDL. Under the settlement, Merck will pay up to $23 million to pay all properly documented claims submitted by class members, approved attorneys' fees and expenses, and approved settlement notice costs and certain other administrative expenses. The court entered an order approving the settlement in January 2014.

Merck is also a defendant in lawsuits brought by state Attorneys General of three states — Alaska, Montana and Utah. These actions were pending in the Vioxx MDL proceeding, but on October 10, 2014, the Judicial Panel on Multidistrict Litigation ("JPML") issued an order remanding the actions back to their original federal courts. These actions allege that Merck misrepresented the safety of Vioxx and seek recovery for expenditures on Vioxx by government-funded health care programs, such as Medicaid, and/or penalties for alleged Consumer Fraud Act violations. On February 6, 2015, the federal district judge in Anchorage remanded the Alaska lawsuit to state court. The Montana Attorney General has filed a renewed motion to remand its case from the federal district court to Montana state court, but the motion has not yet been decided.

Shareholder Lawsuits

As previously disclosed, in addition to the Vioxx Product Liability Lawsuits, various putative class actions and individual lawsuits under federal securities laws and state laws have been filed against Merck and various current and former officers and directors (the "Vioxx Securities Lawsuits"). The Vioxx Securities Lawsuits are coordinated in a multidistrict litigation in the U.S. District Court for the District of New Jersey before Judge Stanley R. Chesler, and have been consolidated for all purposes. In August 2011, Judge Chesler granted in part and denied in part Merck's motion to dismiss the Fifth Amended Class Action Complaint in the consolidated securities action. Among other things, the claims based on statements made on or after the voluntary withdrawal of Vioxx on September 30, 2004, have been dismissed. In October 2011, defendants answered the Fifth Amended Class Action Complaint. In April 2012, plaintiffs filed a motion for class certification and, in January 2013, Judge Chesler granted that motion. In March 2013, plaintiffs filed a motion for leave to amend their complaint to add certain allegations to expand the class period. In May 2013, the court denied plaintiffs' motion for leave to amend their complaint to expand the class period, but granted plaintiffs' leave to amend their complaint to add certain allegations within the existing class period. In June 2013, plaintiffs filed their Sixth Amended Class Action Complaint. In July 2013, defendants answered the Sixth Amended Class Action Complaint. Discovery has been completed and is now closed. Dispositive motions have been fully briefed.

As previously disclosed, several individual securities lawsuits filed by foreign institutional investors also are consolidated with the Vioxx Securities Lawsuits. In October 2011, plaintiffs filed amended complaints in each of the pending individual securities lawsuits. Also in October 2011, an individual securities lawsuit (the "KBC Lawsuit," together with the prior individual actions, the "Direct Actions") was filed in the District of New Jersey by several foreign institutional investors; that case is also consolidated with the Vioxx Securities Lawsuits. In January 2012, defendants filed motions to dismiss in one of the individual lawsuits (the "ABP Lawsuit"). Briefing on the motions to dismiss was completed in March 2012. In August 2012, Judge Chesler granted in part and denied in part the motions to dismiss the ABP Lawsuit. Among other things, certain alleged misstatements and omissions were dismissed as inactionable and all state law claims were dismissed in full. In September 2012, defendants answered the complaints in all of the Direct Actions other than the KBC Lawsuit; on the same day, defendants moved to dismiss the complaint in the KBC Lawsuit on statute of limitations grounds. In December 2012, Judge Chesler denied the motion to dismiss the KBC Lawsuit and, in January 2013, defendants answered the complaint in the KBC Lawsuit. Discovery has been

completed in the Direct Actions and is now closed. Dispositive motions have been fully briefed in the Direct Actions. Between March 2014 and February 2015, six additional individual securities complaints were filed by institutional investors that opted out of the class action referred to above. The new complaints are substantially similar to the complaints in the Direct Actions and are consolidated with the Vioxx Securities Lawsuits.

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Insurance

The Company has Directors and Officers insurance coverage applicable to the Vioxx Securities Lawsuits with remaining stated upper limits of approximately $145 million. As a result of the previously disclosed insurance arbitration, additional insurance coverage for these claims should also be available, if needed, under upper-level excess policies that provide coverage for a variety of risks. There are disputes with the insurers about the availability of some or all of the Company's insurance coverage for these claims and there are likely to be additional disputes. The amounts actually recovered under the policies discussed in this paragraph may be less than the stated upper limits.

International Lawsuits

As previously disclosed, in addition to the lawsuits discussed above, Merck has been named as a defendant in litigation relating to Vioxx in Brazil, Canada, Europe and Israel (collectively, the "Vioxx International Lawsuits"). As previously disclosed, the Company has entered into an agreement to resolve all claims related to Vioxx in Canada pursuant to which the Company will pay a minimum of approximately $21 million but not more than an aggregate maximum of approximately $36 million. The agreement has been approved by courts in Canada's provinces.

Reserves

The Company believes that it has meritorious defenses to the remaining Vioxx Product Liability Lawsuits, Vioxx Securities Lawsuits and Vioxx International Lawsuits (collectively, the "Vioxx Litigation") and will vigorously defend against them. In view of the inherent difficulty of predicting the outcome of litigation, particularly where there are many claimants and the claimants seek indeterminate damages, the Company is unable to predict the outcome of these matters and, at this time, cannot reasonably estimate the possible loss or range of loss with respect to the remaining Vioxx Litigation. The Company has established a reserve with respect to the Canadian settlement, certain other Vioxx Product Liability Lawsuits and other immaterial settlements related to certain Vioxx International Lawsuits. The Company also has an immaterial remaining reserve relating to the previously disclosed Vioxx investigation for the non-participating states with which litigation is continuing. The Company has established no other liability reserves with respect to the Vioxx Litigation. Unfavorable outcomes in the Vioxx Litigation could have a material adverse effect on the Company's financial position, liquidity and results of operations.

Other Product Liability Litigation

Fosamax

As previously disclosed, Merck is a defendant in product liability lawsuits in the United States involving Fosamax (the "Fosamax Litigation"). As of December 31, 2014, approximately 5,575 cases, which include approximately 5,805 plaintiff groups, had been filed and were pending against Merck in either federal or state court, including one case which seeks class action certification, as well as damages and/or medical monitoring. In approximately 1,015 of these actions, plaintiffs allege, among other things, that they have suffered osteonecrosis of the jaw ("ONJ"), generally subsequent to invasive dental procedures, such as tooth extraction or dental implants and/or delayed healing, in association with the use of Fosamax; however, substantially all of those actions are subject to the settlement discussed below. In addition, plaintiffs in approximately 4,560 of these actions generally allege that they sustained femur fractures and/or other bone injuries ("Femur Fractures") in association with the use of Fosamax.

Cases Alleging ONJ and/or Other Jaw Related Injuries

In August 2006, the JPML ordered that certain Fosamax product liability cases pending in federal courts nationwide should be transferred and consolidated into one multidistrict litigation (the "Fosamax ONJ MDL") for coordinated pre-trial proceedings.

In December 2013, Merck reached an agreement in principle with the Plaintiffs' Steering Committee ("PSC") in the Fosamax ONJ MDL to resolve pending ONJ cases not on appeal in the Fosamax ONJ MDL and in the state courts for an aggregate amount of $27.7 million. Merck and the PSC subsequently formalized the terms of this agreement in a Master Settlement Agreement ("ONJ Master Settlement Agreement") that was executed in April 2014. As a condition to

the settlement, 100% of the state and federal ONJ plaintiffs had to agree to participate in the settlement plan or Merck could either terminate the ONJ Master Settlement Agreement, or waive the 100% participation requirement and agree to a lesser funding amount for the settlement fund. On July 14, 2014, Merck elected to proceed with the ONJ Master

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Settlement Agreement at a reduced funding level since the current participation level is approximately 95%. In addition, the judge overseeing the Fosamax ONJ MDL granted a motion filed by Merck and has entered an order that requires the approximately 30 non-participants whose cases remain in the Fosamax ONJ MDL to submit expert reports in order for their cases to proceed any further. The ONJ Master Settlement Agreement has no effect on the cases alleging Femur Fractures discussed below.

Cases Alleging Femur Fractures

In March 2011, Merck submitted a Motion to Transfer to the JPML seeking to have all federal cases alleging Femur Fractures consolidated into one multidistrict litigation for coordinated pre-trial proceedings. The Motion to Transfer was granted in May 2011, and all federal cases involving allegations of Femur Fracture have been or will be transferred to a multidistrict litigation in the District of New Jersey (the "Fosamax Femur Fracture MDL"). As a result of the JPML order, approximately 1,035 cases were pending in the Fosamax Femur Fracture MDL as of December 31, 2014. A Case Management Order was entered requiring the parties to review 33 cases. Judge Joel Pisano selected four cases from that group to be tried as the initial bellwether cases in the Fosamax Femur Fracture MDL. The first bellwether case, Glynn v. Merck, began on April 8, 2013, and the jury returned a verdict in Merck's favor on April 29, 2013; in addition, on June 27, 2013, Judge Pisano granted Merck's motion for judgment as a matter of law in the Glynn case and held that the plaintiff's failure to warn claim was preempted by federal law.

In addition, Judge Pisano entered an order in August 2013 requiring plaintiffs in the Fosamax Femur Fracture MDL to show cause why those cases asserting claims for a femur fracture injury that took place prior to September 14, 2010, should not be dismissed based on the court's preemption decision in the Glynn case. A hearing on the show cause order was held in January 2014 and, on March 26, 2014, Judge Pisano issued an opinion finding that all claims of the approximately 650 plaintiffs who allegedly suffered injuries prior to September 14, 2010, were preempted and ordered that those cases be dismissed. The majority of those plaintiffs are appealing that ruling to the U.S. Court of Appeals for the Third Circuit. Furthermore, on June 17, 2014, Judge Pisano granted Merck summary judgment in the Gaynor v. Merck case and found that Merck's updates in January 2011 to the Fosamax label regarding atypical femur fractures were adequate as a matter of law and that Merck adequately communicated those changes. The plaintiffs in Gaynor have appealed Judge Pisano's decision to the Third Circuit. In August 2014, Merck filed a motion requesting that Judge Pisano enter a further order requiring all remaining plaintiffs in the Fosamax Femur Fracture MDL who claim that the 2011 Fosamax label is inadequate and the proximate cause of their alleged injuries to show cause why their cases should not be dismissed based on the court's preemption decision and its ruling in the Gaynor case. Plaintiffs opposed that motion and asked the court to stay the remaining cases in the Fosamax Femur Fracture MDL until the Third Circuit rules on their appeal of Judge Pisano's preemption decision, but Judge Pisano granted Merck's motion and entered the requested show cause order in November 2014. In September 2014, Judge Pisano also ordered the parties to participate in a mediation process.

As of December 31, 2014, approximately 3,005 cases alleging Femur Fractures have been filed in New Jersey state court and are pending before Judge Jessica Mayer in Middlesex County. The parties selected an initial group of 30 cases to be reviewed through fact discovery. Two additional groups of 50 cases each to be reviewed through fact discovery were selected in November 2013 and March 2014, respectively.

As of December 31, 2014, approximately 515 cases alleging Femur Fractures have been filed in California state court. A petition was filed seeking to coordinate all Femur Fracture cases filed in California state court before a single judge in Orange County, California. The petition was granted and Judge Thierry Colaw is currently presiding over the coordinated proceedings. In March 2014, the court directed that a group of 10 discovery pool cases be reviewed through fact discovery and subsequently scheduled the Galper v. Merck case as the first trial for February 2015. Two additional trials are scheduled for May and July 2015.

Additionally, there are four Femur Fracture cases pending in other state courts.

Discovery is ongoing in the Fosamax Femur Fracture MDL and in state courts where Femur Fracture cases are pending and the Company intends to defend against these lawsuits.

Januvia/Janumet

As previously disclosed, Merck is a defendant in product liability lawsuits in the United States involving Januvia and/or Janumet. As of December 31, 2014, approximately 785 product user claims were served on, and are

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pending against, Merck alleging generally that use of Januvia and/or Janumet caused the development of pancreatic cancer. These complaints were filed in several different state and federal courts. Most of the claims are pending in a consolidated multidistrict litigation proceeding in the U.S. District Court for the Southern District of California called "In re Incretin-Based Therapies Products Liability Litigation." That proceeding includes federal lawsuits alleging pancreatic cancer due to use of the following medicines: Januvia, Janumet, Byetta and Victoza, the latter two of which are products manufactured by other pharmaceutical companies. In addition to the cases noted above, the Company has agreed, as of December 31, 2014, to toll the statute of limitations for 19 additional claims. The Company intends to defend against these lawsuits.

NuvaRing

As previously disclosed, beginning in May 2007, a number of complaints were filed in various jurisdictions asserting claims against the Company's subsidiaries Organon USA, Inc., Organon Pharmaceuticals USA, Inc., Organon International (collectively, "Organon"), and the Company arising from Organon's marketing and sale of NuvaRing (the "NuvaRing Litigation"), a combined hormonal contraceptive vaginal ring. The plaintiffs contend that Organon and Schering-Plough, among other things, failed to adequately design and manufacture NuvaRing and failed to adequately warn of the alleged increased risk of venous thromboembolism ("VTE") posed by NuvaRing, and/or downplayed the risk of VTE. The plaintiffs seek damages for injuries allegedly sustained from their product use, including some alleged deaths, heart attacks and strokes. The majority of the cases are currently pending in a federal multidistrict litigation (the "NuvaRing MDL") venued in Missouri and in a coordinated proceeding in New Jersey state court. Pursuant to a settlement agreement between Merck and negotiating plaintiffs' counsel, which became effective as of June 4, 2014, Merck paid a lump total settlement of $100 million to resolve more than 95% of the cases filed and under retainer by counsel as of February 7, 2014. Plaintiffs in 1,868 cases have joined the settlement program. Those cases will be dismissed with prejudice once the settlement administration process is completed. The Company expects the first dismissals to begin in the second quarter and continue on a rolling basis throughout 2015. The Company has certain insurance coverage available to it, which is currently being used to partially fund the Company's legal fees. This insurance coverage has also been used to fund the settlement.

As of December 31, 2014, approximately 80 cases outside of the settlement program remained. Any plaintiff not participating in the settlement who chooses to proceed with their case, as well as any future plaintiffs, in the NuvaRing MDL or New Jersey state court are and will be obligated to meet various discovery and evidentiary requirements under the case management orders of the NuvaRing MDL and New Jersey state court. Plaintiffs who fail to fully and timely satisfy these requirements under set deadlines will be subject to an Order to Show Cause why their case should not be dismissed with prejudice.

Propecia/Proscar

As previously disclosed, Merck is a defendant in product liability lawsuits in the United States involving Propecia and/or Proscar. As of December 31, 2014, approximately 1,235 lawsuits involving a total of approximately 1,500 plaintiffs (in a few instances spouses are joined as plaintiffs in the suits) who allege that they have experienced persistent sexual side effects following cessation of treatment with Propecia and/or Proscar have been filed against Merck. Approximately 50 of the plaintiffs also allege that Propecia or Proscar has caused or can cause prostate cancer or male breast cancer. The lawsuits have been filed in various federal courts and in state court in New Jersey. The federal lawsuits have been consolidated for pretrial purposes in a federal multidistrict litigation before Judge John Gleeson of the Eastern District of New York. The matters pending in state court in New Jersey have been consolidated before Judge Jessica Mayer in Middlesex County. The Company intends to defend against these lawsuits.

Governmental Proceedings

As previously disclosed, on June 21, 2012, the U.S. District Court for the Eastern District of Pennsylvania unsealed a complaint that has been filed against the Company under the federal False Claims Act by two former employees alleging, among other things, that the Company defrauded the U.S. government by falsifying data in connection with a clinical study conducted on the mumps component of the Company's M-M-R II vaccine. The complaint alleges the

fraud took place between 1999 and 2001. The U.S. government had the right to participate in and take over the prosecution of this lawsuit, but has notified the court that it declined to exercise that right. The two former employees are pursuing the lawsuit without the involvement of the U.S. government. In addition, two putative class action lawsuits

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on behalf of direct purchasers of the M M R II vaccine which charge that the Company misrepresented the efficacy of the M-M-R II vaccine in violation of federal antitrust laws and various state consumer protection laws are pending in the Eastern District of Pennsylvania. On September 4, 2014, the Court denied Merck's motion to dismiss the False Claims Act suit and granted in part and denied in part its motion to dismiss the then-pending antitrust suit. As a result, both the False Claims Act suit and the antitrust suits will now proceed into discovery. The Company intends to defend against these lawsuits.

As previously disclosed, the Company has received a subpoena from the Office of Inspector General of the U.S. Department of Health and Human Services on behalf of the U.S. Attorney's Office for the District of Maryland and the Civil Division of the U.S. Department of Justice (the "DOJ") which requests information relating to the Company's marketing of Singulair and Dulera Inhalation Aerosol and certain of its other marketing activities from January 1, 2006 to the present. The Company is cooperating with the government.

Prior to the Company's acquisition of Cubist, Cubist acquired Optimer Pharmaceuticals, Inc. ("Optimer"). As previously disclosed by Cubist, prior to its acquisition of Optimer, Optimer became aware of an attempted share grant in September 2011 by Optimer's then-subsidiary, OBI Pharma, Inc. and certain related matters, including a potentially improper $300 thousand payment to a research laboratory in July 2011 involving an individual associated with the share grant, that may have violated certain applicable laws, including the U.S. Foreign Corrupt Practices Act. In April 2012, Optimer self-reported the results of its preliminary findings to the U.S. Securities and Exchange Commission (the "SEC") and the DOJ, terminated its then-Chief Financial Officer and then-Vice President, Clinical Development, and removed the Chairman of its Board of Directors. In February 2013, the independent members of Optimer's Board of Directors determined that additional remedial action should be taken in light of prior compliance, record keeping and conflict-of-interest issues surrounding the potentially improper payment to the research laboratory and certain related matters. On February 26, 2013, Optimer's then-President and Chief Executive Officer and its then-General Counsel and Chief Compliance Officer resigned at the request of the independent members of the Board of Directors. The Company is continuing to cooperate with the investigations by the relevant U.S. authorities in their review of these matters, and Optimer had taken remedial steps in response to its internal investigation prior to the Cubist acquisition. Nonetheless, these events could result in lawsuits being filed against Optimer and certain of Optimer's former employees and directors. The Company may be required to indemnify such persons for any costs or losses incurred in connection with such proceedings. The Company cannot predict the ultimate resolution of these matters, whether Optimer or such persons will be charged with violations of applicable civil or criminal laws or whether the scope of the investigations will be extended to new issues. The Company also cannot predict what potential penalties or other remedies, if any, the authorities may seek or what the collateral consequences may be of any such government actions.

As previously disclosed, the Company has received letters from the DOJ and the SEC that seek information about activities in a number of countries and reference the Foreign Corrupt Practices Act. The Company has cooperated with the agencies in their requests and believes that this inquiry is part of a broader review of pharmaceutical industry practices in foreign countries. As previously disclosed, the Company has been advised by the DOJ that, based on the information that it has received, it has closed its inquiry into this matter as it relates to the Company. In the future, the Company may receive additional requests for information from either or both of the DOJ and the SEC.

As previously disclosed, the Company's subsidiaries in China have received and may continue to receive inquiries regarding their operations from various Chinese governmental agencies. Some of these inquiries may be related to matters involving other multinational pharmaceutical companies, as well as Chinese entities doing business with such companies. The Company's policy is to cooperate with these authorities and to provide responses as appropriate.

Commercial Litigation

AWP Litigation

As previously disclosed, in the past, the Company and/or certain of its subsidiaries have been named as defendants in cases brought by various states alleging manipulation by pharmaceutical manufacturers of Average Wholesale Prices ("AWP"), which are sometimes used by public and private payors in calculating provider reimbursement levels. In 2014, the Company settled the remaining AWP cases in which it or a subsidiary was a defendant.

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K-DUR Antitrust Litigation

As previously disclosed, in June 1997 and January 1998, Schering-Plough settled patent litigation with Upsher-Smith, Inc. ("Upsher-Smith") and ESI Lederle, Inc. ("Lederle"), respectively, relating to generic versions of K-DUR, Schering-Plough's long-acting potassium chloride product supplement used by cardiac patients, for which Lederle and Upsher-Smith had filed Abbreviated New Drug Applications ("ANDAs"). Following the commencement of an administrative proceeding by the U.S. Federal Trade Commission (the "FTC") in 2001 alleging anti-competitive effects from those settlements (which has been resolved in Schering-Plough's favor), putative class and non-class action suits were filed on behalf of direct and indirect purchasers of K-DUR against Schering-Plough, Upsher-Smith and Lederle and were consolidated in a multi-district litigation in the U.S. District Court for the District of New Jersey. These suits claimed violations of federal and state antitrust laws, as well as other state statutory and common law causes of action, and sought unspecified damages. In April 2008, the indirect purchasers voluntarily dismissed their case. In March 2010, the District Court granted summary judgment to the defendants on the remaining lawsuits and dismissed the matter in its entirety. In July 2012, the Third Circuit Court of Appeals reversed the District Court's grant of summary judgment and remanded the case for further proceedings. At the same time, the Third Circuit upheld a December 2008 decision by the District Court to certify certain direct purchaser plaintiffs' claims as a class action.

In August 2012, the Company filed a petition for certiorari with the U.S. Supreme Court seeking review of the Third Circuit's decision. In June 2013, the Supreme Court granted that petition, vacated the judgment of the Third Circuit, and remanded the case for further consideration in light of its recent decision in FTC v. Actavis, Inc. That decision held that whether a so-called "reverse payment" — i.e., a payment from the holder of a pharmaceutical patent to a party challenging the patent made in connection with a settlement of their dispute — violates the antitrust laws should be determined on the basis of a "rule of reason" analysis. In September 2013, the Third Circuit returned the case to the District Court for further proceedings in accordance with the Actavis standard.

Sales Force Litigation

As previously disclosed, in May 2013, Ms. Kelli Smith filed a complaint against the Company in the United States District Court for the District of New Jersey of behalf of herself and a putative class of female sales representatives and a putative sub-class of female sales representatives with children, claiming (a) discriminatory policies and practices in selection, promotion and advancement, (b) disparate pay, (c) differential treatment, (d) hostile work environment and (e) retaliation under federal and state discrimination laws. In November 2013, the Company filed a motion to dismiss the class claims. Plaintiffs sought and were granted leave to file an amended complaint. In January 2014, plaintiffs filed an amended complaint adding four additional named plaintiffs. On October 8, 2014, the court denied the Company's motion to dismiss or strike the class claims as premature.

Patent Litigation

From time to time, generic manufacturers of pharmaceutical products file ANDAs with the FDA seeking to market generic forms of the Company's products prior to the expiration of relevant patents owned by the Company. To protect its patent rights, the Company may file patent infringement lawsuits against such generic companies. Certain products of the Company (or products marketed via agreements with other companies) currently involved in such patent infringement litigation in the United States include: Cancidas, Cubicin, Emend for Injection, Invanz, Nasonex, and NuvaRing. Similar lawsuits defending the Company's patent rights may exist in other countries. The Company intends to vigorously defend its patents, which it believes are valid, against infringement by generic companies attempting to market products prior to the expiration of such patents. As with any litigation, there can be no assurance of the outcomes, which, if adverse, could result in significantly shortened periods of exclusivity for these products and, with respect to products acquired through mergers and acquisitions, potentially significant intangible asset impairment charges.

Cancidas — In February 2014, a patent infringement lawsuit was filed in the United States against Xellia Pharmaceuticals ApS ("Xellia") with respect to Xellia's application to the FDA seeking pre-patent expiry approval to market a generic version of Cancidas. The lawsuit automatically stays FDA approval of Xellia's application until July 2016 or until an adverse court decision, if any, whichever may occur earlier. In August 2014, a patent infringement

lawsuit was filed in the United States against Fresenius Kabi USA, LLC ("Fresenius") in respect of Fresenius's application to the FDA seeking pre-patent expiry approval to market a generic version of Cancidas. The lawsuit automatically stays FDA approval of Fresenius's application until December 2016 or until an adverse court decision, if any, whichever may occur earlier.

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Cubicin — In March 2012, a patent infringement lawsuit was filed in the United States against Hospira, Inc. ("Hospira"), with respect to Hospira's application to the FDA seeking pre-patent expiry approval to market a generic version of Cubicin. A trial was held in February 2014, and in December 2014 the district court found the composition patent, which expires in June 2016, to be valid and infringed. Later patents, expiring in September 2019 and November 2020, were found to be invalid. Hospira has appealed the finding that the composition patent is not invalid and the Company has cross-appealed the finding that the later patents are invalid. If the decision is upheld on appeal, Hospira's application will not be approved until at least June 2016.

In October 2013, a patent infringement lawsuit was filed in the United States against Strides, Inc. and Agila Specialties Private Limited ("Strides/Agila"), with respect to Strides/Agila's application to the FDA seeking pre-patent expiry approval to market a generic version of Cubicin. The lawsuit automatically stays FDA approval of Strides/Agila's application until February 2016 or until an adverse court decision, if any, whichever may occur earlier. If the Hospira decision is upheld on appeal, Strides/Agila's application will not be approved until at least June 2016.

In July 2014, a patent infringement lawsuit was filed in the United States against Fresenius Kabi USA, LLC. ("Fresenius"), with respect to Fresenius's application to the FDA seeking pre-patent expiry approval to market a generic version of Cubicin. The lawsuit automatically stays FDA approval of Fresenius's application until November 2016 or until an adverse court decision, if any, whichever may occur earlier. If the Hospira decision is upheld on appeal, Fresenius's application will not be approved until at least June 2016.

An earlier district court action against Teva Parenteral Medicines Inc., Teva Pharmaceuticals USA, Inc. and Teva Pharmaceutical Industries Ltd. (collectively, "Teva") resulted in a settlement whereby Teva can launch in December 2017 (June 2018 if the Company obtains pediatric marketing exclusivity on Cubicin). If the Hospira decision is upheld on appeal, Teva will be able to launch in June 2016.

In October 2014, Agila Specialties Inc. and Mylan Pharmaceuticals Inc. filed petitions for Inter Partes Review ("IPR") at the United States Patent and Trademark Office ("USPTO") seeking the invalidity of the September 2019 and November 2020 patents. In November 2014, Fresenius filed petitions for IPR at the USPTO seeking the invalidity of the September 2019 patents. The USPTO has six months from filing to determine whether it will institute the requested IPR proceedings.

Emend for Injection — In May 2012, a patent infringement lawsuit was filed in the United States against Sandoz Inc. ("Sandoz") in respect of Sandoz's application to the FDA seeking pre-patent expiry approval to market a generic version of Emend for Injection. The lawsuit automatically stays FDA approval of Sandoz's application until July 2015 or until an adverse court decision, if any, whichever may occur earlier. In June 2012, a patent infringement lawsuit was filed in the United States against Accord Healthcare, Inc. US, Accord Healthcare, Inc. and Intas Pharmaceuticals Ltd (collectively, "Intas") in respect of Intas' application to the FDA seeking pre-patent expiry approval to market a generic version of Emend for Injection. The Company has agreed with Intas to stay the lawsuit pending the outcome of the lawsuit with Sandoz. In July 2014, a patent infringement lawsuit was filed in the United States against Fresenius in respect of Fresenius's application to the FDA seeking pre-patent expiry approval to market a generic version of Emend for Injection. The lawsuit automatically stays FDA approval of Fresenius's application until November 2016 or until an adverse court decision, if any, whichever may occur earlier. In December 2014, Apotex Inc. filed a petition for IPR at the USPTO seeking the invalidity of claims in the compound patent covering Emend for Injection. The USPTO has six months to determine whether it will institute the requested IPR proceedings.

Invanz — In July 2014, a patent infringement lawsuit was filed in the United States against Hospira in respect of Hospira's application to the FDA seeking pre-patent expiry approval to market a generic version of Invanz. The lawsuit automatically stays FDA approval of Hospira's application until November 2016 or until an adverse court decision, if any, whichever may occur earlier. Also in July 2014, a patent infringement lawsuit was filed in the United States against Sandoz in respect to Sandoz's application to the FDA seeking pre-patent approval to market a generic version of Invanz. As neither Hospira nor Sandoz challenged an earlier patent covering Invanz, both parties' application to the FDA will not be approved until at least that patent expires in May 2016.

Nasonex — In July 2014, a patent infringement lawsuit was filed in the United States against Teva Pharmaceuticals USA, Inc. ("Teva Pharma") in respect of Teva Pharma's application to the FDA seeking pre-patent expiry approval to market a generic version of Nasonex. The lawsuit automatically stays FDA approval of Teva Pharma's application

until November 2016 or until an adverse court decision, if any, whichever may occur earlier. A decision

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issued in June 2013 held that the same Merck patent covering mometasone furoate monohydrate was valid, but that it was not infringed by Apotex Corp.'s proposed product.

NuvaRing — In December 2013, the Company filed a lawsuit against a subsidiary of Actavis plc in the United States in respect of that company's application to the FDA seeking pre-patent expiry approval to sell a generic version of NuvaRing.

Anti-PD-1 Antibody Patent Oppositions and Litigation

As previously disclosed, Ono Pharmaceutical Co. ("Ono") has a European patent (EP 1 537 878) ("'878") that broadly claims the use of an anti-PD-1 antibody, such as the Company's immunotherapy, Keytruda, for the treatment of cancer. Ono has previously licensed its commercial rights to an anti-PD-1 antibody to Bristol-Myers Squibb ("BMS") in certain markets. The Company believes that the '878 patent is invalid and filed an opposition in the European Patent Office (the "EPO") seeking its revocation. In June 2014, the Opposition Division of the EPO found the claims in the '878 patent are valid. The Company received the Opposition Division's written opinion in September 2014 and the Company submitted its substantive appeal in February 2015. In April 2014, the Company, and three other companies, opposed another European patent (EP 2 161 336) ("'336") owned by BMS and Ono that it believes is invalid. The '336 patent, if valid, broadly claims anti-PD-1 antibodies that could include Keytruda. BMS and Ono recently submitted a request to amend the claims of the '336 patent. If the EPO allows this amendment, the claims of the '336 patent would no longer broadly claim anti-PD-1 antibodies such as Keytruda.

In May 2014, the Company filed a lawsuit in the United Kingdom ("UK") seeking revocation of the UK national versions of both the '878 and '336 patents. In July 2014, Ono and BMS sued the Company seeking a declaration that the '878 patent would be infringed in the UK by the marketing of Keytruda. The Company has sought a declaration from the UK court that Keytruda will not infringe the '336 patent in the UK. It is anticipated that the issues of validity and infringement of both patents will be heard at the same time by the UK court, which has scheduled the trial to begin in July 2015. BMS and Ono recently notified the Company of their request to amend the claims of the EPO '336 patent and of their intention to seek permission from the court to similarly amend the UK national version so that the claims of the '336 patent would no longer broadly claim anti-PD-1 antibodies such as Keytruda.

The Company can file lawsuits seeking revocation of the '336 and '878 patents in other national courts in Europe at any time, and Ono and BMS can file patent infringement actions against the Company in other national courts in Europe at or around the time the Company launches Keytruda (if approved). If a national court determines that the Company infringed a valid claim in the '878 or '336 patent, Ono and BMS may be entitled to monetary damages, including royalties on future sales of Keytruda, and potentially could seek an injunction to prevent the Company from marketing Keytruda in that country.

The USPTO granted US Patent Nos. 8,728,474 to Ono and 8,779,105 to Ono and BMS. These patents are equivalent to the '878 and '336 patents, respectively. In September 2014, BMS and Ono filed a lawsuit in the United States alleging that, by marketing Keytruda, the Company will infringe US Patent No. 8,728,474. BMS and Ono are not seeking to prevent or stop the marketing of Keytruda in the United States. The trial in this matter is currently scheduled to begin in November 2016. The Company believes that the 8,728,474 patent and the 8,779,105 patent are both invalid.

In September 2014, the Company filed a lawsuit in Australia seeking the revocation of Australian patent No. 2011203119, which is equivalent to the '336 patent.

Ono and BMS have similar and other patents and applications, which the Company is closely monitoring, pending in the United States, Japan and other countries.

The Company is confident that it will be able to market Keytruda in any country in which it is approved and that it will not be prevented from doing so by the Ono or BMS patents or any pending applications.

Other Litigation

There are various other pending legal proceedings involving the Company, principally product liability and intellectual property lawsuits. While it is not feasible to predict the outcome of such proceedings, in the opinion of the Company, either the likelihood of loss is remote or any reasonably possible loss associated with the resolution of such

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proceedings is not expected to be material to the Company’s financial position, results of operations or cash flows either individually or in the aggregate.

Legal Defense Reserves

Legal defense costs expected to be incurred in connection with a loss contingency are accrued when probable and reasonably estimable. Some of the significant factors considered in the review of these legal defense reserves are as follows: the actual costs incurred by the Company; the development of the Company’s legal defense strategy and structure in light of the scope of its litigation; the number of cases being brought against the Company; the costs and outcomes of completed trials and the most current information regarding anticipated timing, progression, and related costs of pre-trial activities and trials in the associated litigation. The amount of legal defense reserves as of December 31, 2014 and December 31, 2013 of approximately $215 million and $160 million, respectively, represents the Company’s best estimate of the minimum amount of defense costs to be incurred in connection with its outstanding litigation; however, events such as additional trials and other events that could arise in the course of its litigation could affect the ultimate amount of legal defense costs to be incurred by the Company. The Company will continue to monitor its legal defense costs and review the adequacy of the associated reserves and may determine to increase the reserves at any time in the future if, based upon the factors set forth, it believes it would be appropriate to do so.

Environmental Matters

Merck's facilities in Oss, the Netherlands, were inspected by the Province of Brabant (the “Province”) pursuant to the Dutch Hazards of Major Accidents Decree and the sites’ environmental permits. The Province issued penalties for alleged violations of regulations governing preventing and managing accidents with hazardous substances, and the government also issued a fine for alleged environmental violations at one of the Oss facilities, which together totaled $235 thousand. The Company was subsequently advised that a criminal investigation has been initiated based upon certain of the issues that formed the basis of the administrative enforcement action by the Province. The Company intends to defend itself against any enforcement action that may result from this investigation.

The Company and its subsidiaries are parties to a number of proceedings brought under the Comprehensive Environmental Response, Compensation and Liability Act, commonly known as Superfund, and other federal and state equivalents. These proceedings seek to require the operators of hazardous waste disposal facilities, transporters of waste to the sites and generators of hazardous waste disposed of at the sites to clean up the sites or to reimburse the government for cleanup costs. The Company has been made a party to these proceedings as an alleged generator of waste disposed of at the sites. In each case, the government alleges that the defendants are jointly and severally liable for the cleanup costs. Although joint and several liability is alleged, these proceedings are frequently resolved so that the allocation of cleanup costs among the parties more nearly reflects the relative contributions of the parties to the site situation. The Company’s potential liability varies greatly from site to site. For some sites the potential liability is de minimis and for others the final costs of cleanup have not yet been determined. While it is not feasible to predict the outcome of many of these proceedings brought by federal or state agencies or private litigants, in the opinion of the Company, such proceedings should not ultimately result in any liability which would have a material adverse effect on the financial position, results of operations, liquidity or capital resources of the Company. The Company has taken an active role in identifying and providing for these costs and such amounts do not include any reduction for anticipated recoveries of cleanup costs from former site owners or operators or other recalcitrant potentially responsible parties.

In management’s opinion, the liabilities for all environmental matters that are probable and reasonably estimable have been accrued and totaled $125 million and $213 million at December 31, 2014 and 2013, respectively. These liabilities are undiscounted, do not consider potential recoveries from 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 $66 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.

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11. Equity

The Merck certificate of incorporation authorizes 6,500,000,000 shares of common stock and 20,000,000 shares of preferred stock.

Capital Stock

A summary of common stock and treasury stock transactions (shares in millions) is as follows:

	2014		2013		2012	
	Common Stock	Treasury Stock	Common Stock	Treasury Stock	Common Stock	Treasury Stock
Balance January 1	3,577	650	3,577	550	3,577	536
Purchases of treasury stock [1]	—	134	—	139	—	62
Issuances [2]	—	(45)	—	(39)	—	(48)
Balance December 31	3,577	739	3,577	650	3,577	550

[1] Purchases of treasury stock in 2013 include 105 million shares purchased pursuant to an accelerated share repurchase agreement as discussed below.

[2] Issuances primarily reflect activity under share-based compensation plans.

In 2013, pursuant to an accelerated share repurchase (“ASR”) agreement with Goldman, Sachs & Co., the Company purchased 105 million shares of Merck common stock for $5.0 billion. The ASR was entered into pursuant to a share repurchase program announced on May 1, 2013.

Noncontrolling Interests

In connection with the 1998 restructuring of AMI, Merck assumed $2.4 billion par value preferred stock with a dividend rate of 5% per annum, which was carried by KBI and included in Noncontrolling interests at December 31, 2013. In 2014, AstraZeneca exercised its option to acquire Merck’s interest in AZLP (see Note 8) and this preferred stock obligation was retired.

12. Share-Based Compensation Plans

The Company has share-based compensation plans under which the Company grants restricted stock units (“RSUs”) and performance share units (“PSUs”) to certain management level employees. The Company also issues RSUs to employees of certain of the Company’s equity method investees. In addition, employees and non-employee directors may be granted options to purchase shares of Company common stock at the fair market value at the time of grant. These plans were approved by the Company’s shareholders.

At December 31, 2014, 139 million shares collectively were authorized for future grants under the Company’s share-based compensation plans. These awards are settled primarily with treasury shares.

Employee stock options are granted to purchase shares of Company stock at the fair market value at the time of grant. These awards generally vest one-third each year over a three-year period, with a contractual term of 7-10 years. RSUs are stock awards that are granted to employees and entitle the holder to shares of common stock as the awards vest. The fair value of the stock option and RSU awards is determined and fixed on the grant date based on the Company’s stock price. PSUs are stock awards where the ultimate number of shares issued will be contingent on the Company’s performance against a pre-set objective or set of objectives. The fair value of each PSU is determined on the date of grant based on the Company’s stock price. For RSUs and certain PSUs granted before December 31, 2009 employees participate in dividends on the same basis as common shares and such dividends are nonforfeitable by the holder. For RSUs and PSUs issued on or after January 1, 2010, dividends declared during the vesting period are payable to the employees only upon vesting. Over the PSU performance period, the number of shares of stock that are expected to be issued will be adjusted based on the probability of achievement of a performance target and final compensation expense will be recognized based on the ultimate number of shares issued. RSU and PSU distributions will be in shares of Company stock after the end of the vesting or performance period, generally three years, subject to the terms applicable to such awards.

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Total pretax share-based compensation cost recorded in 2014, 2013 and 2012 was $278 million, $276 million and $335 million, respectively, with related income tax benefits of $86 million, $84 million and $105 million, respectively.

The Company uses the Black-Scholes option pricing model for determining the fair value of option grants. In applying this model, the Company uses both historical data and current market data to estimate the fair value of its options. The Black-Scholes model requires several assumptions including expected dividend yield, risk-free interest rate, volatility, and term of the options. The expected dividend yield is based on historical patterns of dividend payments. The risk-free rate is based on the rate at grant date of zero-coupon U.S. Treasury Notes with a term equal to the expected term of the option. Expected volatility is estimated using a blend of historical and implied volatility. The historical component is based on historical monthly price changes. The implied volatility is obtained from market data on the Company's traded options. The expected life represents the amount of time that options granted are expected to be outstanding, based on historical and forecasted exercise behavior.

The weighted average exercise price of options granted in 2014, 2013 and 2012 was $58.14, $45.01 and $39.51 per option, respectively. The weighted average fair value of options granted in 2014, 2013 and 2012 was $6.79, $6.21 and $5.47 per option, respectively, and were determined using the following assumptions:

Years Ended December 31	2014	2013	2012
Expected dividend yield	4.3 %	4.2 %	4.4 %
Risk-free interest rate	2.0 %	1.2 %	1.3 %
Expected volatility	22.0 %	25.0 %	25.2 %
Expected life (years)	6.4	7.0	7.0

Summarized information relative to stock option plan activity (options in thousands) is as follows:

	Number of Options	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (Years)	Aggregate Intrinsic Value
Outstanding January 1, 2014	115,805	$38.75		
Granted	4,872	58.14		
Exercised	(39,293)	39.71		
Forfeited	(5,249)	45.28		
Outstanding December 31, 2014	76,135	$39.05	3.85	$1,358
Exercisable December 31, 2014	65,324	$37.56	3.21	$1,257

Additional information pertaining to stock option plans is provided in the table below:

Years Ended December 31	2014	2013	2012
Total intrinsic value of stock options exercised	$626	$374	$528
Fair value of stock options vested	35	42	80
Cash received from the exercise of stock options	1,560	1,210	1,310

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A summary of nonvested RSU and PSU activity (shares in thousands) is as follows:

	RSUs		PSUs	
	Number of Shares	Weighted Average Grant Date Fair Value	Number of Shares	Weighted Average Grant Date Fair Value
Nonvested January 1, 2014	19,134	$40.07	1,673	$35.98
Granted	4,776	58.13	1,224	62.94
Vested	(6,866)	36.36	(723)	33.97
Forfeited	(1,410)	46.22	(292)	45.49
Nonvested December 31, 2014	15,634	$46.66	1,882	$52.81

At December 31, 2014, there was $401 million of total pretax unrecognized compensation expense related to nonvested stock options, RSU and PSU awards which will be recognized over a weighted average period of 1.9 years. For segment reporting, share-based compensation costs are unallocated expenses.

13. Pension and Other Postretirement Benefit Plans

The Company has defined benefit pension plans covering eligible employees in the United States and in certain of its international subsidiaries. As a result of plan design changes approved in 2011, beginning on January 1, 2013, active participants in Merck's primary U.S. defined benefit pension plans are accruing pension benefits using new cash balance formulas based on age, service, pay and interest. However, during a transition period from January 1, 2013 through December 31, 2019, participants will earn the greater of the benefit as calculated under the employee's legacy final average pay formula or their new cash balance formula. For all years of service after December 31, 2019, participants will earn future benefits under only the cash balance formula. In addition, the Company provides medical benefits, principally to its eligible U.S. retirees and their dependents, through its other postretirement benefit plans. The Company uses December 31 as the year-end measurement date for all of its pension plans and other postretirement benefit plans.

Net Periodic Benefit Cost

The net periodic benefit cost for pension and other postretirement benefit plans consisted of the following components:

	Pension Benefits								
	U.S.			International			Other Postretirement Benefits		
Years Ended December 31	2014	2013	2012	2014	2013	2012	2014	2013	2012
Service cost	$300	$386	$324	$266	$296	$231	$78	$102	$82
Interest cost	425	402	401	269	263	260	115	107	121
Expected return on plan assets	(782)	(721)	(617)	(416)	(376)	(354)	(139)	(126)	(136)
Net amortization	74	251	149	59	85	36	(71)	(50)	(35)
Termination benefits	53	51	17	11	7	10	22	50	18
Curtailments	(69)	(22)	(11)	(4)	(1)	2	(39)	(11)	(7)
Settlements	11	1	5	6	22	13	—	—	—
Net periodic benefit cost (credit)	$12	$348	$268	$191	$296	$198	$(34)	$72	$43

The decrease in net periodic benefit cost for pension and other postretirement benefit plans in 2014 as compared with 2013 is largely attributable to a change in the discount rate.

In connection with restructuring actions (see Note 3), termination charges were recorded in 2014, 2013 and 2012 on pension and other postretirement benefit plans related to expanded eligibility for certain employees exiting Merck. Also, in connection with these restructuring activities, curtailments were recorded in 2014, 2013 and 2012 on pension and other postretirement benefit plans.

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In addition, settlements were recorded in 2014, 2013 and 2012 on certain U.S. and international pension plans.

Obligations and Funded Status

Summarized information about the changes in plan assets and benefit obligations, the funded status and the amounts recorded at December 31 is as follows:

	Pension Benefits				Other Postretirement Benefits	
	U.S.		International			
	2014	2013	2014	2013	2014	2013
Fair value of plan assets January 1	$10,007	$8,683	$7,428	$6,666	$1,913	$1,760
Actual return on plan assets	484	1,821	1,099	703	114	199
Company contributions	92	54	276	591	67	73
Effects of exchange rate changes	—	—	(816)	(84)	—	—
Benefits paid	(535)	(542)	(245)	(238)	(110)	(119)
Settlements	(64)	(9)	(31)	(227)	—	—
Other	—	—	13	17	—	—
Fair value of plan assets December 31	$9,984	$10,007	$7,724	$7,428	$1,984	$1,913
Benefit obligation January 1	8,666	9,961	7,389	7,685	2,329	2,650
Service cost	300	386	266	296	78	102
Interest cost	425	402	269	263	115	107
Actuarial losses (gains)	1,857	(1,565)	1,605	(124)	212	(428)
Benefits paid	(535)	(542)	(245)	(238)	(110)	(119)
Effects of exchange rate changes	—	—	(864)	(21)	(6)	(5)
Plan amendments	—	1	(4)	(226)	—	(38)
Curtailments	(70)	(19)	(76)	(42)	3	—
Termination benefits	53	51	11	7	22	50
Settlements	(64)	(9)	(31)	(227)	—	—
Other	—	—	11	16	(5)	10
Benefit obligation December 31	$10,632	$8,666	$8,331	$7,389	$2,638	$2,329
Funded status December 31	$(648)	$1,341	$(607)	$39	$(654)	$(416)
Recognized as:						
Other assets	$68	$2,106	$565	$705	$1	$—
Accrued and other current liabilities	(41)	(44)	(11)	(9)	(11)	(8)
Other noncurrent liabilities	(675)	(721)	(1,161)	(657)	(644)	(408)

At December 31, 2014 and 2013, the accumulated benefit obligation was $17.9 billion and $14.8 billion, respectively, for all pension plans, of which $10.1 billion and $8.0 billion, respectively, related to U.S. pension plans.

Actuarial losses in 2014 reflect a change in the discount rate and, for U.S. plans, also reflect an impact for the Company’s adoption of new retirement plan mortality assumptions issued by the Society of Actuaries in October 2014.

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Information related to the funded status of selected pension plans at December 31 is as follows:

	U.S.		International	
	2014	2013	2014	2013
Pension plans with a projected benefit obligation in excess of plan assets				
Projected benefit obligation	$3,963	$764	$5,513	$2,196
Fair value of plan assets	3,247	—	4,341	1,529
Pension plans with an accumulated benefit obligation in excess of plan assets				
Accumulated benefit obligation	$810	$619	$2,749	$1,871
Fair value of plan assets	138	—	1,870	1,424

Plan Assets

Entities are required to use a fair value hierarchy which maximizes the use of observable inputs and minimizes the use of unobservable inputs when measuring fair value. There are three levels of inputs used to measure fair value with Level 1 having the highest priority and Level 3 having the lowest:

Level 1 — Quoted prices (unadjusted) in active markets for identical assets or liabilities.

Level 2 — Observable inputs other than Level 1 prices, such as quoted prices for similar assets or liabilities, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.

Level 3 — Unobservable inputs that are supported by little or no market activity. The Level 3 assets are those whose values are determined using pricing models, discounted cash flow methodologies, or similar techniques with significant unobservable inputs, as well as instruments for which the determination of fair value requires significant judgment or estimation. At December 31, 2014 and 2013, $580 million and $622 million, respectively, or approximately 3% and 4%, respectively, of the Company’s pension investments at each year end, were categorized as Level 3 assets.

If the inputs used to measure the financial assets fall within more than one level described above, the categorization is based on the lowest level input that is significant to the fair value measurement of the instrument.

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The fair values of the Company's pension plan assets at December 31 by asset category are as follows:

	Fair Value Measurements Using				Fair Value Measurements Using			
	Quoted Prices In Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total	Quoted Prices In Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
	2014				2013			
U.S. Pension Plans Assets								
Cash and cash equivalents	$2	$234	$—	$236	$(54)	$223	$—	$169
Investment funds								
Developed markets equities	540	4,518	—	5,058	581	4,772	—	5,353
Emerging markets equities	107	718	—	825	100	734	—	834
Government and agency obligations	—	31	—	31	—	29	—	29
Fixed income obligations	—	132	—	132	—	125	—	125
Equity securities								
Developed markets	2,169	—	—	2,169	2,138	—	—	2,138
Fixed income securities								
Government and agency obligations	—	516	—	516	—	444	—	444
Corporate obligations	—	722	—	722	—	590	—	590
Mortgage and asset-backed securities	—	245	—	245	—	245	—	245
Other investments								
Derivatives	1	31	—	32	1	—	—	1
Other	—	—	28	28	—	48	31	79
Liabilities								
Derivatives	—	10	—	10	—	—	—	—
	$2,819	$7,137	$28	$9,984	$2,766	$7,210	$31	$10,007
International Pension Plans Assets								
Cash and cash equivalents	$208	$13	$—	$221	$142	$24	$—	$166
Investment funds								
Developed markets equities	217	2,991	—	3,208	227	2,872	—	3,099
Emerging markets equities	31	256	—	287	63	302	—	365

Government and agency obligations	317	1,410	—	1,727	293	1,151	—	1,444
Corporate obligations	183	170	—	353	188	77	—	265
Fixed income obligations	9	16	—	25	17	20	—	37
Real estate [1]	—	8	29	37	4	57	49	110
Equity securities								
Developed markets	509	—	—	509	407	—	—	407
Fixed income securities								
Government and agency obligations	28	448	—	476	2	652	—	654
Corporate obligations	2	190	1	193	—	151	—	151
Mortgage and asset-backed securities	—	90	—	90	—	54	—	54
Other investments								
Insurance contracts [2]	—	69	521	590	—	128	540	668
Other	3	4	1	8	—	6	2	8
	$1,507	$5,665	$552	$7,724	$1,343	$5,494	$591	$7,428

(1) The plans' Level 3 investments in real estate funds are generally valued by market appraisals of the underlying investments in the funds.

(2) The plans' Level 3 investments in insurance contracts are generally valued using a crediting rate that approximates market returns and invest in underlying securities whose market values are unobservable and determined using pricing models, discounted cash flow methodologies, or similar techniques.

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The table below provides a summary of the changes in fair value, including transfers in and/or out, of all financial assets measured at fair value using significant unobservable inputs (Level 3) for the Company's pension plan assets:

	2014				2013			
	Insurance Contracts	Real Estate	Other	Total	Insurance Contracts	Real Estate	Other	Total
U.S. Pension Plans								
Balance January 1	$—	$—	$31	$31	$—	$—	$32	$32
Actual return on plan assets:								
Relating to assets still held at December 31	—	—	1	1	—	—	1	1
Relating to assets sold during the year	—	—	4	4	—	—	3	3
Purchases	—	—	1	1	—	—	2	2
Sales	—	—	(9)	(9)	—	—	(7)	(7)
Balance December 31	$—	$—	$28	$28	$—	$—	$31	$31
International Pension Plans								
Balance January 1	$540	$49	$2	$591	$496	$141	$23	$660
Actual return on plan assets:								
Relating to assets still held at December 31	(35)	(4)	—	(39)	30	—	—	30
Relating to assets sold during the year	—	—	—	—	1	(1)	—	—
Purchases	22	—	—	22	18	—	—	18
Sales	(3)	(10)	—	(13)	(2)	—	(21)	(23)
Transfers out of Level 3	(3)	(6)	—	(9)	(3)	(91)	—	(94)
Balance December 31	$521	$29	$2	$552	$540	$49	$2	$591

The fair values of the Company's other postretirement benefit plan assets at December 31 by asset category are as follows:

	Fair Value Measurements Using				Fair Value Measurements Using			
	Quoted Prices In Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total	Quoted Prices In Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
	2014				2013			
Assets								
Cash and cash equivalents	$60	$20	$—	$80	$47	$20	$—	$67
Investment funds								
Developed markets equities	51	613	—	664	54	667	—	721
Emerging markets equities	36	93	—	129	36	95	—	131
Government and agency obligations	3	2	—	5	—	—	—	—
Fixed income obligations	—	12	—	12	3	14	—	17
Equity securities								
Developed markets	204	—	—	204	199	—	—	199

Fixed income securities								
Government and agency obligations	—	333	—	333	—	257	—	257
Corporate obligations	—	336	—	336	—	281	—	281
Mortgage and asset-backed securities	—	219	—	219	—	219	—	219
Other fixed income obligations	—	—	—	—	—	21	—	21
Other investments								
Derivatives	—	2	—	2	—	—	—	—
	$354	$ 1,630	$ —	$1,984	$339	$ 1,574	$ —	$1,913

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The Company has established investment guidelines for its U.S. pension and other postretirement plans to create an asset allocation that is expected to deliver a rate of return sufficient to meet the long-term obligation of each plan, given an acceptable level of risk. The target investment portfolio of the Company's U.S. pension and other postretirement benefit plans is allocated 40% to 60% in U.S. equities, 20% to 40% in international equities, 15% to 25% in fixed-income investments, and up to 5% in cash and other investments. The portfolio's equity weighting is consistent with the long-term nature of the plans' benefit obligations. 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. For international pension plans, the targeted investment portfolio varies based on the duration of pension liabilities and local government rules and regulations. Although a significant percentage of plan assets are invested in U.S. equities, concentration risk is mitigated through the use of strategies that are diversified within management guidelines.

Expected Contributions

Expected contributions during 2015 are approximately $40 million for U.S. pension plans, approximately $150 million for international pension plans and approximately $65 million for other postretirement benefit plans.

Expected Benefit Payments

Expected benefit payments are as follows:

	U.S. Pension Benefits	International Pension Benefits	Other Postretirement Benefits
2015	$469	$213	$109
2016	495	185	117
2017	491	192	124
2018	525	206	131
2019	549	215	138
2020 — 2024	3,238	1,323	792

Expected benefit payments are based on the same assumptions used to measure the benefit obligations and include estimated future employee service.

Amounts Recognized in Other Comprehensive Income

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. 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. The following amounts were reflected as components of OCI:

	Pension Plans						Other Postretirement Benefit Plans		
	U.S.			International					
Years Ended December 31	2014	2013	2012	2014	2013	2012	2014	2013	2012
Net (loss) gain arising during the period	$(2,085)	$2,676	$(688)	$(779)	$513	$(1,219)	$(223)	$499	$(24)
Prior service (cost) credit arising during the period	(59)	(23)	(16)	(8)	226	3	(42)	26	78
	$(2,144)	$2,653	$(704)	$(787)	$739	$(1,216)	$(265)	$525	$54
Net loss amortization included in benefit cost	$135	$318	$217	$74	$89	$39	$1	$23	$31
Prior service (credit) cost amortization included in benefit cost	(61)	(67)	(68)	(15)	(4)	(3)	(72)	(73)	(66)
	$74	$251	$149	$59	$85	$36	$(71)	$(50)	$(35)

The estimated net loss (gain) and prior service cost (credit) amounts that will be amortized from AOCI into net pension and postretirement benefit cost during 2015 are $353 million and $(72) million, respectively, for pension

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plans (of which $227 million and $(57) million, respectively, relates to U.S. pension plans) and are $4 million and $(65) million, respectively, for other postretirement benefit plans.

Actuarial Assumptions

The Company reassesses its benefit plan assumptions on a regular basis. The weighted average assumptions used in determining U.S. pension and other postretirement benefit plan and international pension plan information are as follows:

	U.S. Pension and Other Postretirement Benefit Plans			International Pension Plans		
December 31	2014	2013	2012	2014	2013	2012
Net periodic benefit cost						
Discount rate	4.90%	4.10%	4.80%	3.80%	3.60%	4.60%
Expected rate of return on plan assets	8.50%	8.50%	8.70%	6.00%	5.80%	5.90%
Salary growth rate	4.50%	4.50%	4.50%	3.10%	3.30%	3.40%
Benefit obligation						
Discount rate	4.20%	5.10%	4.10%	2.70%	3.80%	3.60%
Salary growth rate	4.40%	4.50%	4.50%	2.90%	3.10%	3.30%

For both the pension and other postretirement benefit plans, the discount rate is evaluated on measurement dates and modified to reflect the prevailing market rate 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. 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 and is determined on a plan basis. In developing the expected rate of return within each plan, long-term historical returns data are considered as well as actual returns on the plan assets and other capital markets experience. Using this reference information, the long-term return expectations for each asset category and a weighted average expected return for each plan's target portfolio is developed, according to the allocation among those investment categories. The expected portfolio performance reflects the contribution of active management as appropriate. For 2015, the Company's expected rate of return will range from 7.30% to 8.75%, the same range as in 2014 for its U.S. pension and other postretirement benefit plans.

The health care cost trend rate assumptions for other postretirement benefit plans are as follows:

December 31	2014	2013
Health care cost trend rate assumed for next year	6.9%	7.1%
Rate to which the cost trend rate is assumed to decline	4.6%	4.6%
Year that the trend rate reaches the ultimate trend rate	2027	2027

A one percentage point change in the health care cost trend rate would have had the following effects:

	One Percentage Point	
	Increase	Decrease
Effect on total service and interest cost components	$32	$(27)
Effect on benefit obligation	421	(339)

Savings Plans

The Company also maintains defined contribution savings plans in the United States. The Company matches a percentage of each employee's contributions consistent with the provisions of the plan for which the employee is eligible. Total employer contributions to these plans in 2014, 2013 and 2012 were $124 million, $138 million and $146 million, respectively.

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14. Other (Income) Expense, Net

Other (income) expense, net, consisted of:

Years Ended December 31	2014	2013	2012
Interest income	$(266)	$(264)	$(232)
Interest expense	732	801	714
Exchange losses	180	290	185
Other, net	(12,002)	(12)	449
	$(11,356)	$815	$1,116

Exchange losses in 2013 reflect $140 million of losses due to a Venezuelan currency devaluation. In February 2013, the Venezuelan government devalued its currency (Bolívar Fuertes) from 4.30 VEF per U.S. dollar to 6.30 VEF per U.S. dollar. The Company recognized losses due to exchange of approximately $140 million in 2013 resulting from the remeasurement of the local monetary assets and liabilities at the new rate. Since January 2010, Venezuela has been designated hyperinflationary and, as a result, local foreign operations are remeasured in U.S. dollars with the impact recorded in results of operations. Other, net (as presented in the table above) in 2014 includes an $11.2 billion gain on the divestiture of MCC, a gain of $741 million related to AstraZeneca's option exercise, a $480 million gain on the divestiture of certain ophthalmic products in several international markets and a gain of $204 million related to the divestiture of Sirna, partially offset by a $628 million loss on extinguishment of debt and a $93 million goodwill impairment charge related to the Company's joint venture with Supera (see Notes 4, 8 and 9 for additional information related to these transactions). Other, net in 2012 reflects a $493 million net charge related to the previously disclosed settlement of the ENHANCE Litigation.

Interest paid was $852 million in 2014, $922 million in 2013 and $808 million in 2012.

15. Taxes on Income

A reconciliation between the effective tax rate and the U.S. statutory rate is as follows:

	2014		2013		2012	
	Amount	Tax Rate	Amount	Tax Rate	Amount	Tax Rate
U.S. statutory rate applied to income before taxes	$6,049	35.0 %	$1,941	35.0 %	$3,059	35.0 %
Differential arising from:						
Foreign earnings	(1,486)	(8.6)	(1,316)	(23.7)	(1,955)	(22.4)
AstraZeneca option exercise	(774)	(4.5)	—	—	—	—
Sale of Sirna Therapeutics, Inc.	(357)	(2.1)	—	—	—	—
Tax settlements	(89)	(0.5)	(497)	(9.0)	(113)	(1.3)
The American Taxpayer Relief Act of 2012	—	—	(269)	(4.8)	—	—
Unremitted foreign earnings	(209)	(1.2)	(81)	(1.5)	(11)	(0.1)
Amortization of purchase accounting adjustments	865	5.0	934	16.8	905	10.3
Divestiture of Merck Consumer Care	440	2.5	—	—	—	—
Restructuring	289	1.7	224	4.0	62	0.7
U.S. health care reform legislation	134	0.8	65	1.2	60	0.7
Intangible asset impairment charges	148	0.9	56	1.0	40	0.5
Vioxx and ENHANCE litigation settlements	—	—	—	—	98	1.2
State taxes	7	—	44	0.8	31	0.3
Other [1]	332	1.9	(73)	(1.3)	264	3.0
	$5,349	30.9 %	$1,028	18.5 %	$2,440	27.9 %

[1] Other includes the tax effect of contingency reserves, research credits, tax rate changes and miscellaneous items.

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The foreign earnings tax rate differentials in the tax rate reconciliation above primarily reflect the impacts of operations in jurisdictions with different tax rates than the United States, particularly Ireland and Switzerland, as well as Singapore and Puerto Rico which operate under tax incentive grants, where the earnings have been indefinitely reinvested, thereby yielding a favorable impact on the effective tax rate as compared with the 35.0% U.S. statutory rate. The foreign earnings tax rate differentials do not include the impact of intangible asset impairment charges, amortization of purchase accounting adjustments or restructuring costs. These items are presented separately as they each represent a significant, separately disclosed pretax cost or charge, and a substantial portion of each of these items relates to jurisdictions with lower tax rates than the United States. Therefore, the impact of recording these expense items in lower tax rate jurisdictions is an unfavorable impact on the effective tax rate as compared to the 35.0% U.S. statutory rate.

The Company’s 2014 effective tax rate reflects the impact of the Tax Increase Prevention Act, that was signed into law on December 19, 2014, extending the research credit and the controlled foreign corporation look-through provisions. The American Taxpayer Relief Act of 2012 was signed into law on January 2, 2013, extending the research credit and the controlled foreign corporation look-through provisions for two years retroactively from January 1, 2012 through December 31, 2013. The Company recorded the entire 2012 benefit of $269 million in 2013, the financial statement period that included the date of enactment.

Income before taxes consisted of:

Years Ended December 31	2014	2013	2012
Domestic	$15,730	$3,513	$4,500
Foreign	1,553	2,032	4,239
	$17,283	$5,545	$8,739

Taxes on income consisted of:

Years Ended December 31	2014	2013	2012
Current provision			
Federal	$7,136	$568	$1,346
Foreign	438	923	651
State	375	(133)	(226)
	7,949	1,358	1,771
Deferred provision			
Federal	(2,162)	30	749
Foreign	(201)	(398)	(323)
State	(237)	38	243
	(2,600)	(330)	669
	$5,349	$1,028	$2,440

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Deferred income taxes at December 31 consisted of:

	2014		2013	
	Assets	Liabilities	Assets	Liabilities
Intangibles	$—	$3,358	$—	$3,772
Inventory related	56	699	49	604
Accelerated depreciation	58	892	125	1,215
Unremitted foreign earnings	—	2,016	—	2,361
Equity investments	5	—	—	539
Pensions and other postretirement benefits	778	156	162	543
Compensation related	578	—	600	—
Unrecognized tax benefits	401	—	497	—
Net operating losses and other tax credit carryforwards	379	—	225	—
Other	1,530	65	1,605	71
Subtotal	3,785	7,186	3,263	9,105
Valuation allowance	(265)		(205)	
Total deferred taxes	$3,520	$7,186	$3,058	$9,105
Net deferred income taxes		$3,666		$6,047
Recognized as:				
Deferred income taxes and other current assets	$568		$572	
Other assets	401		381	
Income taxes payable		$369		$224
Deferred income taxes		4,266		6,776

The Company has net operating loss (“NOL”) carryforwards in several jurisdictions. As of December 31, 2014, $203 million of deferred taxes on NOL carryforwards relate to foreign jurisdictions, none of which are individually significant. Valuation allowances of $265 million have been established on these foreign NOL carryforwards and other foreign deferred tax assets. In addition, the Company has approximately $175 million of deferred tax assets relating to various U.S. tax credit carryforwards and NOL carryforwards, all of which are expected to be fully utilized prior to expiry.

Income taxes paid in 2014, 2013 and 2012 were $7.9 billion, $2.3 billion and $2.5 billion, respectively. Income taxes paid in 2014 reflects approximately $5.0 billion of taxes paid on the divestiture of MCC. Tax benefits relating to stock option exercises were $202 million in 2014, $70 million in 2013 and $81 million in 2012.

A reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows:

	2014	2013	2012
Balance January 1	$3,503	$4,425	$4,277
Additions related to current year positions	389	320	496
Additions related to prior year positions	23	177	58
Reductions for tax positions of prior years [1]	(156)	(747)	(320)
Settlements	(161)	(603)	(67)
Lapse of statute of limitations	(64)	(69)	(19)
Balance December 31	$3,534	$3,503	$4,425

[1] Amounts reflect the settlements with the IRS and CRA as discussed below.

If the Company were to recognize the unrecognized tax benefits of $3.5 billion at December 31, 2014, the income tax provision would reflect a favorable net impact of $3.3 billion.

The Company is under examination by numerous tax authorities in various jurisdictions globally. The Company believes that it is reasonably possible that the total amount of unrecognized tax benefits as of December 31, 2014 could decrease by up to $1.3 billion in the next 12 months as a result of various audit closures, settlements or the expiration of the statute of limitations. The ultimate finalization of the Company’s examinations with relevant taxing authorities can include formal administrative and legal proceedings, which could have a significant impact on the timing

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of the reversal of unrecognized tax benefits. The Company believes that its reserves for uncertain tax positions are adequate to cover existing risks or exposures.

Interest and penalties associated with uncertain tax positions amounted to an expense of $9 million in 2014 and benefits of $319 million in 2013 and $88 million in 2012. These amounts reflect the beneficial impacts of various tax settlements, including those discussed below. Liabilities for accrued interest and penalties were $659 million and $665 million as of December 31, 2014 and 2013, respectively.

The Internal Revenue Service (the “IRS”) is currently conducting examinations of the Company’s tax returns for the years 2006 through 2008, as well as 2010 and 2011. Although concluded, one issue related to a refund claim of taxes paid remains from the examination of the Company’s 2002-2005 federal tax returns, which the Company is currently appealing through the IRS administrative appeals process.

In addition, various state and foreign tax examinations are in progress. For most of its other significant tax jurisdictions (both U.S. state and foreign), the Company’s income tax returns are open for examination for the period 2003 through 2014.

In 2013, IRS finalized its examination of Schering-Plough’s 2007-2009 tax years. The Company’s unrecognized tax benefits for the years under examination exceeded the adjustments related to this examination period and therefore the Company recorded a net $165 million tax provision benefit in 2013.

In 2010, the IRS finalized its examination of Schering-Plough’s 2003-2006 tax years. In this audit cycle, the Company reached an agreement with the IRS on an adjustment to income related to intercompany pricing matters. This income adjustment mostly reduced NOLs and other tax credit carryforwards. The Company’s reserves for uncertain tax positions were adequate to cover all adjustments related to this examination period. Additionally, as previously disclosed, the Company was seeking resolution of one issue raised during this examination through the IRS administrative appeals process. In 2013, the Company recorded an out-of-period net tax benefit of $160 million related to this issue, which was settled in the fourth quarter of 2012, with final resolution relating to interest owed being reached in the first quarter of 2013. The Company’s unrecognized tax benefits related to this issue exceeded the settlement amount. Management concluded that the exclusion of this benefit was not material to prior year financial statements.

As previously disclosed, the Canada Revenue Agency (the “CRA”) had proposed adjustments for 1999 and 2000 relating to intercompany pricing matters and issued assessments for other miscellaneous audit issues for tax years 2001-2004. In 2012, Merck and the CRA reached a settlement for these years that calls for Merck to pay additional Canadian tax of approximately $65 million. The Company’s unrecognized tax benefits related to these matters exceeded the settlement amount and therefore the Company recorded a net $112 million tax provision benefit in 2012. A portion of the taxes paid is expected to be creditable for U.S. tax purposes. The Company had previously established reserves for these matters. The resolution of these matters did not have a material effect on the Company’s results of operations, financial position or liquidity.

At December 31, 2014, foreign earnings of $60.0 billion have been retained indefinitely by subsidiary companies for reinvestment; therefore, no provision has been made for income taxes that would be payable upon the distribution of such earnings and it would not be practicable to determine the amount of the related unrecognized deferred income tax liability. In addition, the Company has subsidiaries operating in Puerto Rico and Singapore under tax incentive grants that begin to expire in 2022.

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16. Earnings per Share

Prior to 2013, the Company calculated earnings per share pursuant to the two-class method under which all earnings (distributed and undistributed) are allocated to common shares and participating securities based on their respective rights to receive dividends. RSUs and certain PSUs granted before December 31, 2009 (which generally have a three year vesting period) to certain management level employees met the definition of participating securities. RSUs and PSUs issued on or after January 1, 2010, do not meet the definition of participating securities; therefore, beginning in 2013 the Company no longer applies the two-class method.

The calculations of earnings per share are as follows:

Years Ended December 31	2014	2013	2012
Basic Earnings per Common Share			
Net income attributable to Merck & Co., Inc.	$11,920	$4,404	$6,168
Less: Income allocated to participating securities	—	—	3
Net income allocated to common shareholders	$11,920	$4,404	$6,165
Average common shares outstanding	2,894	2,963	3,041
	$4.12	$1.49	$2.03
Earnings per Common Share Assuming Dilution			
Net income attributable to Merck & Co., Inc.	$11,920	$4,404	$6,168
Less: Income allocated to participating securities	—	—	3
Net income allocated to common shareholders	$11,920	$4,404	$6,165
Average common shares outstanding	2,894	2,963	3,041
Common shares issuable [1]	34	33	35
Average common shares outstanding assuming dilution	2,928	2,996	3,076
	$4.07	$1.47	$2.00

[1] Issuable primarily under share-based compensation plans.

In 2014, 2013 and 2012, 4 million, 25 million and 104 million, respectively, of common shares issuable under share-based compensation plans were excluded from the computation of earnings per common share assuming dilution because the effect would have been antidilutive.

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17. Other Comprehensive Income (Loss)

Changes in AOCI by component are as follows:

	Derivatives	Investments	Employee Benefit Plans	Cumulative Translation Adjustment	Accumulated Other Comprehensive Income (Loss)
Balance January 1, 2012, net of taxes	$ 4	$ 21	$ (2,346)	$ (811)	$ (3,132)
Other comprehensive income (loss) before reclassification adjustments, pretax	(198)	74	(1,852)	(99)	(2,075)
Tax	77	(10)	450	(81)	436
Other comprehensive income (loss) before reclassification adjustments, net of taxes	(121)	64	(1,402)	(180)	(1,639)
Reclassification adjustments, pretax	33	(13)	136	—	156
Tax	(13)	1	(55)	—	(67)
Reclassification adjustments, net of taxes	20 (1)	(12) (2)	81 (3)	—	89
Other comprehensive income (loss), net of taxes	(101)	52	(1,321)	(180)	(1,550)
Balance December 31, 2012, net of taxes	(97)	73	(3,667)	(991)	(4,682)
Other comprehensive income (loss) before reclassification adjustments, pretax	335	33	3,917	(383)	3,902
Tax	(132)	(23)	(1,365)	(100)	(1,620)
Other comprehensive income (loss) before reclassification adjustments, net of taxes	203	10	2,552	(483)	2,282
Reclassification adjustments, pretax	42	(39)	286	—	289
Tax	(16)	10	(80)	—	(86)
Reclassification adjustments, net of taxes	26 (1)	(29) (2)	206 (3)	—	203
Other comprehensive income (loss), net of taxes	229	(19)	2,758	(483)	2,485
Balance December 31, 2013, net of taxes	132	54	(909) (4)	(1,474)	(2,197)
Other comprehensive income (loss) before reclassification adjustments, pretax	778	48	(3,196)	(412)	(2,782)
Tax	(285)	(17)	1,067	(92)	673
Other comprehensive income (loss) before reclassification adjustments, net of taxes	493	31	(2,129)	(504)	(2,109)
Reclassification adjustments, pretax	(146)	43	62	—	(41)
Tax	51	(17)	(10)	—	24
Reclassification adjustments, net of taxes	(95) (1)	26 (2)	52 (3)	—	(17)
Other comprehensive income (loss), net of taxes	398	57	(2,077)	(504)	(2,126)
Balance December 31, 2014, net of taxes	$ 530	$ 111	$ (2,986) (4)	$ (1,978)	$ (4,323)

(1) Relates to foreign currency cash flow hedges that were reclassified from AOCI to Sales.

(2) Represents net realized (gains) losses on the sales of available-for-sale investments that were reclassified from AOCI to Other (income) expense, net.

(3) Includes net amortization of prior service cost and actuarial gains and losses included in net periodic benefit cost (see Note 13).

(4) Includes pension plan net loss of $(3.5) billion and $(1.7) billion at December 31, 2014 and 2013, respectively, and other postretirement benefit plan net loss of $(228) million and $(80) million at December 31, 2014 and in 2013, respectively, as well as pension plan prior service credit of $473 million and $559 million at December 31, 2014 and 2013, respectively, and other postretirement benefit plan prior service credit of $257 million and $331 million

at December 31, 2014 and 2013.

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18. Segment Reporting

The Company's operations are principally managed on a products basis and are comprised of three operating segments – Pharmaceutical, Animal Health and Alliances (which includes revenue and equity income from the Company's relationship with AZLP until the June 30, 2014 termination date). The Animal Health and Alliances segments are not material for separate reporting and are included in all other in the table below. The Pharmaceutical segment includes human health pharmaceutical and vaccine products marketed either directly by the Company or through joint ventures. Human health pharmaceutical products consist of therapeutic and preventive agents, generally sold by prescription, for the treatment of human disorders. The Company sells these human health pharmaceutical products primarily to drug wholesalers and retailers, hospitals, government agencies and managed health care providers such as health maintenance organizations, pharmacy benefit managers and other institutions. Vaccine products consist of preventive pediatric, adolescent and adult vaccines, primarily administered at physician offices. The Company sells these human health vaccines primarily to physicians, wholesalers, physician distributors and government entities. A large component of pediatric and adolescent vaccines is sold to the U.S. Centers for Disease Control and Prevention Vaccines for Children program, which is funded by the U.S. government. Additionally, the Company sells vaccines to the Federal government for placement into vaccine stockpiles. The Company also has animal health operations that discover, develop, manufacture and market animal health products, including vaccines, which the Company sells to veterinarians, distributors and animal producers. On October 1, 2014, the Company divested its Consumer Care segment (see Note 4) that developed, manufactured and marketed over-the-counter, foot care and sun care products. The accounting policies for the segments described above are the same as those described in Note 2.

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Sales of the Company's products were as follows:

Years Ended December 31	2014	2013	2012
Primary Care and Women's Health			
Cardiovascular			
Zetia	$2,650	$2,658	$2,567
Vytorin	1,516	1,643	1,747
Diabetes			
Januvia	3,931	4,004	4,086
Janumet	2,071	1,829	1,659
General Medicine and Women's Health			
NuvaRing	723	686	623
Implanon/Nexplanon	502	403	348
Dulera	460	324	207
Follistim AQ	412	481	468
Hospital and Specialty			
Hepatitis			
PegIntron	381	496	653
Victrelis	153	428	502
HIV			
Isentress	1,673	1,643	1,515
Acute Care			
Cancidas	681	660	619
Invanz	529	488	445
Noxafil	402	309	258
Bridion	340	288	261
Primaxin	329	335	384
Immunology			
Remicade	2,372	2,271	2,076
Simponi	689	500	331
Other			
Cosopt/Trusopt	257	416	444
Oncology			
Emend	553	507	489
Temodar	350	708	917
Keytruda	55	—	—
Diversified Brands			
Respiratory			
Nasonex	1,099	1,335	1,268
Singulair	1,092	1,196	3,853
Clarinex	232	235	393
Other			
Cozaar/Hyzaar	806	1,006	1,284
Arcoxia	519	484	453
Fosamax	470	560	676
Propecia	264	283	424
Zocor	258	301	383
Remeron	193	206	232
Vaccines [1]			
Gardasil	1,738	1,831	1,631

ProQuad/M-M-R II/Varivax	1,394	1,306	1,273
Zostavax	765	758	651
Pneumovax 23	746	653	580
RotaTeq	659	636	601
Other pharmaceutical [2]	4,778	5,570	6,300
Total Pharmaceutical segment sales	36,042	37,437	40,601
Other segment sales [3]	5,585	6,325	6,412
Total segment sales	41,627	43,762	47,013
Other [4]	610	271	254
	$42,237	$44,033	$47,267

(1) These amounts do not reflect sales of vaccines sold in most major European markets through the Company's joint venture, Sanofi Pasteur MSD, the results of which are reflected in Equity income from affiliates. These amounts do, however, reflect supply sales to Sanofi Pasteur MSD.

(2) Other pharmaceutical primarily reflects sales of other human health pharmaceutical products, including products within the franchises not listed separately.

(3) Represents the non-reportable segments of Animal Health and Alliances, as well as Consumer Care until its divestiture on October 1, 2014 (see Note 4). The Alliances segment includes revenue from the Company's relationship with AZLP until termination on June 30, 2014 (see Note 8).

(4) Other revenues are primarily comprised of miscellaneous corporate revenues, including revenue hedging activities, sales related to divested products or businesses, and other supply sales not included in segment results. Other revenues in 2014 include $232 million received by Merck in connection with the sale of the U.S. marketing rights to Saphris (see Note 4). Other revenues in 2013 reflect $50 million of revenue for the out-license of a pipeline compound. Other revenues also include third-party manufacturing sales, a substantial portion of which was divested in October 2013 (see Note 3).

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Consolidated revenues by geographic area where derived are as follows:

Years Ended December 31	2014	2013	2012
United States	$17,071	$18,246	$20,392
Europe, Middle East and Africa	13,174	13,140	12,990
Asia Pacific	3,951	3,845	3,775
Japan	3,471	4,044	5,102
Latin America	3,151	3,203	3,389
Other	1,419	1,555	1,619
	$42,237	$44,033	$47,267

A reconciliation of total segment profits to consolidated Income before taxes is as follows:

Years Ended December 31	2014	2013	2012
Segment profits:			
Pharmaceutical segment	$22,164	$22,983	$25,852
Other segments	2,546	3,094	3,163
Total segment profits	24,710	26,077	29,015
Other profits	539	19	26
Unallocated:			
Interest income	266	264	232
Interest expense	(732)	(801)	(714)
Equity income from affiliates	59	(159)	102
Depreciation and amortization	(2,457)	(2,250)	(2,059)
Research and development	(5,837)	(6,381)	(7,126)
Amortization of purchase accounting adjustments	(4,182)	(4,690)	(4,872)
Restructuring costs	(1,013)	(1,709)	(664)
Gain on divestiture of Merck Consumer Care	11,209	—	—
Gain on AstraZeneca option exercise	741	—	—
Gain on the divestiture of certain ophthalmic products	480	—	—
Loss on extinguishment of debt	(628)	—	—
Net charge related to settlement of ENHANCE Litigation	—	—	(493)
Other unallocated, net	(5,872)	(4,825)	(4,708)
	$17,283	$5,545	$8,739

Segment profits are comprised of segment sales less standard costs and certain operating expenses directly incurred by the segments. For internal management reporting presented to the chief operating decision maker, Merck does not allocate materials and production costs, other than standard costs, the majority of research and development expenses or general and administrative expenses, nor the cost of financing these activities. Separate divisions maintain responsibility for monitoring and managing these costs, including depreciation related to fixed assets utilized by these divisions and, therefore, they are not included in segment profits. In addition, costs related to restructuring activities, as well as the amortization of purchase accounting adjustments are not allocated to segments.

Other profits (losses) are primarily comprised of miscellaneous corporate profits (losses), as well as operating profits (losses) related to third-party manufacturing sales, divested products or businesses and other supply sales.

Other unallocated, net includes expenses from corporate and manufacturing cost centers, goodwill and product intangible asset impairment charges, gain or losses on sales of businesses and other miscellaneous income or expense items.

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Equity income from affiliates and depreciation and amortization included in segment profits is as follows:

	Pharmaceutical	All Other	Total
Year Ended December 31, 2014			
Included in segment profits:			
Equity income from affiliates	$90	$108	$198
Depreciation and amortization	(39)	(13)	(52)
Year Ended December 31, 2013			
Included in segment profits:			
Equity income from affiliates	$88	$475	$563
Depreciation and amortization	(27)	(22)	(49)
Year Ended December 31, 2012			
Included in segment profits:			
Equity income from affiliates	$36	$504	$540
Depreciation and amortization	(25)	(20)	(45)

Property, plant and equipment, net by geographic area where located is as follows:

Years Ended December 31	2014	2013	2012
United States	$8,727	$10,076	$10,687
Europe, Middle East and Africa	3,120	3,346	3,688
Asia Pacific	897	1,001	1,059
Latin America	207	242	250
Japan	172	211	243
Other	13	97	103
	$13,136	$14,973	$16,030

The Company does not disaggregate assets on a products and services basis for internal management reporting and, therefore, such information is not presented.

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Report of Independent Registered Public Accounting Firm
To the Board of Directors and Shareholders of Merck & Co., Inc.:

In our opinion, the accompanying consolidated balance sheets and the related consolidated statements of income, comprehensive income, equity and cash flows present fairly, in all material respects, the financial position of Merck & Co., Inc. and its subsidiaries at December 31, 2014 and December 31, 2013, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2014 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2014, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Company's management is responsible for these financial statements, for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in Management's Report under Item 9a. Our responsibility is to express opinions on these financial statements and on the Company's internal control over financial reporting based on our integrated audits. We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement and whether effective internal control over financial reporting was maintained in all material respects. Our audits of the financial statements included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

A company’s internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company’s internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company’s assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

PricewaterhouseCoopers LLP
Florham Park, New Jersey
February 27, 2015

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(b) Supplementary Data

Selected quarterly financial data for 2014 and 2013 are contained in the Condensed Interim Financial Data table below.

Condensed Interim Financial Data (Unaudited)

($ in millions except per share amounts)	4th Q [1]	3rd Q [2]	2nd Q [3]	1st Q [4]
2014 [5]				
Sales	$10,482	$10,557	$10,934	$10,264
Materials and production	3,749	4,223	4,893	3,903
Marketing and administrative	2,924	2,975	2,973	2,734
Research and development	2,283	1,659	1,664	1,574
Restructuring costs	349	376	163	125
Equity income from affiliates	(16)	(24)	(92)	(124)
Other (income) expense, net	(10,618)	(142)	(558)	(39)
Income before taxes	11,811	1,490	1,891	2,091
Net income attributable to Merck & Co., Inc.	7,316	895	2,004	1,705
Basic earnings per common share attributable to Merck & Co., Inc. common shareholders	$2.57	$0.31	$0.69	$0.58
Earnings per common share assuming dilution attributable to Merck & Co., Inc. common shareholders	$2.54	$0.31	$0.68	$0.57
2013 [5]				
Sales	$11,319	$11,032	$11,010	$10,671
Materials and production	4,607	4,104	4,284	3,959
Marketing and administrative	2,982	2,803	3,140	2,987
Research and development	1,836	1,660	2,101	1,907
Restructuring costs	565	870	155	119
Equity income from affiliates	(53)	(102)	(116)	(133)
Other (income) expense, net	157	172	201	282
Income before taxes	1,225	1,525	1,245	1,550
Net income attributable to Merck & Co., Inc.	781	1,124	906	1,593
Basic earnings per common share attributable to Merck & Co., Inc. common shareholders	$0.27	$0.38	$0.30	$0.53
Earnings per common share assuming dilution attributable to Merck & Co., Inc. common shareholders	$0.26	$0.38	$0.30	$0.52

(1) Amounts for 2014 reflect the divestiture of Merck's Consumer Care business on October 1, 2014 (see Note 4), including an $11.2 billion gain on the sale. Amounts for 2014 also include a loss on extinguishment of debt (see Note 9).

(2) Amounts for 2014 include gains on sales of businesses (see Note 4) and an additional year of expense for the health care reform fee. Amounts for 2013 include net benefits relating to the settlements of certain federal income tax issues (see Note 15).

(3) Amounts for 2014 include a gain on AstraZeneca's option exercise (see Note 8).

(4) Amounts for 2014 include a tax benefit relating to the sale of Sirna Therapeutics, Inc. (see Note 4).

(5) Amounts for 2014 and 2013 reflect acquisition and divestiture-related costs (see Note 7) and the impact of restructuring actions (see Note 3).

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Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure.

Not applicable.

Item 9A. Controls and Procedures.

Management of the Company, with the participation of its Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of the Company's disclosure controls and procedures. Based on their evaluation, as of the end of the period covered by this Form 10-K, the Company's Chief Executive Officer and Chief Financial Officer have concluded that the Company's disclosure controls and procedures (as defined in Rules 13a-15(e) or 15d-15(e) under the Securities Exchange Act of 1934, as amended (the "Act")) are effective.

Management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Rule 13a-15(f) of the Act. Management conducted an evaluation of the effectiveness of internal control over financial reporting based on the framework in Internal Control — Integrated Framework issued in 2013 by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this evaluation, management concluded that internal control over financial reporting was effective as of December 31, 2014.

PricewaterhouseCoopers LLP, an independent registered public accounting firm, has performed its own assessment of the effectiveness of the Company's internal control over financial reporting and its attestation report is included in this Form 10-K filing.

Management's Report

Management's Responsibility for Financial Statements

Responsibility for the integrity and objectivity of the Company's financial statements rests with management. The financial statements report on management's stewardship of Company assets. These statements are prepared in conformity with generally accepted accounting principles and, accordingly, include amounts that are based on management's best estimates and judgments. Nonfinancial information included in the Annual Report on Form 10-K has also been prepared by management and is consistent with the financial statements.

To assure that financial information is reliable and assets are safeguarded, management maintains an effective system of internal controls and procedures, important elements of which include: careful selection, training and development of operating and financial managers; an organization that provides appropriate division of responsibility; and communications aimed at assuring that Company policies and procedures are understood throughout the organization. A staff of internal auditors regularly monitors the adequacy and application of internal controls on a worldwide basis. To ensure that personnel continue to understand the system of internal controls and procedures, and policies concerning good and prudent business practices, annually all employees of the Company are required to complete Code of Conduct training, which includes financial stewardship. This training reinforces the importance and understanding of internal controls by reviewing key corporate policies, procedures and systems. In addition, the Company has compliance programs, including an ethical business practices program to reinforce the Company's long-standing commitment to high ethical standards in the conduct of its business.

The financial statements and other financial information included in the Annual Report on Form 10-K fairly present, in all material respects, the Company's financial condition, results of operations and cash flows. Our formal certification to the Securities and Exchange Commission is included in this Form 10-K filing.

Management's Report on Internal Control Over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Rule 13a-15(f) under the Securities Exchange Act of 1934. The Company's internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles in the United States of America. Management conducted an evaluation of the effectiveness of internal control over financial reporting based on the framework in Internal Control — Integrated Framework issued in 2013 by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this evaluation, management concluded that internal control over financial reporting was effective as of December 31, 2014.

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Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

The effectiveness of the Company's internal control over financial reporting as of December 31, 2014, has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report which appears herein.

Kenneth C. Frazier
Chairman, President
and Chief Executive Officer

Robert M. Davis
Executive Vice President
and Chief Financial Officer

Item 9B. Other Information.

None.

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PART III

Item 10. Directors, Executive Officers and Corporate Governance.

The required information on directors and nominees is incorporated by reference from the discussion under Proposal 1. Election of Directors of the Company's Proxy Statement for the Annual Meeting of Shareholders to be held May 26, 2015. Information on executive officers is set forth in Part I of this document on pages 30 through 32.

The required information on compliance with Section 16(a) of the Securities Exchange Act of 1934 is incorporated by reference from the discussion under the heading "Section 16(a) Beneficial Ownership Reporting Compliance" of the Company's Proxy Statement for the Annual Meeting of Shareholders to be held May 26, 2015.

The Company has a Code of Conduct — Our Values and Standards applicable to all employees, including the principal executive officer, principal financial officer, principal accounting officer and Controller. The Code of Conduct is available on the Company's website at www.merck.com/about/code_of_conduct.pdf. Every Merck employee is responsible for adhering to business practices that are in accordance with the law and with ethical principles that reflect the highest standards of corporate and individual behavior. A printed copy will be sent, without charge, to any shareholder who requests it by writing to the Chief Ethics and Compliance Officer of Merck & Co., Inc., 2000 Galloping Hill Road, Kenilworth, NJ 07033.

The required information on the identification of the audit committee and the audit committee financial expert is incorporated by reference from the discussion under the heading "Board Meetings and Committees" of the Company's Proxy Statement for the Annual Meeting of Shareholders to be held May 26, 2015.

Item 11. Executive Compensation.

The information required on executive compensation is incorporated by reference from the discussion under the headings "Compensation Discussion and Analysis", "Summary Compensation Table", "All Other Compensation" table, "Grants of Plan-Based Awards" table, "Outstanding Equity Awards" table, "Option Exercises and Stock Vested" table, "Pension Benefits" table, "Nonqualified Deferred Compensation" table, Potential Payments Upon Termination or a Change in Control, including the discussion under the subheadings "Separation" and "Change in Control", as well as all footnote information to the various tables, of the Company's Proxy Statement for the Annual Meeting of Shareholders to be held May 26, 2015.

The required information on director compensation is incorporated by reference from the discussion under the heading "Director Compensation" and related "Director Compensation" table and "Schedule of Director Fees" table of the Company's Proxy Statement for the Annual Meeting of Shareholders to be held May 26, 2015.

The required information under the headings "Compensation Committee Interlocks and Insider Participation" and "Compensation and Benefits Committee Report" is incorporated by reference from the Company's Proxy Statement for the Annual Meeting of Shareholders to be held May 26, 2015.

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Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.

Information with respect to security ownership of certain beneficial owners and management is incorporated by reference from the discussion under the heading “Stock Ownership Information” of the Company’s Proxy Statement for the Annual Meeting of Shareholders to be held May 26, 2015.

Equity Compensation Plan Information

The following table summarizes information about the options, warrants and rights and other equity compensation under the Company’s equity compensation plans as of the close of business on December 31, 2014. The table does not include information about tax qualified plans such as the Merck U.S. Savings Plan.

Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights (a)	Weighted-average exercise price of outstanding options, warrants and rights (b)	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a)) (c)
Equity compensation plans approved by security holders[1]	76,135,293[2]	$ 39.05	139,363,369
Equity compensation plans not approved by security holders	—	—	—
Total	76,135,293	$ 39.05	139,363,369

(1) Includes options to purchase shares of Company Common Stock and other rights under the following shareholder-approved plans: the Merck Sharp & Dohme 2004, 2007 and 2010 Incentive Stock Plans, the Merck & Co., Inc. 2006 and 2010 Non-Employee Directors Stock Option Plans, and the Merck & Co., Inc. Schering-Plough 2002 and 2006 Stock Incentive Plans.

(2) Excludes approximately 15,634,028 shares of restricted stock units and 2,153,873 performance share units (assuming maximum payouts) under the Merck Sharp & Dohme 2004, 2007 and 2010 Incentive Stock Plans. Also excludes 299,571 shares of phantom stock deferred under the MSD Employee Deferral Program and 496,492 shares of phantom stock deferred under the MSD Directors Deferral Program.

Item 13. Certain Relationships and Related Transactions, and Director Independence.

The required information on transactions with related persons is incorporated by reference from the discussion under the heading “Related Person Transactions” of the Company’s Proxy Statement for the Annual Meeting of Shareholders to be held May 26, 2015.

The required information on director independence is incorporated by reference from the discussion under the heading “Independence of Directors” of the Company’s Proxy Statement for the Annual Meeting of Shareholders to be held May 26, 2015.

Item 14. Principal Accountant Fees and Services.

The information required for this item is incorporated by reference from the discussion under “Audit Committee” beginning with the caption “Pre-Approval Policy for Services of Independent Registered Public Accounting Firm” through “Fees for Services provided by Independent Registered Public Accounting Firm” of the Company’s Proxy Statement for the Annual Meeting of Shareholders to be held May 26, 2015.

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PART IV

Item 15. Exhibits and Financial Statement Schedules.

(a) The following documents are filed as part of this Form 10-K

1. Financial Statements

Consolidated statement of income for the years ended December 31, 2014, 2013 and 2012

Consolidated statement of comprehensive income for the years ended December 31, 2014, 2013 and 2012

Consolidated balance sheet as of December 31, 2014 and 2013

Consolidated statement of equity for the years ended December 31, 2014, 2013 and 2012

Consolidated statement of cash flows for the years ended December 31, 2014, 2013 and 2012

Notes to consolidated financial statements

Report of PricewaterhouseCoopers LLP, independent registered public accounting firm

2. Financial Statement Schedules

Schedules are omitted because they are either not required or not applicable.

Financial statements of affiliates carried on the equity basis have been omitted because, considered individually or in the aggregate, such affiliates do not constitute a significant subsidiary.

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3. Exhibits

Exhibit Number		Description
2.1	—	Master Restructuring Agreement dated as of June 19, 1998 between Astra AB, Merck & Co., Inc., Astra Merck Inc., Astra USA, Inc., KB USA, L.P., Astra Merck Enterprises, Inc., KBI Sub Inc., Merck Holdings, Inc. and Astra Pharmaceuticals, L.P. (Portions of this Exhibit are subject to a request for confidential treatment filed with the Commission) — Incorporated by reference to MSD's Form 10-Q Quarterly Report for the period ended June 30, 1998 (No. 1-3305)
3.1	—	Restated Certificate of Incorporation of Merck & Co., Inc. (November 3, 2009) — Incorporated by reference to Merck & Co., Inc.'s Current Report on Form 8-K filed November 4, 2009 (No. 1-6571)
3.2	—	By-Laws of Merck & Co., Inc. (effective February 25, 2014) — Incorporated by reference to Merck & Co., Inc.'s Annual Report on Form 10-K filed February 27, 2014 (No. 1-6571)
4.1	—	Indenture, dated as of April 1, 1991, between Merck Sharp & Dohme Corp. (f/k/a Schering Corporation) and U.S. Bank Trust National Association (as successor to Morgan Guaranty Trust Company of New York), as Trustee (the "1991 Indenture") — Incorporated by reference to Exhibit 4 to MSD's Registration Statement on Form S-3 (No. 33-39349)
4.2	—	First Supplemental Indenture to the 1991 Indenture, dated as of October 1, 1997 — Incorporated by reference to Exhibit 4(b) to MSD's Registration Statement on Form S-3 (No. 333-36383)
4.3	—	Second Supplemental Indenture to the 1991 Indenture, dated November 3, 2009 — Incorporated by reference to Exhibit 4.3 to Merck & Co., Inc.'s Current Report on Form 8-K filed November 4, 2009 (No.1-6571)
4.4	—	Third Supplemental Indenture to the 1991 Indenture, dated May 1, 2012 —Incorporated by reference to Merck & Co., Inc.'s Form 10-Q Quarterly Report for the quarter year ended March 31, 2012 (No. 1-6571)
4.5	—	Indenture, dated November 26, 2003, between Merck & Co., Inc. (f/k/a Schering-Plough Corporation) and The Bank of New York as Trustee (the "2003 Indenture") — Incorporated by reference to Exhibit 4.1 to Schering-Plough's Current Report on Form 8 K filed November 28, 2003 (No. 1-6571)
4.6	—	First Supplemental Indenture to the 2003 Indenture (including Form of Note), dated November 26, 2003 — Incorporated by reference to Exhibit 4.2 to Schering-Plough's Current Report on Form 8 K filed November 28, 2003 (No. 1-6571)
4.7	—	Second Supplemental Indenture to the 2003 Indenture (including Form of Note), dated November 26, 2003 —Incorporated by reference to Exhibit 4.3 to Schering-Plough's Current Report on Form 8 K filed November 28, 2003 (No. 1-6571)
4.8	—	Third Supplemental Indenture to the 2003 Indenture (including Form of Note), dated September 17, 2007 — Incorporated by reference to Exhibit 4.1 to Schering-Plough's Current Report on Form 8 K filed September 17, 2007 (No. 1-6571)
4.9	—	Fourth Supplemental Indenture to the 2003 Indenture (including Form of Note), dated October 1, 2007 — Incorporated by reference to Exhibit 4.1 to Schering-Plough's Current Report on Form 8 K filed October 2, 2007 (No.1-6571)
4.10	—	Fifth Supplemental Indenture to the 2003 Indenture, dated November 3, 2009 — Incorporated by reference to Exhibit 4.4 to Merck & Co., Inc.'s Current Report on Form 8-K filed November 4, 2009 (No. 1-6571)
4.11	—	Indenture, dated as of January 6, 2010, between Merck & Co., Inc. and U.S. Bank Trust National Association, as Trustee — Incorporated by reference to Exhibit 4.1 to Merck & Co., Inc.'s Current Report on Form 8-K filed December 10, 2010 (No. 1-6571)
4.12	—	Long-term debt instruments under which the total amount of securities authorized does not exceed 10% of Merck & Co., Inc.'s total consolidated assets are not filed as exhibits to this report. Merck & Co., Inc. will furnish a copy of these agreements to the Securities and Exchange Commission on

request.

*10.1	—	Executive Incentive Plan (as amended effective February 27, 1996) — Incorporated by reference to MSD's Form 10-K Annual Report for the fiscal year ended December 31, 1995 (No. 1-3305)

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Exhibit Number		Description
*10.2	—	Merck & Co., Inc. Deferral Program Including the Base Salary Deferral Plan (Amended and Restated effective January 1, 2013) — Incorporated by reference to Merck & Co., Inc.'s Form 10-K Annual Report for the fiscal year ended December 31, 2012 (No. 1-6571)
*10.3	—	Merck Sharp & Dohme Corp. 2004 Incentive Stock Plan (amended and restated as of November 3, 2009) — Incorporated by reference to Exhibit 10.8 to Merck & Co., Inc.'s Current Report on Form 8 K filed November 4, 2009 (No. 1-6571)
*10.4	—	Merck Sharp & Dohme Corp. 2007 Incentive Stock Plan (effective as amended and restated as of November 3, 2009) — Incorporated by reference to Exhibit 10.7 to Merck & Co., Inc.'s Current Report on Form 8-K filed November 4, 2009 (No. 1-6571)
*10.5	—	Amendment One to the Merck Sharp & Dohme Corp. 2007 Incentive Stock Plan (effective February 15, 2010) — Incorporated by reference to Exhibit 10.2 to Merck & Co., Inc.'s Current Report on Form 8-K filed February 18, 2010 (No. 1-6571)
*10.6	—	2002 Stock Incentive Plan (as amended to February 25, 2003) — Incorporated by reference to Exhibit 10(d) to Schering-Plough's 10-K for the year ended December 31, 2002 (No. 1-5671)
*10.7	—	Merck & Co., Inc. 2010 Incentive Stock Plan (effective as of May 1, 2010) — Incorporated by reference to Merck & Co., Inc.'s Schedule 14A filed April 12, 2010 (No. 1-6571)
*10.8	—	Form of stock option terms for a non-qualified stock option under the Merck Sharp & Dohme Corp. 2007 Incentive Stock Plan and the Schering-Plough 2006 Stock Incentive Plan — Incorporated by reference to Exhibit 10.3 to Merck & Co., Inc.'s Current Report on Form 8-K filed February 15, 2010 (No. 1-6571)
*10.9	—	Form of stock option terms for 2011 quarterly and annual non-qualified option grants under the Merck & Co., Inc. 2010 Incentive Stock Plan — Incorporated by reference to Merck & Co., Inc.'s Form 10 Q Quarterly Report for the period ended March 31, 2011 (No. 1-6571)
*10.10	—	Form of restricted stock unit terms for 2011 quarterly and annual grants under the Merck & Co., Inc. 2010 Incentive Stock Plan — Incorporated by reference to Merck & Co., Inc.'s Form 10-Q Quarterly Report for the period ended March 31, 2011 (No. 1-6571)
*10.11	—	Form of performance share unit terms for 2011 and 2012 grants under the Merck & Co., Inc. 2010 Incentive Stock Plan — Incorporated by reference to Merck & Co., Inc.'s Form 10-K Annual Report for the fiscal year ended December 31, 2012 (No. 1-6571)
*10.12	—	Form of stock option terms for 2012 quarterly and annual non-qualified option grants under the Merck & Co., Inc. 2010 Incentive Stock Plan — Incorporated by reference to Merck & Co., Inc.'s Form 10 K Annual Report for the fiscal year ended December 31, 2011 (No. 1-6571)
*10.13	—	Form of restricted stock unit terms for 2012 quarterly and annual grants under the Merck & Co., Inc. 2010 Incentive Stock Plan — Incorporated by reference to Merck & Co., Inc.'s Form 10-K Annual Report for the fiscal year ended December 31, 2011 (No. 1-6571)
*10.14	—	Form of performance share unit terms for 2012 grants under the Merck & Co., Inc. 2010 Incentive Stock Plan — Incorporated by reference to Merck & Co., Inc.'s Form 10-Q Quarterly Report for the period ended March 31, 2012 (No. 1-6571)
*10.15	—	Form of stock option terms for 2013 quarterly and annual non-qualified option grants under the Merck & Co., Inc. 2010 Incentive Stock Plan — Incorporated by reference to Merck & Co., Inc.'s Form 10-K Annual Report for the fiscal year ended December 31, 2012 (No. 1-6571)
*10.16	—	Form of restricted stock unit terms for 2013 quarterly and annual grants under the Merck & Co., Inc. 2010 Incentive Stock Plan — Incorporated by reference to Merck & Co., Inc.'s Form 10-K Annual Report for the fiscal year ended December 31, 2012 (No. 1-6571)
*10.17	—	Form of performance share unit terms for 2013 grants under the Merck & Co., Inc. 2010 Incentive Stock Plan
*10.18	—	

		Form of stock option terms for 2014 quarterly and annual non-qualified option grants under the Merck & Co., Inc. 2010 Incentive Stock Plan
*10.19	—	Form of restricted stock unit terms for 2014 quarterly and annual grants under the Merck & Co., Inc. 2010 Incentive Stock Plan

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Exhibit Number		Description
*10.20	—	Form of performance share unit terms for 2014 grants under the Merck & Co., Inc. 2010 Stock Incentive Plan
*10.21	—	Merck & Co., Inc. Change in Control Separation Benefits Plan (Effective as Amended and Restated, as of January 1, 2013) — Incorporated by reference to Merck & Co., Inc.'s Current Report on Form 8 K dated November 29, 2012 (No. 1-6571)
*10.22	—	Merck & Co., Inc. U.S. Separation Benefits Plan (effective as of January 1, 2013) (amended and restated as of October 1, 2013) — Incorporated by reference to Merck & Co., Inc.'s Form 10 Q Quarterly Report for the period ended September 30, 2013 (No. 1-6571)
*10.23	—	Merck & Co., Inc. U.S. Separation Benefits Plan (amended and restated effective as of November 15, 2014)
*10.24	—	Merck & Co., Inc. 2006 Non-Employee Directors Stock Option Plan (amended and restated as of November 3, 2009) — Incorporated by reference to Exhibit 10.5 to Merck & Co., Inc.'s Current Report on Form 8-K filed November 4, 2009 (No. 1-6571)
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10.39	—	Agreement to Incorporate Defined Terms dated as of June 19, 1998 between Astra AB, Merck & Co., Inc., Astra Merck Inc., Astra USA, Inc., KB USA, L.P., Astra Merck Enterprises Inc., KBI Sub Inc., Merck Holdings, Inc. and Astra Pharmaceuticals, L.P. — Incorporated by reference to MSD's Form 10-Q Quarterly Report for the period ended June 30, 1998 (No. 1-3305)
10.40	—	Distribution agreement between Schering-Plough and Centocor, Inc., dated April 3, 1998 — Incorporated by reference to Exhibit 10(u) to Schering-Plough's Amended 10-K for the year ended December 31, 2003, filed May 3, 2004 (No. 1-6571)†
10.41	—	Amendment Agreement to the Distribution Agreement between Centocor, Inc., CAN Development, LLC, and Schering-Plough (Ireland) Company — Incorporated by reference to Exhibit 10.1 to Schering-Plough's Current Report on Form 8-K filed December 21, 2007 (No. 1-6571)†
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23	—	Consent of Independent Registered Public Accounting Firm
24.1	—	Power of Attorney
24.2	—	Certified Resolution of Board of Directors
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31.2	—	Rule 13a-14(a)/15d-14(a) Certification of Chief Financial Officer
32.1	—	Section 1350 Certification of Chief Executive Officer
32.2	—	Section 1350 Certification of Chief Financial Officer
101	—	The following materials from Merck & Co., Inc.'s Annual Report on Form 10-K for the fiscal year ended December 31, 2014, formatted in XBRL (Extensible Business Reporting Language): (i) the Consolidated Statement of Income, (ii) the Consolidated Statement of Comprehensive Income, (iii) the Consolidated Balance Sheet, (iv) the Consolidated Statement of Equity, (v) the Consolidated Statement of Cash Flows, and (vi) Notes to Consolidated Financial Statements.

* Management contract or compensatory plan or arrangement.

† Certain portions of the exhibit have been omitted pursuant to a request for confidential treatment. The non-public information has been filed separately with the Securities and Exchange Commission pursuant to rule 24b-2 under the Securities Exchange Act of 1934, as amended.

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SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Dated: February 27, 2015

MERCK & CO., INC.

By: KENNETH C. FRAZIER
(Chairman, President and Chief Executive Officer)

By: /S/ GERALYN S. RITTER
Geralyn S. Ritter
(Attorney-in-Fact)

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Registrant and in the capacities and on the dates indicated.

Signatures	Title	Date
KENNETH C. FRAZIER	Chairman, President and Chief Executive Officer; Principal Executive Officer; Director	February 27, 2015
ROBERT M. DAVIS	Executive Vice President and Chief Financial Officer; Principal Financial Officer	February 27, 2015
RITA A. KARACHUN	Senior Vice President Finance-Global Controller; Principal Accounting Officer	February 27, 2015
LESLIE A. BRUN	Director	February 27, 2015
THOMAS R. CECH	Director	February 27, 2015
THOMAS H. GLOCER	Director	February 27, 2015
WILLIAM B. HARRISON, JR.	Director	February 27, 2015
C. ROBERT KIDDER	Director	February 27, 2015
ROCHELLE B. LAZARUS	Director	February 27, 2015
CARLOS E. REPRESAS	Director	February 27, 2015
PATRICIA F. RUSSO	Director	February 27, 2015
CRAIG B. THOMPSON	Director	February 27, 2015
WENDELL P. WEEKS	Director	February 27, 2015
PETER C. WENDELL	Director	February 27, 2015

Geralyn S. Ritter, by signing her name hereto, does hereby sign this document pursuant to powers of attorney duly executed by the persons named, filed with the Securities and Exchange Commission as an exhibit to this document, on behalf of such persons, all in the capacities and on the date stated, such persons including a majority of the directors of the Company.

By: /S/ GERALYN S. RITTER
Geralyn S. Ritter
(Attorney-in-Fact)

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EXHIBIT INDEX

Exhibit Number		Description
2.1	—	Master Restructuring Agreement dated as of June 19, 1998 between Astra AB, Merck & Co., Inc., Astra Merck Inc., Astra USA, Inc., KB USA, L.P., Astra Merck Enterprises, Inc., KBI Sub Inc., Merck Holdings, Inc. and Astra Pharmaceuticals, L.P. (Portions of this Exhibit are subject to a request for confidential treatment filed with the Commission) — Incorporated by reference to MSD's Form 10-Q Quarterly Report for the period ended June 30, 1998 (No. 1-3305)
3.1	—	Restated Certificate of Incorporation of Merck & Co., Inc. (November 3, 2009) — Incorporated by reference to Merck & Co., Inc.'s Current Report on Form 8-K filed November 4, 2009 (No. 1-6571)
3.2	—	By-Laws of Merck & Co., Inc. (effective February 25, 2014) — Incorporated by reference to Merck & Co., Inc.'s Annual Report on Form 10-K filed February 27, 2014 (No. 1-6571)
4.1	—	Indenture, dated as of April 1, 1991, between Merck Sharp & Dohme Corp. (f/k/a Schering Corporation) and U.S. Bank Trust National Association (as successor to Morgan Guaranty Trust Company of New York), as Trustee (the "1991 Indenture") — Incorporated by reference to Exhibit 4 to MSD's Registration Statement on Form S-3 (No. 33-39349)
4.2	—	First Supplemental Indenture to the 1991 Indenture, dated as of October 1, 1997 — Incorporated by reference to Exhibit 4(b) to MSD's Registration Statement on Form S-3 (No. 333-36383)
4.3	—	Second Supplemental Indenture to the 1991 Indenture, dated November 3, 2009 — Incorporated by reference to Exhibit 4.3 to Merck & Co., Inc.'s Current Report on Form 8-K filed November 4, 2009 (No.1-6571)
4.4	—	Third Supplemental Indenture to the 1991 Indenture, dated May 1, 2012 —Incorporated by reference to Merck & Co., Inc.'s Form 10-Q Quarterly Report for the quarter year ended March 31, 2012 (No. 1-6571)
4.5	—	Indenture, dated November 26, 2003, between Merck & Co., Inc. (f/k/a Schering-Plough Corporation) and The Bank of New York as Trustee (the "2003 Indenture") — Incorporated by reference to Exhibit 4.1 to Schering-Plough's Current Report on Form 8 K filed November 28, 2003 (No. 1-6571)
4.6	—	First Supplemental Indenture to the 2003 Indenture (including Form of Note), dated November 26, 2003 — Incorporated by reference to Exhibit 4.2 to Schering-Plough's Current Report on Form 8 K filed November 28, 2003 (No. 1-6571)
4.7	—	Second Supplemental Indenture to the 2003 Indenture (including Form of Note), dated November 26, 2003 —Incorporated by reference to Exhibit 4.3 to Schering-Plough's Current Report on Form 8 K filed November 28, 2003 (No. 1-6571)
4.8	—	Third Supplemental Indenture to the 2003 Indenture (including Form of Note), dated September 17, 2007 — Incorporated by reference to Exhibit 4.1 to Schering-Plough's Current Report on Form 8 K filed September 17, 2007 (No. 1-6571)
4.9	—	Fourth Supplemental Indenture to the 2003 Indenture (including Form of Note), dated October 1, 2007 — Incorporated by reference to Exhibit 4.1 to Schering-Plough's Current Report on Form 8 K filed October 2, 2007 (No.1-6571)
4.10	—	Fifth Supplemental Indenture to the 2003 Indenture, dated November 3, 2009 — Incorporated by reference to Exhibit 4.4 to Merck & Co., Inc.'s Current Report on Form 8-K filed November 4, 2009 (No. 1-6571)
4.11	—	Indenture, dated as of January 6, 2010, between Merck & Co., Inc. and U.S. Bank Trust National Association, as Trustee — Incorporated by reference to Exhibit 4.1 to Merck & Co., Inc.'s Current Report on Form 8-K filed December 10, 2010 (No. 1-6571)
4.12	—	Long-term debt instruments under which the total amount of securities authorized does not exceed 10% of Merck & Co., Inc.'s total consolidated assets are not filed as exhibits to this report. Merck &

		Co., Inc. will furnish a copy of these agreements to the Securities and Exchange Commission on request.
*10.1	—	Executive Incentive Plan (as amended effective February 27, 1996) — Incorporated by reference to MSD's Form 10-K Annual Report for the fiscal year ended December 31, 1995 (No. 1-3305)

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Exhibit Number		Description
*10.2	—	Merck & Co., Inc. Deferral Program Including the Base Salary Deferral Plan (Amended and Restated effective January 1, 2013) — Incorporated by reference to Merck & Co., Inc.'s Form 10-K Annual Report for the fiscal year ended December 31, 2012 (No. 1-6571)
*10.3	—	Merck Sharp & Dohme Corp. 2004 Incentive Stock Plan (amended and restated as of November 3, 2009) — Incorporated by reference to Exhibit 10.8 to Merck & Co., Inc.'s Current Report on Form 8 K filed November 4, 2009 (No. 1-6571)
*10.4	—	Merck Sharp & Dohme Corp. 2007 Incentive Stock Plan (effective as amended and restated as of November 3, 2009) — Incorporated by reference to Exhibit 10.7 to Merck & Co., Inc.'s Current Report on Form 8-K filed November 4, 2009 (No. 1-6571)
*10.5	—	Amendment One to the Merck Sharp & Dohme Corp. 2007 Incentive Stock Plan (effective February 15, 2010) — Incorporated by reference to Exhibit 10.2 to Merck & Co., Inc.'s Current Report on Form 8-K filed February 18, 2010 (No. 1-6571)
*10.6	—	2002 Stock Incentive Plan (as amended to February 25, 2003) — Incorporated by reference to Exhibit 10(d) to Schering-Plough's 10-K for the year ended December 31, 2002 (No. 1-5671)
*10.7	—	Merck & Co., Inc. 2010 Incentive Stock Plan (effective as of May 1, 2010) — Incorporated by reference to Merck & Co., Inc.'s Schedule 14A filed April 12, 2010 (No. 1-6571)
*10.8	—	Form of stock option terms for a non-qualified stock option under the Merck Sharp & Dohme Corp. 2007 Incentive Stock Plan and the Schering-Plough 2006 Stock Incentive Plan — Incorporated by reference to Exhibit 10.3 to Merck & Co., Inc.'s Current Report on Form 8-K filed February 15, 2010 (No. 1-6571)
*10.9	—	Form of stock option terms for 2011 quarterly and annual non-qualified option grants under the Merck & Co., Inc. 2010 Incentive Stock Plan — Incorporated by reference to Merck & Co., Inc.'s Form 10 Q Quarterly Report for the period ended March 31, 2011 (No. 1-6571)
*10.10	—	Form of restricted stock unit terms for 2011 quarterly and annual grants under the Merck & Co., Inc. 2010 Incentive Stock Plan — Incorporated by reference to Merck & Co., Inc.'s Form 10-Q Quarterly Report for the period ended March 31, 2011 (No. 1-6571)
*10.11	—	Form of performance share unit terms for 2011 and 2012 grants under the Merck & Co., Inc. 2010 Incentive Stock Plan — Incorporated by reference to Merck & Co., Inc.'s Form 10-K Annual Report for the fiscal year ended December 31, 2012 (No. 1-6571)
*10.12	—	Form of stock option terms for 2012 quarterly and annual non-qualified option grants under the Merck & Co., Inc. 2010 Incentive Stock Plan — Incorporated by reference to Merck & Co., Inc.'s Form 10 K Annual Report for the fiscal year ended December 31, 2011 (No. 1-6571)
*10.13	—	Form of restricted stock unit terms for 2012 quarterly and annual grants under the Merck & Co., Inc. 2010 Incentive Stock Plan — Incorporated by reference to Merck & Co., Inc.'s Form 10-K Annual Report for the fiscal year ended December 31, 2011 (No. 1-6571)
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*10.15	—	Form of stock option terms for 2013 quarterly and annual non-qualified option grants under the Merck & Co., Inc. 2010 Incentive Stock Plan — Incorporated by reference to Merck & Co., Inc.'s Form 10-K Annual Report for the fiscal year ended December 31, 2012 (No. 1-6571)
*10.16	—	Form of restricted stock unit terms for 2013 quarterly and annual grants under the Merck & Co., Inc. 2010 Incentive Stock Plan — Incorporated by reference to Merck & Co., Inc.'s Form 10-K Annual Report for the fiscal year ended December 31, 2012 (No. 1-6571)
*10.17	—	Form of performance share unit terms for 2013 grants under the Merck & Co., Inc. 2010 Incentive Stock Plan
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		Form of stock option terms for 2014 quarterly and annual non-qualified option grants under the Merck & Co., Inc. 2010 Incentive Stock Plan
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*10.20	—	Form of performance share unit terms for 2014 grants under the Merck & Co., Inc. 2010 Stock Incentive Plan
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