

3M CO
Form 10-K
February 09, 2017
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UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

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

For the fiscal year ended December 31, 2016

Commission file number 1-3285

3M COMPANY

State of Incorporation: Delaware I.R.S. Employer Identification No. 41-0417775
Principal executive offices: 3M Center, St. Paul, Minnesota 55144

Telephone number: (651) 733-1110

SECURITIES REGISTERED PURSUANT TO SECTION 12(b) OF THE ACT:

Title of each class	Name of each exchange on which registered
Common Stock, Par Value \$.01 Per Share	New York Stock Exchange, Inc. Chicago Stock Exchange, Inc.

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EUR 500 Million Notes due 2018	New York Stock Exchange, Inc.
EUR 750 Million Notes due 2026	New York Stock Exchange, Inc.
EUR 650 Million Notes due 2020	New York Stock Exchange, Inc.
EUR 600 Million Notes due 2023	New York Stock Exchange, Inc.
EUR 500 Million Notes due 2030	New York Stock Exchange, Inc.

Note: The common stock of the Registrant is also traded on the SWX Swiss Exchange.

Securities registered pursuant to section 12(g) of the Act: None

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

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 No

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

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No

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.

Indicate by check mark whether the Registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer Accelerated filer Non-accelerated filer Smaller reporting company

Indicate by check mark whether the Registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes No

The aggregate market value of voting stock held by nonaffiliates of the Registrant, computed by reference to the closing price and shares outstanding, was approximately \$104.2 billion as of January 31, 2017 (approximately \$105.8 billion as of June 30, 2016, the last business day of the Registrant's most recently completed second quarter).

Shares of common stock outstanding at January 31, 2017: 596.2 million

DOCUMENTS INCORPORATED BY REFERENCE

Parts of the Company's definitive proxy statement (to be filed pursuant to Regulation 14A within 120 days after Registrant's fiscal year-end of December 31, 2016) for its annual meeting to be held on May 9, 2017, are incorporated by reference in this Form 10-K in response to Part III, Items 10, 11, 12, 13 and 14.

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3M COMPANY

FORM 10-K

For the Year Ended December 31, 2016

Pursuant to Part IV, Item 16, a summary of Form 10-K content follows, including hyperlinked cross-references (in the EDGAR filing). This allows users to easily locate the corresponding items in Form 10-K, where the disclosure is fully presented. The summary does not include certain Part III information that will be incorporated by reference from the proxy statement, which will be filed after this Form 10-K filing.

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3M COMPANY

ANNUAL REPORT ON FORM 10-K

For the Year Ended December 31, 2016

PART I

Item 1. Business.

3M Company was incorporated in 1929 under the laws of the State of Delaware to continue operations begun in 1902. The Company's ticker symbol is MMM. As used herein, the term "3M" or "Company" includes 3M Company and its subsidiaries unless the context indicates otherwise. In this document, for any references to Note 1 through Note 18, refer to the Notes to Consolidated Financial Statements in Item 8.

Available Information

The SEC maintains a website that contains reports, proxy and information statements, and other information regarding issuers, including the Company, that file electronically with the SEC. The public can obtain any documents that the Company files with the SEC at <http://www.sec.gov>. The Company files annual reports, quarterly reports, proxy statements and other documents with the Securities and Exchange Commission (SEC) under the Securities Exchange Act of 1934 (Exchange Act). The public may read and copy any materials that the Company files with the SEC at the SEC's Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. The public may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330.

3M also makes available free of charge through its website (<http://investors.3M.com>) the Company's Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and, if applicable, amendments to those reports filed or furnished pursuant to the Exchange Act as soon as reasonably practicable after the Company electronically files such material with, or furnishes it to, the SEC.

General

3M is a diversified technology company with a global presence in the following businesses: Industrial; Safety and Graphics; Health Care; Electronics and Energy; and Consumer. 3M is among the leading manufacturers of products for many of the markets it serves. Most 3M products involve expertise in product development, manufacturing and

marketing, and are subject to competition from products manufactured and sold by other technologically oriented companies.

At December 31, 2016, the Company employed 91,584 people (full-time equivalents), with 35,745 employed in the United States and 55,839 employed internationally.

Business Segments

As described in Notes 3 and 16, effective in the first quarter of 2016, the Company changed its business segment reporting in its continuing effort to improve the alignment of its businesses around markets and customers. Business segment information presented herein reflects the impact of these changes for all periods presented.

3M manages its operations in five business segments: Industrial; Safety and Graphics; Health Care; Electronics and Energy; and Consumer. 3M's five business segments bring together common or related 3M technologies, enhancing the development of innovative products and services and providing for efficient sharing of business resources. Financial information and other disclosures relating to 3M's business segments and operations in major geographic areas are provided in the Notes to Consolidated Financial Statements.

Industrial Business: The Industrial segment serves a broad range of markets, such as automotive original equipment manufacturer (OEM) and automotive aftermarket (auto body shops and retail), electronics, appliance, paper and printing, packaging, food and beverage, and construction. Industrial products include tapes, a wide variety of coated, non-woven and bonded abrasives, adhesives, advanced ceramics, sealants, specialty materials, separation and purification products, closure systems for personal hygiene products, acoustic systems products, and components and products that are used in

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the manufacture, repair and maintenance of automotive, marine, aircraft and specialty vehicles. 3M is also a leading global supplier of precision grinding technology serving customers in the area of hard-to-grind precision applications in industrial, automotive, aircraft and cutting tools. 3M develops and produces advanced technical ceramics for demanding applications in the automotive, oil and gas, solar, industrial, electronics and defense industries. In August 2015, 3M acquired assets and liabilities associated with Polypore International, Inc.'s Separations Media business, a leading provider of microporous membranes and modules for filtration in the life sciences, industrial and specialty segments. In the first quarter of 2016, 3M sold the assets of its pressurized polyurethane foam adhesives business, and in October 2016 sold the assets of its adhesive-backed temporary protective films business (both discussed further in Note 2).

Major industrial products include vinyl, polyester, foil and specialty industrial tapes and adhesives; Scotch® Masking Tape, Scotch® Filament Tape and Scotch® Packaging Tape; packaging equipment; 3M™ VHB™ Bonding Tapes; conductive, low surface energy, sealants, hot melt, spray and structural adhesives; reclosable fasteners; label materials for durable goods; coated, nonwoven and microstructured surface finishing and grinding abrasives for the industrial market; a comprehensive line of filtration products for the separation, clarification and purification of fluids and gases; and fluoroelastomers for seals, tubes and gaskets in engines.

Major industrial products used in the transportation industry include insulation components, including Thinsulate™ Acoustic Insulation and components for cabin noise reduction and catalytic converters; functional and decorative graphics; abrasion-resistant films; adhesives; sealants; masking tapes; fasteners and tapes for attaching nameplates, trim, moldings, interior panels and carpeting; coated, nonwoven and microstructured finishing and grinding abrasives; structural adhesives; and other specialty materials. In addition, 3M provides paint finishing and detailing products, including a complete system of cleaners, dressings, polishes, waxes and other products.

Safety and Graphics Business: The Safety and Graphics segment serves a broad range of markets that increase the safety, security and productivity of people, facilities and systems. Major product offerings include personal protection products, such as respiratory, hearing, eye and fall protection equipment; traffic safety and security products, including border and civil security solutions; commercial solutions, including commercial graphics sheeting and systems, architectural design solutions for surfaces, and cleaning and protection products for commercial establishments; and roofing granules for asphalt shingles. In August 2015, 3M acquired Capital Safety Group S.A.R.L., a leading global provider of fall protection equipment.

This segment's products include personal protection products, such as certain disposable and reusable respirators, fall protection equipment, personal protective equipment, head and face protection, body protection, hearing protection and protective eyewear, plus reflective materials that are widely used on apparel, footwear and accessories, enhancing visibility in low-light situations.

In traffic safety and security, 3M provides reflective sheeting used on highway signs, vehicle license plates, construction work-zone devices, trucks and other vehicles, and also provides pavement marking systems, in addition

to electronic surveillance products, and films that protect against counterfeiting. Traffic safety and security also provides finger, palm, face and iris biometric systems for governments, law enforcement agencies, and commercial enterprises, in addition to remote people-monitoring technologies used for offender-monitoring applications. In December 2015, 3M sold Faab Fabricauto, a French manufacturer of license plates and signage solutions, and in the first quarter of 2016 completed the sale of its library systems business (both discussed further in Note 2).

Major commercial graphics products include films, inks, and related products used to produce graphics for vehicles, signs and interior surfaces. Other segment products include spill-control sorbents; nonwoven abrasive materials for floor maintenance and commercial cleaning; floor matting; and natural and color-coated mineral granules for asphalt shingles.

Health Care Business: The Health Care segment serves markets that include medical clinics and hospitals, pharmaceuticals, dental and orthodontic practitioners, health information systems, and food manufacturing and testing. Products and services provided to these and other markets include medical and surgical supplies, skin health and infection prevention products, inhalation and transdermal drug delivery systems, oral care solutions (dental and orthodontic products), health information systems, and food safety products. In April 2014, 3M purchased all of the outstanding equity interests of Treo Solutions LLC, headquartered in Troy, New York. Treo Solutions LLC is a provider

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of data analytics and business intelligence to healthcare payers and providers. In March 2015, 3M acquired Ivera Medical Corp., a manufacturer of health care products that disinfect and protect devices used for access into a patient's bloodstream.

In the medical and surgical areas, 3M is a supplier of medical tapes, dressings, wound closure products, orthopedic casting materials, electrodes and stethoscopes. In infection prevention, 3M markets a variety of surgical drapes, masks and preps, as well as sterilization assurance equipment and patient warming solutions designed to prevent hypothermia in surgical settings. Other products include drug delivery systems, such as metered-dose inhalers, transdermal skin patches and related components. Oral care solutions include restoratives, adhesives, finishing and polishing products, crowns, impression materials, preventive sealants, professional tooth whiteners, prophylaxis and orthodontic appliances, as well as digital workflow solutions to transform traditional impression and analog processes. In health information systems, 3M develops and markets computer software for hospital coding and data classification, and provides related consulting services. 3M provides food safety products that make it faster and easier for food processors to test the microbiological quality of food.

Electronics and Energy Business: The Electronics and Energy segment serves customers in electronics and energy markets, including solutions that improve the dependability, cost-effectiveness, and performance of electronic devices; electrical products, including infrastructure protection; telecommunications networks, and power generation and distribution.

This segment's electronics solutions include the display materials and systems business, which provides films that serve numerous market segments of the electronic display industry. 3M provides distinct products for five market segments, including products for: 1) LCD computer monitors 2) LCD televisions 3) handheld devices such as cellular phones and tablets 4) notebook PCs and 5) automotive displays. This segment also provides desktop and notebook computer screen filters that address display light control, privacy, and glare reduction needs. Major electronics products also include packaging and interconnection devices; high performance fluids and abrasives used in the manufacture of computer chips, and for cooling electronics and lubricating computer hard disk drives; and high-temperature and display tapes. Flexible circuits use electronic packaging and interconnection technology, providing more connections in less space, and are used in ink-jet printer cartridges, cell phones and electronic devices. This segment also includes touch systems products, including touch screens, touch monitors, and touch sensor components. In December 2016, 3M sold the assets of its cathode battery technology out-licensing business (discussed further in Note 2).

This segment's energy solutions include electrical products, including infrastructure protection, telecommunications, and renewable energy. This segment serves the world's electrical and telecommunications markets, including electrical utilities, electrical construction, maintenance and repair, original equipment manufacturers (OEM), telecommunications central office, outside plant and enterprise, as well as aerospace, military, automotive and medical markets, with products that enable the efficient transmission of electrical power and speed the delivery of information. Products in this segment include pressure sensitive tapes and resins, electrical insulation, a wide array of fiber-optic and copper-based telecommunications systems for rapid deployment of fixed and wireless networks, as well as the 3M™ Aluminum Conductor Composite Reinforced (ACCR) electrical power cable that increases transmission capacity for

existing power lines. This segment also includes renewable energy component solutions for the solar and wind power industries, as well as infrastructure products solutions that provide municipalities both protection and detection solutions for electrical, oil, natural gas, water, rebar and other infrastructure assets.

Consumer Business: The Consumer segment serves markets that include consumer retail, office retail, office business to business, home improvement, drug and pharmacy retail, and other markets. Products in this segment include office supply products, stationery products, home improvement products (do-it-yourself), home care products, protective material products, certain consumer retail personal safety products, and consumer health care products.

Major consumer products include Scotch® brand products, such as Scotch® Magic™ Tape, Scotch® Glue Stick and Scotch® Cushioned Mailer; Post-it® Products, such as Post-it® Flags, Post-it® Note Pads, Post-it® Labeling & Cover-up Tape, and Post-it® Pop-up Notes and Dispensers; home improvement products, including surface-preparation and wood-finishing materials, Command™ Adhesive Products and Filtrete™ Filters for furnaces and air conditioners; home care products, including Scotch-Brite® Scour Pads, Scotch-Brite® Scrub Sponges, Scotch-Brite® Microfiber Cloth

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products, O-Cel-O™ Sponges; protective material products, such as Scotchgard™ Fabric Protectors; certain maintenance-free respirators; certain consumer retail personal safety products, including safety glasses, hearing protectors, and 3M Thinsulate™ Insulation, which is used in jackets, pants, gloves, hats and boots to keep people warm; Nexcare™ Adhesive Bandages; and ACE® branded (and related brands) elastic bandage, supports and thermometer product lines.

Distribution

3M products are sold through numerous distribution channels, including directly to users and through numerous wholesalers, retailers, jobbers, distributors and dealers in a wide variety of trades in many countries around the world. Management believes the confidence of wholesalers, retailers, jobbers, distributors and dealers in 3M and its products — a confidence developed through long association with skilled marketing and sales representatives — has contributed significantly to 3M's position in the marketplace and to its growth.

Research and Patents

Research and product development constitutes an important part of 3M's activities and has been a major driver of 3M's sales and profit growth. Research, development and related expenses totaled \$1.735 billion in 2016, \$1.763 billion in 2015 and \$1.770 billion in 2014. Research and development, covering basic scientific research and the application of scientific advances in the development of new and improved products and their uses, totaled \$1.225 billion in 2016, \$1.223 billion in 2015 and \$1.193 billion in 2014. Related expenses primarily include technical support; internally developed patent costs, which include costs and fees incurred to prepare, file, secure and maintain patents; amortization of externally acquired patents and externally acquired in-process research and development; and gains/losses associated with certain corporate approved investments in R&D-related ventures, such as equity method effects and impairments.

The Company's products are sold around the world under various trademarks. The Company also owns, or holds licenses to use, numerous U.S. and foreign patents. The Company's research and development activities generate a steady stream of inventions that are covered by new patents. Patents applicable to specific products extend for varying periods according to the date of patent application filing or patent grant and the legal term of patents in the various countries where patent protection is obtained. The actual protection afforded by a patent, which can vary from country to country, depends upon the type of patent, the scope of its coverage and the availability of legal remedies in the country.

The Company believes that its patents provide an important competitive advantage in many of its businesses. In general, no single patent or group of related patents is in itself essential to the Company as a whole or to any of the Company's business segments. The importance of patents in the Electronics and Energy segment is described in

“Performance by Business Segment” — “Electronics and Energy Business” in Part II, Item 7, of this Annual Report on Form 10-K.

Raw Materials

In 2016, the Company experienced declining costs for most raw material categories and transportation fuel, due largely to price decreases in crude oil and the derivative chemical feedstock markets. This in turn drove year-on-year cost decreases in many feedstock categories, including petroleum based materials, minerals, metals and wood pulp based products. To date, the Company is receiving sufficient quantities of all raw materials to meet its reasonably foreseeable production requirements. It is impossible to predict future shortages of raw materials or the impact any such shortages would have. 3M has avoided disruption to its manufacturing operations through careful management of existing raw material inventories and development and qualification of additional supply sources. 3M manages spend category price risks through negotiated supply contracts, price protection agreements and commodity price swaps.

Environmental Law Compliance

3M’s manufacturing operations are affected by national, state and local environmental laws around the world. 3M has made, and plans to continue making, necessary expenditures for compliance with applicable laws. 3M is also involved in remediation actions relating to environmental matters from past operations at certain sites (refer to “Environmental Matters and Litigation” in Note 14, Commitments and Contingencies).

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Environmental expenditures relating to existing conditions caused by past operations that do not contribute to current or future revenues are expensed. Reserves for liabilities for anticipated remediation costs are recorded on an undiscounted basis when they are probable and reasonably estimable, generally no later than the completion of feasibility studies, the Company’s commitment to a plan of action, or approval by regulatory agencies. Environmental expenditures for capital projects that contribute to current or future operations generally are capitalized and depreciated over their estimated useful lives.

In 2016, 3M expended about \$28 million for capital projects related to protecting the environment. This amount excludes expenditures for remediation actions relating to existing matters caused by past operations that do not contribute to current or future revenues, which are expensed. Capital expenditures for environmental purposes have included pollution control devices — such as wastewater treatment plant improvements, scrubbers, containment structures, solvent recovery units and thermal oxidizers — at new and existing facilities constructed or upgraded in the normal course of business. Consistent with the Company’s emphasis on environmental responsibility, capital expenditures (other than for remediation projects) for known projects are presently expected to be about \$70 million over the next two years for new or expanded programs to build facilities or modify manufacturing processes to minimize waste and reduce emissions.

While the Company cannot predict with certainty the future costs of such cleanup activities, capital expenditures or operating costs for environmental compliance, the Company does not believe they will have a material effect on its capital expenditures, earnings or competitive position.

Executive Officers

Following is a list of the executive officers of 3M, and their age, present position, the year elected to their present position and other positions they have held during the past five years. No family relationships exist among any of the executive officers named, nor is there any undisclosed arrangement or understanding pursuant to which any person was selected as an officer. This information is presented in the table below as of the date of the 10-K filing (February 9, 2017).

Name	Age	Present Position	Year Elected to Present Position	Other Positions Held During 2012-2016
Inge G. Thulin	63	Chairman of the Board, President and Chief Executive Officer	2012	President and Chief Executive Officer, 2012

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				Executive Vice President and Chief Operating Officer, 2011-2012
James L. Bauman	57	Executive Vice President, Electronics and Energy Business Group	2015	Senior Vice President, Business Transformation, Americas, 2015 Senior Vice President, Asia Pacific, 2012-2014 Vice President and General Manager, Optical Systems Division, 2008-2012
Julie L. Bushman	55	Senior Vice President, Business Transformation and Information Technology	2013	Executive Vice President, Safety and Graphics, 2012-2013 Executive Vice President, Safety, Security and Protection Services Business, 2011-2012
Joaquin Delgado	56	Executive Vice President, Consumer Business Group	2016	Executive Vice President, Health Care Business Group 2012-2016 Executive Vice President, Electro and Communications Business, 2009-2012
Ivan K. Fong	55	Senior Vice President, Legal Affairs and General Counsel	2012	General Counsel, U.S. Department of Homeland Security, 2009-2012
Nicolas C. Gangestad	52	Senior Vice President and Chief Financial Officer	2014	Vice President, Corporate Controller and Chief Accounting Officer, 2011-2014

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Executive Officers (continued)

Name	Age	Present Position	Year Elected to Present Position	Other Positions Held During 2012-2016
Paul A. Keel	47	Senior Vice President, Supply Chain	2014	Managing Director, 3M United Kingdom-Ireland Region, 2013-2014 Vice President and General Manager, Skin and Wound Care Division, 2010-2013
Ashish K. Khandpur	49	Senior Vice President, Research and Development, and Chief Technology Officer	2014	Vice President and General Manager, Personal Safety Division, 2014 Vice President, Research and Development, Industrial Business Group, 2013 Vice President, Research and Development, Industrial and Transportation Business, 2012
Jon T. Lindekugel	52	Senior Vice President, Business Development and Marketing-Sales	2015	Senior Vice President, Business Development, 2014-2015 President, Health Information Systems Inc., 2008-2014
Frank R. Little	56	Executive Vice President, Safety and Graphics Business Group	2013	Vice President and General Manager, Personal Safety Division, 2013 Vice President and General Manager, Occupational Health and Environmental Safety Division, 2011-2012
Marlene M. McGrath	54	Senior Vice President, Human Resources	2012	Vice President, Human Resources, International Operations, 2010-2012
Kimberly F. Price	57	Senior Vice President, Corporate Communications and Enterprise Services	2016	Vice President, 3Mgives, 2013-2015 Vice President, Community Affairs, 2012-2013 Assistant General Counsel, Office of General Counsel, 2000-2012
Michael F. Roman	57	Executive Vice President, Industrial Business Group	2014	Senior Vice President, Business Development, 2013-2014

Vice President and General Manager, Industrial Adhesives and Tapes Division, 2011-2013

Hak Cheol Shin 59 Executive Vice President, International Operations 2011

Michael G. Vale 50 Executive Vice President, Health Care Business Group 2016

Executive Vice President, Consumer Business Group, 2012-2016

Executive Vice President, Consumer and Office Business, 2011-2012

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Cautionary Note Concerning Factors That May Affect Future Results

This Annual Report on Form 10-K, including “Management’s Discussion and Analysis of Financial Condition and Results of Operations” in Item 7, contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. The Company may also make forward-looking statements in other reports filed with the Securities and Exchange Commission, in materials delivered to shareholders and in press releases. In addition, the Company’s representatives may from time to time make oral forward-looking statements.

Forward-looking statements relate to future events and typically address the Company’s expected future business and financial performance. Words such as “plan,” “expect,” “aim,” “believe,” “project,” “target,” “anticipate,” “intend,” “estimate,” “should,” “could,” “forecast” and other words and terms of similar meaning, typically identify such forward-looking statements. In particular, these include, among others, statements relating to:

- the Company’s strategy for growth, future revenues, earnings, cash flow, uses of cash and other measures of financial performance, and market position,
- worldwide economic, political, and capital markets conditions, such as interest rates, foreign currency exchange rates, financial conditions of our suppliers and customers, and natural and other disasters or climate change affecting the operations of the Company or our suppliers and customers,
 - new business opportunities, product development, and future performance or results of current or anticipated products,
- the scope, nature or impact of acquisition, strategic alliance and divestiture activities,
 - the outcome of contingencies, such as legal and regulatory proceedings,
- future levels of indebtedness, common stock repurchases and capital spending,
- future availability of and access to credit markets,
- pension and postretirement obligation assumptions and future contributions,
- asset impairments,
- tax liabilities,
- information technology security, and
- the effects of changes in tax, environmental and other laws and regulations in the United States and other countries in which we operate.

The Company assumes no obligation to update or revise any forward-looking statements.

Forward-looking statements are based on certain assumptions and expectations of future events and trends that are subject to risks and uncertainties. Actual future results and trends may differ materially from historical results or those reflected in any such forward-looking statements depending on a variety of factors. Important information as to these factors can be found in this document, including, among others, “Management’s Discussion and Analysis of Financial Condition and Results of Operations” under the headings of “Overview,” “Financial Condition and Liquidity” and annually in “Critical Accounting Estimates.” Discussion of these factors is incorporated by reference from Part I, Item 1A, “Risk Factors,” of this document, and should be considered an integral part of Part II, Item 7, “Management’s Discussion and Analysis of Financial Condition and Results of Operations.” For additional information concerning factors that may

cause actual results to vary materially from those stated in the forward-looking statements, see our reports on Form 10-K, 10-Q and 8-K filed with the SEC from time to time.

Item 1A. Risk Factors.

Provided below is a cautionary discussion of what we believe to be the most important risk factors applicable to the Company. Discussion of these factors is incorporated by reference into and considered an integral part of Part II, Item 7, "Management's Discussion and Analysis of Financial Conditions and Results of Operations."

* Results are impacted by the effects of, and changes in, worldwide economic, political, and capital markets conditions. The Company operates in more than 70 countries and derives approximately 60 percent of its revenues from outside the United States. The Company's business is subject to global competition and geopolitical risks and may be adversely affected by factors in the United States and other countries that are beyond its control, such as slower economic growth, disruptions in financial markets, economic downturns in the form of either contained or widespread recessionary

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conditions, inflation, elevated unemployment levels, sluggish or uneven recovery, government deficit reduction and other austerity measures in specific countries or regions, or in the various industries in which the Company operates; social, political or labor conditions in specific countries or regions; natural and other disasters or climate change affecting the operations of the Company or its customers and suppliers; or adverse changes in the availability and cost of capital, interest rates, tax rates, tax laws, or exchange control, ability to expatriate earnings and other regulations in the jurisdictions in which the Company operates.

* Change in the Company's credit ratings could increase cost of funding. The Company's credit ratings are important to 3M's cost of capital. The major rating agencies routinely evaluate the Company's credit profile and assign debt ratings to 3M. This evaluation is based on a number of factors, which include financial strength, business and financial risk, as well as transparency with rating agencies and timeliness of financial reporting. 3M currently has an AA- credit rating with a stable outlook from Standard & Poor's and has an A1 credit rating with a stable outlook from Moody's Investors Service. In March 2016, Moody's downgraded 3M's rating from Aa3 to A1, revised 3M's outlook from negative to stable, and affirmed the Company's short-term rating of P-1. This ratings action followed 3M's announcement of its new five-year plan for the period 2016 through 2020 in which the Company communicated its intent to further increase financial leverage. The Company's credit ratings have served to lower 3M's borrowing costs and facilitate access to a variety of lenders. The Company's ongoing transition to a better-optimized capital structure, financed with additional low-cost debt, could impact 3M's credit rating in the future. Failure to maintain strong investment grade ratings would adversely affect the Company's cost of funding and could adversely affect liquidity and access to capital markets.

* The Company's results are affected by competitive conditions and customer preferences. Demand for the Company's products, which impacts revenue and profit margins, is affected by (i) the development and timing of the introduction of competitive products; (ii) the Company's response to downward pricing to stay competitive; (iii) changes in customer order patterns, such as changes in the levels of inventory maintained by customers and the timing of customer purchases which may be affected by announced price changes, changes in the Company's incentive programs, or the customer's ability to achieve incentive goals; and (iv) changes in customers' preferences for our products, including the success of products offered by our competitors, and changes in customer designs for their products that can affect the demand for some of the Company's products.

* Foreign currency exchange rates and fluctuations in those rates may affect the Company's ability to realize projected growth rates in its sales and earnings. Because the Company's financial statements are denominated in U.S. dollars and approximately 60 percent of the Company's revenues are derived from outside the United States, the Company's results of operations and its ability to realize projected growth rates in sales and earnings could be adversely affected if the U.S. dollar strengthens significantly against foreign currencies.

* The Company's growth objectives are largely dependent on the timing and market acceptance of its new product offerings, including its ability to continually renew its pipeline of new products and to bring those products to market. This ability may be adversely affected by difficulties or delays in product development, such as the inability to identify viable new products, obtain adequate intellectual property protection, or gain market acceptance of new products. There are no guarantees that new products will prove to be commercially successful.

* The Company's future results are subject to fluctuations in the costs and availability of purchased components, compounds, raw materials and energy, including oil and natural gas and their derivatives, due to shortages, increased demand, supply interruptions, currency exchange risks, natural disasters and other factors. The Company depends on various components, compounds, raw materials, and energy (including oil and natural gas and their derivatives) supplied by others for the manufacturing of its products. It is possible that any of its supplier relationships could be interrupted due to natural and other disasters and other events, or be terminated in the future. Any sustained interruption in the Company's receipt of adequate supplies could have a material adverse effect on the Company. In addition, while the Company has a process to minimize volatility in component and material pricing, no assurance can be given that the Company will be able to successfully manage price fluctuations or that future price fluctuations or shortages will not have a material adverse effect on the Company.

* Acquisitions, strategic alliances, divestitures, and other unusual events resulting from portfolio management actions and other evolving business strategies, and possible organizational restructuring could affect future results. The

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Company monitors its business portfolio and organizational structure and has made and may continue to make acquisitions, strategic alliances, divestitures and changes to its organizational structure. With respect to acquisitions, future results will be affected by the Company's ability to integrate acquired businesses quickly and obtain the anticipated synergies.

* The Company's future results may be affected if the Company generates fewer productivity improvements than estimated. The Company utilizes various tools, such as Lean Six Sigma, and engages in ongoing global business transformation. Business transformation is defined as changes in processes and internal/external service delivery across 3M to move to more efficient business models to improve operational efficiency and productivity, while allowing 3M to serve customers with greater speed and efficiency. This is enabled by the ongoing multi-year phased implementation of an enterprise resource planning (ERP) system on a worldwide basis. There can be no assurance that all of the projected productivity improvements will be realized.

* The Company employs information technology systems to support its business, including ongoing phased implementation of an ERP system as part of business transformation on a worldwide basis over the next several years. Security breaches and other disruptions to the Company's information technology infrastructure could interfere with the Company's operations, compromise information belonging to the Company and its customers, suppliers, and employees, exposing the Company to liability which could adversely impact the Company's business and reputation. In the ordinary course of business, the Company relies on information technology networks and systems, some of which are managed by third parties, to process, transmit and store electronic information, and to manage or support a variety of business processes and activities. Additionally, the Company collects and stores certain data, including proprietary business information, and may have access to confidential or personal information in certain of our businesses that is subject to privacy and security laws, regulations and customer-imposed controls. Despite our cybersecurity measures (including employee and third-party training, monitoring of networks and systems, and maintenance of backup and protective systems) which are continuously reviewed and upgraded, the Company's information technology networks and infrastructure may still be vulnerable to damage, disruptions or shutdowns due to attack by hackers or breaches, employee error or malfeasance, power outages, computer viruses, telecommunication or utility failures, systems failures, service providers including cloud services, natural disasters or other catastrophic events. It is possible for such vulnerabilities to remain undetected for an extended period, up to and including several years. While we have experienced, and expect to continue to experience, these types of threats to the Company's information technology networks and infrastructure, none of them to date has had a material impact to the Company. There may be other challenges and risks as the Company upgrades and standardizes its ERP system on a worldwide basis. Any such events could result in legal claims or proceedings, liability or penalties under privacy laws, disruption in operations, and damage to the Company's reputation, which could adversely affect the Company's business. Although the Company maintains insurance coverage for various cybersecurity risks, there can be no guarantee that all costs or losses incurred will be fully insured.

* The Company's defined benefit pension and postretirement plans are subject to financial market risks that could adversely impact our results. The performance of financial markets and discount rates impact the Company's funding obligations under its defined benefit plans. Significant changes in market interest rates, decreases in the fair value of plan assets and investment losses on plan assets, and relevant legislative or regulatory changes relating to defined benefit plan funding may increase the Company's funding obligations and adversely impact its results of operations and cash flows.

* The Company's future results may be affected by various legal and regulatory proceedings and legal compliance risks, including those involving product liability, antitrust, intellectual property, environmental, the U.S. Foreign Corrupt Practices Act and other anti-bribery, anti-corruption, or other matters. The outcome of these legal proceedings may differ from the Company's expectations because the outcomes of litigation, including regulatory matters, are often difficult to reliably predict. Various factors or developments can lead the Company to change current estimates of liabilities and related insurance receivables where applicable, or make such estimates for matters previously not susceptible of reasonable estimates, such as a significant judicial ruling or judgment, a significant settlement, significant regulatory developments or changes in applicable law. A future adverse ruling, settlement or unfavorable development could result in future charges that could have a material adverse effect on the Company's results of operations or cash flows in any particular period. For a more detailed discussion of the legal proceedings involving the Company and the

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associated accounting estimates, see the discussion in Note 14 “Commitments and Contingencies” within the Notes to Consolidated Financial Statements.

Item 1B. Unresolved Staff Comments.

None.

Item 2. Properties.

3M’s general offices, corporate research laboratories, and certain division laboratories are located in St. Paul, Minnesota. The Company operates 81 manufacturing facilities in 29 states. The Company operates 122 manufacturing and converting facilities in 36 countries outside the United States.

3M owns the majority of its physical properties. 3M’s physical facilities are highly suitable for the purposes for which they were designed. Because 3M is a global enterprise characterized by substantial intersegment cooperation, properties are often used by multiple business segments.

Item 3. Legal Proceedings.

Discussion of legal matters is incorporated by reference from Part II, Item 8, Note 14, “Commitments and Contingencies,” of this document, and should be considered an integral part of Part I, Item 3, “Legal Proceedings.”

Item 4. Mine Safety Disclosures.

Pursuant to Section 1503 of the Dodd-Frank Wall Street Reform and Consumer Protection Act (the “Act”), the Company is required to disclose, in connection with the mines it operates, information concerning mine safety violations or other regulatory matters in its periodic reports filed with the SEC. For the year 2016, the information concerning mine safety violations or other regulatory matters required by Section 1503(a) of the Act is included in Exhibit 95 to this annual report.

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PART II

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

Equity compensation plans' information is incorporated by reference from Part III, Item 12, "Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters," of this document, and should be considered an integral part of Item 5. At January 31, 2017, there were 81,443 shareholders of record. 3M's stock is listed on the New York Stock Exchange, Inc. (NYSE), the Chicago Stock Exchange, Inc., and the SWX Swiss Exchange. Cash dividends declared and paid totaled \$1.11 per share for each quarter in 2016. Cash dividends declared and paid totaled \$1.025 per share for each of the second, third, and fourth quarters of 2015. Cash dividends declared in the fourth quarter of 2014 included a dividend paid in March 2015 of \$1.025 per share. Stock price comparisons follow:

Stock price comparisons (NYSE composite transactions)

(Per share amounts)	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Year
2016 High	\$ 167.50	\$ 175.14	\$ 182.27	\$ 180.06	\$ 182.27
2016 Low	134.64	163.17	173.51	163.85	134.64
2015 High	\$ 170.50	\$ 167.70	\$ 157.94	\$ 160.09	\$ 170.50
2015 Low	157.74	153.92	134.00	138.57	134.00

Issuer Purchases of Equity Securities

Repurchases of 3M common stock are made to support the Company's stock-based employee compensation plans and for other corporate purposes. In February 2014, 3M's Board of Directors authorized the repurchase of up to \$12 billion of 3M's outstanding common stock, with no pre-established end date. In February 2016, 3M's Board of Directors replaced the Company's February 2014 repurchase program with a new repurchase program. This new program authorizes the repurchase of up to \$10 billion of 3M's outstanding common stock, with no pre-established end date.

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Issuer Purchases of Equity Securities

(registered pursuant to Section 12 of the Exchange Act)

Period	Total Number of Shares Purchased (1)	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs (2)	Maximum Approximate Dollar Value of Shares that May Yet Be Purchased under the Plans or Programs (Millions)
January 1-31, 2016	4,867,209	\$ 141.70	4,867,019	\$ 777
February 1-29, 2016	1,593,234	\$ 153.47	1,590,500	\$ 9,756
March 1-31, 2016	1,094,083	\$ 162.58	1,091,293	\$ 9,578
Total January 1-March 31, 2016	7,554,526	\$ 147.21	7,548,812	\$ 9,578
April 1-30, 2016	1,543,073	\$ 167.78	1,538,003	\$ 9,320
May 1-31, 2016	1,695,626	\$ 167.90	1,695,200	\$ 9,036
June 1-30, 2016	1,712,490	\$ 169.72	1,712,490	\$ 8,745
Total April 1-June 30, 2016	4,951,189	\$ 168.49	4,945,693	\$ 8,745
July 1-31, 2016	1,351,737	\$ 178.63	1,351,044	\$ 8,504
August 1-31, 2016	1,529,161	\$ 179.33	1,528,801	\$ 8,230
September 1-30, 2016	1,416,264	\$ 177.68	1,416,264	\$ 7,978
Total July 1-September 30, 2016	4,297,162	\$ 178.57	4,296,109	\$ 7,978
October 1-31, 2016	1,753,259	\$ 169.12	1,753,259	\$ 7,682
November 1-30, 2016	2,097,600	\$ 171.03	2,097,600	\$ 7,323
December 1-31, 2016	1,510,478	\$ 176.68	1,510,478	\$ 7,056
Total October 1-December 31, 2016	5,361,337	\$ 171.99	5,361,337	\$ 7,056
Total January 1-December 31, 2016	22,164,214	\$ 164.04	22,151,951	\$ 7,056

(1) The total number of shares purchased includes: (i) shares purchased under the Board's authorizations described above, and (ii) shares purchased in connection with the exercise of stock options.

(2) The total number of shares purchased as part of publicly announced plans or programs includes shares purchased under the Board's authorizations described above.

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Item 6. Selected Financial Data.

(Dollars in millions, except per share amounts)	2016	2015	2014	2013	2012
Years ended December 31:					
Net sales	\$ 30,109	\$ 30,274	\$ 31,821	\$ 30,871	\$ 29,904
Net income attributable to 3M	5,050	4,833	4,956	4,659	4,444
Per share of 3M common stock:					
Net income attributable to 3M — basic	8.35	7.72	7.63	6.83	6.40
Net income attributable to 3M — diluted	8.16	7.58	7.49	6.72	6.32
Cash dividends declared per 3M common share	4.44	3.075	3.59	3.395	2.36
Cash dividends paid per 3M common share	4.44	4.10	3.42	2.54	2.36
At December 31:					
Total assets	\$ 32,906	\$ 32,883	\$ 31,374	\$ 33,304	\$ 34,006
Long-term debt (excluding portion due within one year) and long-term capital lease obligations	10,723	8,799	6,764	4,367	4,970

Cash dividends declared and paid totaled \$1.11 per share for each quarter in 2016. In 2015, 3M's Board of Directors declared a second, third, and fourth quarter dividend of \$1.025 per share, which resulted in total year 2015 declared dividends of \$3.075 per share. In December 2014, 3M's Board of Directors declared a first-quarter 2015 dividend of \$1.025 per share (paid in March 2015), which when added to second, third, and fourth quarter 2014 declared dividends of \$0.855 per share, resulted in total year 2014 declared dividends of \$3.59 per share. In December 2013, 3M's Board of Directors declared a first-quarter 2014 dividend of \$0.855 per share (paid in March 2014). This resulted in total year 2013 declared dividends of \$3.395 per share, with \$2.54 per share paid in 2013 and the additional \$0.855 per share paid in March 2014. Total assets have been immaterially revised for prior periods as discussed in Note 1, Significant Accounting Policies, Basis of Presentation.

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

Management’s Discussion and Analysis of Financial Condition and Results of Operations (MD&A) is designed to provide a reader of 3M’s financial statements with a narrative from the perspective of management. 3M’s MD&A is presented in eight sections:

- Overview
- Results of Operations
- Performance by Business Segment
- Performance by Geographic Area
- Critical Accounting Estimates
- New Accounting Pronouncements
- Financial Condition and Liquidity
- Financial Instruments

Forward-looking statements in Item 7 may involve risks and uncertainties that could cause results to differ materially from those projected (refer to the section entitled “Cautionary Note Concerning Factors That May Affect Future Results” in Item 1 and the risk factors provided in Item 1A for discussion of these risks and uncertainties).

OVERVIEW

3M is a diversified global manufacturer, technology innovator and marketer of a wide variety of products and services. As described in Note 16, effective in the first quarter of 2016, 3M made a product line reporting change involving two of its business segments. Segment information presented herein reflects the impact of these changes for all periods presented. 3M manages its operations in five operating business segments: Industrial; Safety and Graphics; Health Care; Electronics and Energy; and Consumer. From a geographic perspective, any references to EMEA refer to Europe, Middle East and Africa on a combined basis. Any references to “Membrana” refer to the former Separations Media business acquired by 3M from Polypore in 2015.

Earnings per share (EPS) attributable to 3M common shareholders – diluted:

The following table provides the increase (decrease) in diluted earnings per share for 2016 compared to 2015, and 2015 compared to 2014.

	Year ended	
	December 31,	
(Earnings per diluted share)	2016	2015
Same period last year	\$ 7.58	\$ 7.49
Increase/(decrease) in earnings per share - diluted, due to:		
Operational benefits	0.16	0.42
2015 restructuring charges	0.14	(0.14)
Acquisitions and divestitures	0.14	(0.02)
Foreign exchange impacts	(0.14)	(0.43)
Net interest expense	(0.05)	(0.02)
Income tax rate	0.09	—
Shares of common stock outstanding	0.24	0.28
Current period	\$ 8.16	\$ 7.58

Year 2016 versus Year 2015 EPS:

For total year 2016, net income attributable to 3M was \$5.050 billion, or \$8.16 per diluted share, compared to \$4.833 billion, or \$7.58 per diluted share, in 2015, an increase of 7.7 percent on a per diluted share basis. Operational benefits increased earnings, helped by lower defined benefit pension and postretirement expenses. Operational benefits also included the combination of higher selling prices and lower raw material costs, in addition to productivity benefits

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related to the fourth quarter 2015 restructuring. These operational benefits were partially offset by the impact of flat organic sales and lower asset utilization. Restructuring actions resulted in an after-tax charge of 14 cents per diluted share in 2015, which provided a year-on-year benefit in 2016.

Acquisition and divestiture impacts, which are measured for the first twelve months post-transaction, related to the acquisitions of Membrana and Capital Safety (third quarter 2015) and Semfinder (September 2016), and the divestitures of Polyfoam (first quarter 2016), the library systems business (fourth quarter 2015/first quarter 2016), and the license plate converting business in France (fourth quarter 2015). In addition, in the fourth quarter of 2016, 3M sold the assets of its protective films business and its cathode battery technology out-licensing business. On a combined basis, these acquisition/divestiture year-on-year impacts resulted in a 14 cents per diluted share benefit to earnings per share in 2016, driven by solid performances from 2015 acquisitions and year-on-year divestiture gains. Refer to Note 2 for further discussion of these acquisition/divestiture impacts.

Foreign currency impacts (net of hedging) decreased pre-tax earnings by approximately \$127 million year-on-year in 2016, excluding the impact of foreign currency changes on tax rates. This is equivalent to a year-on-year decrease of 14 cents per diluted share for 2016.

Over the past few years, 3M has taken actions to better optimize its capital structure and reduce its cost of capital by adding debt. These actions have led to an increase in interest expense year-on-year in 2016, largely due to higher average debt balances.

The income tax rate was 28.3 percent in 2016, a decline of 0.8 percentage points versus last year. The 2016 change in tax rate was driven by a number of factors as referenced in Note 8, including the first quarter 2016 adoption of Accounting Standards Update (ASU) No. 2016-09 (discussed in Note 1).

Weighted-average diluted shares outstanding in 2016 declined 3 percent versus last year, which benefited earnings per share. The benefits from share repurchases, net of issuances, were partially offset by the adoption of ASU No. 2016-09, which increased the calculated number of diluted shares in 2016.

Refer to the section entitled “Results of Operations” for further discussion.

Year 2015 versus Year 2014 EPS:

For total year 2015, net income attributable to 3M was \$4.833 billion, or \$7.58 per diluted share, compared to \$4.956 billion, or \$7.49 per diluted share, in 2014, an increase of 1.2 percent on a per diluted share basis. Operational benefits include the combination of selling price increases and raw material cost decreases, partially offset by higher pension/postretirement benefit costs. Restructuring actions (discussed in Note 4) resulted in an after-tax charge of 14 cents per diluted share. Acquisition and divestiture impacts primarily relate to the Capital Safety and Membrana acquisitions, and the divestitures of the license plate converting business in France and substantially all of the library systems business. Foreign exchange impacts decreased earnings per diluted share by approximately 43 cents year-on-year, driven by average year-on-year changes in foreign exchange rates in the Euro of 17 percent, Yen of 12 percent, and Brazil Real of 30 percent. The income tax rate was largely unchanged year-on-year. Weighted-average diluted shares outstanding in 2015 declined 3.7 percent year-on-year to 637.2 million, which increased earnings per diluted share by approximately 28 cents. Refer to the section entitled “Results of Operations” for further discussion.

Fourth-quarter 2016 sales and operating income results:

Fourth-quarter 2016 net income attributable to 3M was \$1.155 billion, or \$1.88 per diluted share, compared to \$1.038 billion, or \$1.66 per diluted share, in the fourth quarter of 2015. Fourth-quarter 2016 sales totaled \$7.3 billion, an increase of 0.4 percent from the fourth quarter of 2015. Organic-local currency sales increased 1.6 percent, with organic volume increases of 1.5 percent and higher selling prices contributing 0.1 percent. Divestitures reduced sales by 0.4 percent, which related to the fourth quarter 2015 sale of both the license plate converting business in France, along with substantially all of the library systems business. In addition, in the fourth quarter of 2016, 3M sold the assets of its

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protective films business and its cathode battery technology out-licensing business. Foreign currency translation reduced sales by 0.8 percent year-on-year.

From a business segment perspective, 3M achieved organic local-currency sales growth (which includes organic volume and selling price impacts) in Industrial, Safety and Graphics, and Health Care, with declines in Electronics and Energy, and Consumer.

On an organic local-currency sales basis:

- Sales increased 4.6 percent in Industrial, with sales growth led by automotive OEM, advanced materials, separation and purification, and automotive aftermarket. Sales declined in aerospace and commercial transportation.
- Sales increased 2.2 percent in Safety and Graphics, with sales increases in roofing granules, personal safety, and commercial solutions. Sales declined in traffic safety and security.
- Sales increased 1.3 percent in Health Care, with sales increases in food safety, critical and chronic care, drug delivery systems, and infection prevention. Sales declined slightly in oral care, as this business continued to be impacted by soft end-market conditions and channel inventory adjustments. Health information systems also declined due to a slower rate of software installations in a tougher market over the past year, along with a challenging comparison against last year's fourth quarter.
- Sales decreased 0.6 percent in Electronics and Energy. Electronics-related sales were flat, with growth in electronics materials solutions more than offset by a decline in display materials and systems. This was an improvement over recent quarters as end-market conditions and channel inventories became more stable. Energy-related sales declined 2 percent as growth in telecommunications markets was offset by declines in electrical markets, and renewable energy. In December 2015, 3M exited its backsheet business in renewable energy, which reduced energy-related organic sales by 3.5 percent year-on-year.
- Sales decreased 0.7 percent in the Consumer business segment. Despite channel inventory adjustments, 3M posted organic growth in the home improvement, consumer health care, and home care businesses. The stationery and office supplies business, which was most impacted by channel inventory adjustments, declined year-on-year.

From a geographic area perspective, fourth-quarter 2016 organic local-currency sales increased in Latin America/Canada, Asia Pacific, and the United States. Organic local-currency sales declined in EMEA.

On an organic local-currency sales basis:

- Sales in Latin America/Canada increased 4.1 percent. 3M saw growth in four of its five business segments, led by Health Care. Sales in Mexico increased 10 percent, Canada was up 3 percent and Brazil increased 1 percent.
- Sales in Asia Pacific increased 2.4 percent, led by Health Care and Consumer. This growth was partially offset by a decline in Electronics and Energy. Within Asia Pacific, sales increased 6 percent in China/Hong Kong, and increased 3 percent in Japan. Excluding our electronics-related businesses, China/Hong Kong was up 11 percent and Japan grew 2 percent.
- Organic local-currency sales in the United States increased 1.2 percent, led by Industrial, Health Care, and Safety and Graphics.

Organic local-currency sales in EMEA declined 2.4 percent. West Europe declined 1 percent, as growth in Safety and Graphics, and Industrial, was more than offset by declines in other business groups. Central East Europe and Middle East Africa declined 6 percent, impacted by ongoing challenges in Saudi Arabia and Turkey, which 3M expects to persist in the near term.

Operating income in the fourth quarter of 2016 was 22.7 percent of sales, compared to 20.5 percent of sales in the fourth quarter of 2015, an increase of 2.2 percentage points. The year-on-year comparison related to 2015 restructuring charges increased operating income margins by 1.6 percentage points. In addition, lower pension/postretirement benefit costs, raw material cost decreases, year-on-year divestiture gains, and productivity benefits improved operating income margins. These benefits were partially offset by strategic investments and legal costs, with these items discussed on an annual basis in the “Operating income margin” section.

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Year 2016 sales and operating income results:

Sales totaled \$30.1 billion, a decrease of 0.5 percent from 2015. Organic local-currency sales declined 0.1 percent, with organic volumes declines of 0.8 percent largely offset by selling price increases of 0.7 percent. Acquisitions added 1.2 percent to sales, while divestitures reduced sales by 0.4 percent. Foreign currency translation reduced sales by 1.2 percent year-on-year.

From a business segment perspective, organic local-currency sales increased 3.5 percent in Health Care, 2.2 percent in Safety and Graphics, 1.9 percent in Consumer, and were flat in Industrial, while sales declined 7.5 percent in Electronics and Energy. From a geographic area perspective, 2016 organic local-currency sales grew 3.7 percent in Latin America/Canada, 0.5 percent in the United States, 0.4 percent in EMEA, and declined 2.8 percent in Asia Pacific. Refer to the sections entitled “Performance by Business Segment” and “Performance by Geographic Area” for additional detail.

Operating income in 2016 was 24.0 percent of sales, compared to 22.9 percent of sales in 2015, an increase of 1.1 percentage points. Restructuring actions resulted in a pre-tax charge of \$114 million in 2015, which provided a year-on-year benefit in 2016. These results also included a benefit from the combination of selling price increases and raw material cost decreases, plus lower pension/postretirement benefit costs. Refer to the section entitled “Results of Operations” for further discussion.

Year 2015 sales and operating income results:

Sales totaled \$30.3 billion, a decrease of 4.9 percent from 2014. Organic local-currency sales grew 1.3 percent, with higher organic volumes contributing 0.2 percent and selling price increases contributing 1.1 percent. Acquisitions added 0.8 percent to sales, while divestitures reduced sales by 0.2 percent. Foreign currency translation reduced sales by 6.8 percent year-on-year.

From a business segment perspective, organic local-currency sales increased 3.7 percent in Health Care, 3.4 percent in Consumer, 2.4 percent in Safety and Graphics, and 0.4 percent in Industrial, while sales declined 1.5 percent in Electronics and Energy. From a geographic area perspective, 2015 organic local-currency sales grew 2.1 percent in the United States, 1.5 percent in Latin America/Canada, 0.9 percent in Asia Pacific, and 0.8 percent in EMEA. Refer to the sections entitled “Performance by Business Segment” and “Performance by Geographic Area” for additional detail.

Operating income in 2015 was 22.9 percent of sales, compared to 22.4 percent of sales in 2014, an increase of 0.5 percentage points. These results included a benefit from the combination of selling price increases and raw material cost decreases, partially offset by higher pension/postretirement benefit costs and 2015 restructuring charges. Refer to the section entitled “Results of Operations” for further discussion.

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Sales and operating income by business segment:

The following tables contain sales and operating income results by business segment for the years ended December 31, 2016 and 2015. In addition to the discussion below, refer to the section entitled “Performance by Business Segment” and “Performance by Geographic Area” later in MD&A for a more detailed discussion of the sales and income results of the Company and its respective business segments (including Corporate and Unallocated). Refer to Note 16 for additional information on business segments, including Elimination of Dual Credit.

(Dollars in millions)	2016			2015			2016 vs 2015 % change			
	Net Sales	% of Total	Oper. Income	Net Sales	% of Total	Oper. Income	Net Sales	Oper. Income		
Business Segments										
Industrial	\$ 10,313	34.3 %	\$ 2,376	\$ 10,295	34.0 %	\$ 2,256	0.2 %	5.3 %		
Safety and Graphics	5,660	18.8 %	1,390	5,515	18.2 %	1,305	2.6 %	6.6 %		
Health Care	5,527	18.4 %	1,754	5,420	17.9 %	1,724	2.0 %	1.8 %		
Electronics and Energy	4,826	16.0 %	1,075	5,253	17.4 %	1,109	(8.1) %	(3.1) %		
Consumer	4,482	14.9 %	1,064	4,422	14.6 %	1,046	1.3 %	1.7 %		
Corporate and Unallocated	9	— %	(280)	1	— %	(355)	—	—		
Elimination of Dual Credit	(708)	(2.4) %	(156)	(632)	(2.1) %	(139)	—	—		
Total Company	\$ 30,109	100.0 %	\$ 7,223	\$ 30,274	100.0 %	\$ 6,946	(0.5) %	4.0 %		

Worldwide Sales Change Analysis By Business Segment	Year ended December 31, 2016							Total sales change	
	Organic local- currency sales	Acquisitions	Divestitures	Translation					
Industrial	—	% 1.6	% (0.3)	% (1.1)	% 0.2	%			
Safety and Graphics	2.2	% 4.0	% (1.9)	% (1.7)	% 2.6	%			
Health Care	3.5	% 0.2	% —	% (1.7)	% 2.0	%			
Electronics and Energy	(7.5)	% —	% —	% (0.6)	% (8.1)	%			
Consumer	1.9	% —	% —	% (0.6)	% 1.3	%			
Total Company	(0.1)	% 1.2	% (0.4)	% (1.2)	% (0.5)	%			

Sales in 2016 decreased 0.5 percent, impacted by foreign currency translation, which reduced sales by 1.2 percent. Organic local-currency sales growth (which includes organic volume and selling price impacts) declined 0.1 percent, acquisitions added 1.2 percent, and divestitures reduced sales by 0.4 percent. Sales in U.S. dollars increased in Safety

and Graphics by 2.6 percent, Health Care by 2.0 percent, Consumer by 1.3 percent, and Industrial by 0.2 percent, while sales in Electronics and Energy declined 8.1 percent. All of 3M's five business segments posted operating income margins of more than 22 percent in 2016. Worldwide operating income margins for 2016 were 24.0 percent, compared to 22.9 percent for 2015.

Sales in 2015 decreased 4.9 percent, substantially impacted by foreign currency translation, which reduced sales by 6.8 percent. Organic local-currency sales growth (which includes organic volume and selling price impacts) was 1.3 percent, acquisitions added 0.8 percent, and divestitures reduced sales by 0.2 percent. Sales in U.S. dollars declined in Consumer by 2.2 percent, Health Care by 2.7 percent, Safety and Graphics by 3.8 percent, and in both Industrial, and Electronics and Energy, sales declined by 6.3 percent. All of 3M's five business segments posted operating income margins of more than 21 percent in 2015. Worldwide operating income margins for 2015 were 22.9 percent, compared to 22.4 percent for 2014.

Financial condition:

3M generated \$6.7 billion of operating cash flow in 2016, an increase of \$242 million when compared to 2015. This followed a decrease of \$206 million when comparing 2015 to 2014. Refer to the section entitled "Financial Condition and Liquidity" later in MD&A for a discussion of items impacting cash flows. In February 2016, 3M's Board of

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Directors authorized the repurchase of up to \$10 billion of 3M's outstanding common stock, which replaced the Company's February 2014 repurchase program. This new program has no pre-established end date. In 2016, the Company purchased \$3.75 billion of its own stock, compared to purchases of more than \$5 billion of its own stock each year in 2015 and 2014. The Company expects to purchase \$2.5 billion to \$4.5 billion of its own stock in 2017. In February 2017, 3M's Board of Directors declared a first-quarter 2017 dividend of \$1.175 per share, an increase of 6 percent. This marked the 59th consecutive year of dividend increases for 3M. 3M's debt to total capital ratio (total capital defined as debt plus equity) was 53 percent at December 31, 2016, 48 percent at December 31, 2015, and 35 percent at December 31, 2014. The Company has an AA- credit rating, with a stable outlook, from Standard & Poor's and an A1 credit rating, with a stable outlook, from Moody's Investors Service. The Company generates significant ongoing cash flow and has proven access to capital markets funding throughout business cycles.

Raw materials:

In 2016, the Company experienced declining costs for most raw material categories and transportation fuel, due largely to price decreases in crude oil and the derivative chemical feedstock markets. This in turn drove year-on-year cost decreases in many feedstock categories, including petroleum based materials, minerals, metals and wood pulp based products. To date the Company is receiving sufficient quantities of all raw materials to meet its reasonably foreseeable production requirements. It is impossible to predict future shortages of raw materials or the impact any such shortages would have. 3M has avoided disruption to its manufacturing operations through careful management of existing raw material inventories and development and qualification of additional supply sources. 3M manages spend category price risks through negotiated supply contracts, price protection agreements and commodity price swaps.

Pension and postretirement defined benefit/contribution plans:

On a worldwide basis, 3M's pension and postretirement plans were 84 percent funded at year-end 2016. The primary U.S. qualified pension plan, which is approximately 68 percent of the worldwide pension obligation, was 90 percent funded and the international pension plans were 85 percent funded. The U.S. non-qualified pension plan is not funded due to tax considerations and other factors. Asset returns in 2016 for the primary U.S. qualified pension plan were 5.8%, as 3M strategically invests in both growth assets and fixed income matching assets to manage its funded status. For the primary U.S. qualified pension plan, the expected long-term rate of return on an annualized basis for 2017 is 7.25%, down 0.25% from 2016. The primary U.S. qualified pension plan year-end 2016 discount rate was 4.21%, down 0.26 percentage points from the year-end 2015 discount rate of 4.47%. The decrease in U.S. discount rates resulted in an increased valuation of the projected benefit obligation (PBO). The plan's funded status decreased slightly in 2016 as the growth in the PBO increased at a greater rate than the plan assets returned in 2016. Additional detail and discussion of international plan asset returns and discount rates is provided in Note 11 (Pension and Postretirement Benefit Plans).

3M expects to contribute approximately \$300 million to \$500 million of cash to its global defined benefit pension and postretirement plans in 2017. The Company does not have a required minimum cash pension contribution obligation

for its U.S. plans in 2017. 3M expects global defined benefit pension and postretirement expense in 2017 (before settlements, curtailments, special termination benefits and other) to increase by approximately \$74 million pre-tax when compared to 2016. Refer to “Critical Accounting Estimates” within MD&A and Note 11 (Pension and Postretirement Benefit Plans) for additional information concerning 3M’s pension and post-retirement plans.

Beginning on January 1, 2016, with respect to defined contribution plans, the Company reduced its match on employee 401(k) contributions for U.S. employees. Previously, based on the date the employee was hired, up to 6% of eligible compensation was matched in cash at rates of 60%, 75% or 100%. Beginning in 2016, 5% of eligible compensation is matched at rates of 45%, 60% or 100%, respectively. The reduction in the company’s match reduced 2016 defined contribution pension expense by approximately \$30 million.

Year 2017 announced divestitures:

In December 2016, 3M (Safety and Graphics Business) announced that it agreed to sell its identity management business. The transaction is expected to close during the first half of 2017. In January 2017, 3M (Safety and Graphics

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Business) sold the assets of its safety prescription eyewear business. The Company expects a pre-tax gain of approximately \$500 million in 2017 as a result of these two divestitures. Refer to Note 2 for additional discussion.

RESULTS OF OPERATIONS

Net Sales:

	2016			2015		
	U.S.	Intl.	Worldwide	U.S.	Intl.	Worldwide
Net sales (millions)	\$ 12,188	\$ 17,921	\$ 30,109	\$ 12,049	\$ 18,225	\$ 30,274
% of worldwide sales	40.5 %	59.5 %		39.8 %	60.2 %	
Components of net sales change:						
Volume — organic	0.7 %	(1.6) %	(0.8) %	1.7 %	(0.5) %	0.2 %
Price	(0.2)	1.2	0.7	0.4	1.4	1.1
Organic local-currency sales	0.5	(0.4)	(0.1)	2.1	0.9	1.3
Acquisitions	1.3	1.1	1.2	1.2	0.5	0.8
Divestitures	(0.6)	(0.4)	(0.4)	(0.4)	(0.1)	(0.2)
Translation	—	(2.0)	(1.2)	—	(10.7)	(6.8)
Total sales change	1.2 %	(1.7) %	(0.5) %	2.9 %	(9.4) %	(4.9) %

In 2016, organic local-currency sales declined 0.1 percent, with increases of 3.7 percent in Latin America/Canada, 0.5 percent in the United States, and 0.4 percent in EMEA, while Asia Pacific declined 2.8 percent. Organic local-currency sales growth was 0.2 percent across developing markets, and declined 0.3 percent in developed markets. Worldwide organic local-currency sales grew 3.5 percent in Health Care, 2.2 percent in Safety and Graphics, and 1.9 percent in Consumer, while sales were flat in Industrial, and declined 7.5 percent in Electronics and Energy. Acquisitions added 1.2 percent to worldwide growth, while divestitures reduced worldwide growth by 0.4 percent. Foreign currency translation reduced worldwide sales growth by 1.2 percent.

In 2015, organic local-currency sales grew 1.3 percent, with increases of 2.1 percent in the United States, 1.5 percent in Latin America/Canada, 0.9 percent in Asia Pacific, and 0.8 percent in EMEA. Organic local-currency sales growth was 1.6 percent across developing markets, and 1.2 percent in developed markets. Worldwide organic local-currency sales grew 3.7 percent in Health Care, 3.4 percent in Consumer, 2.4 percent in Safety and Graphics, and 0.4 percent in Industrial, while sales declined 1.5 percent in Electronics and Energy. Acquisitions added 0.8 percent to worldwide growth, while divestitures reduced worldwide growth by 0.2 percent. Foreign currency translation reduced worldwide sales growth by 6.8 percent.

Worldwide selling prices rose by 0.7 percent in 2016, and 1.1 percent in 2015. Selling prices continue to be supported by technology innovation, which is a key fundamental strength of the Company, helping to drive unique customer solutions and an increasing flow of new products.

Refer to the sections entitled “Performance by Business Segment” and “Performance by Geographic Area” later in MD&A for additional discussion of sales change.

Operating Expenses:

(Percent of net sales)	2016	2015	2014	2016 versus 2015	2015 versus 2014
Cost of sales	49.9 %	50.9 %	51.7 %	(1.0) %	(0.8) %
Selling, general and administrative expenses	20.3	20.4	20.3	(0.1)	0.1
Research, development and related expenses	5.8	5.8	5.6	—	0.2
Operating income	24.0 %	22.9 %	22.4 %	1.1 %	0.5 %

Defined benefit pension and postretirement expense decreased \$305 million in 2016 compared to 2015, compared to an increase of \$165 million in 2015 compared to 2014. Year 2015 includes the impact of a first-quarter 2015 Japan pension curtailment gain of \$17 million. Defined benefit pension and postretirement expense is recorded in cost of sales; selling,

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general and administrative expenses (SG&A); and research, development and related expenses (R&D). Refer to Note 11 (Pension and Postretirement Plans) for components of net periodic benefit cost and the assumptions used to determine net cost.

The Company is investing in business transformation. Business transformation is defined as changes in processes and internal/external service delivery across 3M to move to more efficient business models to improve operational efficiency and productivity, while allowing 3M to serve customers with greater speed and efficiency. This is enabled by the ongoing multi-year phased implementation of an enterprise resource planning (ERP) system on a worldwide basis.

In the fourth quarter of 2015, as discussed within the Overview section above, 3M incurred restructuring charges impacting operating expenses as follows:

(Millions)	2015
Cost of sales	40
Selling, general and administrative expenses	62
Research, development and related expenses	12
Total	\$ 114

Cost of Sales:

Cost of sales includes manufacturing, engineering and freight costs.

Cost of sales, measured as a percent of net sales, was 49.9 percent in 2016, a decrease of 1.0 percentage point from 2015. Cost of sales as a percent of sales decreased due to the combination of selling price increases and raw material cost decreases, as selling prices increased net sales by 0.7 percent and raw material cost deflation was favorable by approximately 3.5 percent year-on-year. In addition, cost of sales as a percent of sales benefited from lower defined benefit pension and postretirement costs (of which a portion impacts cost of sales). Fourth quarter 2015 restructuring charges also provided a favorable year-on-year comparison.

Cost of sales, measured as a percent of net sales, was 50.9 percent in 2015, a decrease of 0.8 percentage points from 2014. Cost of sales as a percent of sales decreased due to the combination of selling price increases and raw material cost decreases, as selling prices increased net sales by 1.1 percent and raw material cost deflation was favorable by approximately 3.5 percent year-on-year. In addition, higher defined benefit pension and postretirement costs (of which a portion impacts cost of sales) and fourth quarter 2015 restructuring charges, increased cost of sales as a percent of sales.

Selling, General and Administrative Expenses:

Selling, general and administrative expenses (SG&A) decreased \$71 million, or 1.2 percent, in 2016 when compared to 2015, with 2016 results benefiting from year-on-year divestiture gains (as discussed in Note 2), foreign currency translation, and productivity benefits related to the fourth quarter 2015 restructuring. In addition, SG&A benefited from lower defined benefit pension and postretirement expense. Fourth quarter 2015 restructuring charges also provided a favorable year-on-year comparison. SG&A, measured as a percent of sales, decreased 0.1 percentage points to 20.3 percent in 2016, compared to 20.4 percent in 2015, and 20.3 percent of sales in 2014.

Selling, general and administrative expenses (SG&A) decreased \$287 million, or 4.4 percent, in 2015 when compared to 2014. The translation of foreign currencies into U.S. dollars reduced SG&A expense, as evidenced by our foreign currency translation impact which reduced worldwide sales by 6.8 percent. This foreign currency translation benefit was partially offset by higher defined benefit pension and postretirement expense and fourth quarter 2015 restructuring charges. SG&A, measured as a percent of sales, increased 0.1 percentage points to 20.4 percent in 2015, compared to 20.3 percent of sales in 2014.

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Research, Development and Related Expenses:

Research, development and related expenses (R&D) decreased \$28 million, or 1.6 percent, in 2016 compared to 2015, and decreased \$7 million, or 0.4 percent, in 2015 compared to 2014. 3M continued to support its key growth initiatives, including more R&D aimed at disruptive innovation programs with the potential to create entirely new markets and disrupt existing markets. In addition, 2016 benefited from lower defined benefit pension and postretirement expense, while 2015, when compared to 2014, had higher defined benefit pension and postretirement expense. R&D, measured as a percent of sales, was 5.8 percent in both 2016 and 2015, and 5.6 percent in 2014.

Operating Income:

3M uses operating income as one of its primary business segment performance measurement tools. Refer to the table below for a reconciliation of operating income margins for 2016 versus 2015, and 2015 versus 2014.

Operating income margin:

(Percent of net sales)	Year ended	
	December 31,	
Same period last year	2016	2015
Increase/(decrease) in operating income margin, due to:	22.9 %	22.4 %
Selling price and raw material impact	1.0	1.6
Pension and postretirement benefit costs	1.0	(0.5)
2015 restructuring charges	0.4	(0.4)
Productivity from restructuring	0.4	—
Strategic investments	(0.3)	(0.3)
Foreign exchange impacts	(0.2)	—
Acquisitions and divestitures	0.2	(0.2)
Organic volume and utilization	(1.0)	—
Legal and other	(0.4)	0.3
Current period	24.0 %	22.9 %

Year 2016 versus Year 2015:

Operating income margins were 24.0 percent in 2016 compared to 22.9 percent in 2015, an increase of 1.1 percentage points. 3M benefited from the combination of higher selling prices and lower raw material costs, plus lower year-on-year defined benefit pension and postretirement expense. The 2015 restructuring charges provided a favorable

year-on-year comparison, in addition to productivity benefits in 2016 related to the 2015 restructuring actions. Acquisitions and divestitures, which are measured for the first twelve months post-transaction, had a favorable impact on operating margins. This included solid performances from both the Capital Safety and Membrana acquisitions (third quarter 2015). Divestiture impacts are related to the Polyfoam business (first quarter 2016), the library systems business (fourth quarter 2015/first quarter 2016), and the license plate converting business in France (fourth quarter 2015). In addition, in the fourth quarter of 2016, 3M sold the assets of its protective films business and its cathode battery technology out-licensing business. Items that reduced operating income margins included 2016 strategic investments, as 3M took actions to better optimize its manufacturing footprint and accelerated growth investments across its businesses. Foreign currency impacts (net of hedging) also reduced operating income margins. Organic volume declines and related utilization impacts included the impact of lower asset utilization, primarily in the Industrial, and Electronics and Energy businesses. The “legal and other” item in the preceding table related to an unfavorable second quarter 2016 arbitration ruling on an insurance claim, commercial litigation settlements related to Andover Healthcare and TransWeb, and accruals for respirator mask/asbestos liabilities (all of which are discussed in Note 14).

Year 2015 versus Year 2014:

Operating income margins were 22.9 percent in 2015 compared to 22.4 percent in 2014, an increase of 0.5 percentage points. These results included a significant benefit from the combination of higher selling prices and lower raw material costs, and a benefit from productivity and other items. These benefits were partially offset by higher defined benefit

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pension and postretirement benefit costs, 2015 restructuring charges, higher strategic investments, and acquisition and divestiture impacts. Strategic investments include incremental programs around disruptive R&D and business transformation. Acquisition and divestiture impacts primarily relate to the Capital Safety and Membrana acquisitions, and the divestitures of substantially all of the library systems business, along with the license plate converting business in France.

Interest Expense and Income:

(Millions)	2016	2015	2014
Interest expense	\$ 199	\$ 149	\$ 142
Interest income	(29)	(26)	(33)
Total	\$ 170	\$ 123	\$ 109

Interest Expense: Interest expense increased in 2016 due to higher average debt balances and higher U.S. borrowing costs. Interest expense increased slightly in 2015 compared to 2014, despite significantly higher debt levels, helped by lower average interest rates.

Capitalized interest related to property, plant and equipment construction in progress is recorded as a reduction to interest expense. The amounts shown in the table above for interest expense are net of capitalized interest amounts of \$10 million, \$13 million, and \$15 million, in 2016, 2015 and 2014, respectively.

Interest Income: Interest income was higher in 2016 when compared to 2015 due to higher average interest rates. Interest income in 2015 was lower when compared to 2014 due to lower average cash/marketable securities balances.

Provision for Income Taxes:

(Percent of pre-tax income)	2016	2015	2014
Effective tax rate	28.3 %	29.1 %	28.9 %

The effective tax rate for 2016 was 28.3 percent, compared to 29.1 percent in 2015, a decrease of 0.8 percentage points.

The effective tax rate for 2015 was 29.1 percent, compared to 28.9 percent in 2014, an increase of 0.2 percentage points. The changes in the tax rates between years are impacted by many factors, as described further in Note 8, including the 2016 adoption of ASU No. 2016-09 (discussed in Note 1).

The Company currently expects that its effective tax rate for 2017 will be approximately 28 to 29 percent. The rate can vary from quarter to quarter due to discrete items, such as the settlement of income tax audits, changes in tax laws and employee share-based payment accounting; as well as recurring factors, such as the geographic mix of income before taxes.

Refer to Note 8 for further discussion of income taxes.

Net Income Attributable to Noncontrolling Interest:

(Millions)	2016	2015	2014
Net income attributable to noncontrolling interest	\$ 8	\$ 8	\$ 42

Net income attributable to noncontrolling interest represents the elimination of the income or loss attributable to non-3M ownership interests in 3M consolidated entities. The changes in noncontrolling interest amounts have largely related to Sumitomo 3M Limited (Japan), which was 3M's most significant consolidated entity with non-3M ownership interests. As discussed in Note 6, on September 1, 2014, 3M purchased the remaining 25 percent ownership in Sumitomo 3M Limited, bringing 3M's ownership to 100 percent. Thus, effective September 1, 2014, net income attributable to noncontrolling interest was significantly reduced. The primary remaining noncontrolling interest relates to 3M India Limited, of which 3M's effective ownership is 75 percent.

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Currency Effects:

3M estimates that year-on-year currency effects, including hedging impacts, decreased pre-tax income by \$127 million and \$390 million in 2016 and 2015, respectively. These estimates include the effect of translating profits from local currencies into U.S. dollars; the impact of currency fluctuations on the transfer of goods between 3M operations in the United States and abroad; and transaction gains and losses, including derivative instruments designed to reduce foreign currency exchange rate risks. 3M estimates that year-on-year derivative and other transaction gains and losses decreased pre-tax income by approximately \$69 million in 2016 and increased pre-tax income by approximately \$180 million in 2015. Refer to Note 12 in the Consolidated Financial Statements for additional information concerning 3M's hedging activities.

PERFORMANCE BY BUSINESS SEGMENT

Disclosures relating to 3M's business segments are provided in Item 1, Business Segments. Financial information and other disclosures are provided in the Notes to the Consolidated Financial Statements. As described in Note 16, effective in the first quarter of 2016, 3M made a product line reporting change involving two of its business segments. Business segment information presented herein reflects the impact of these changes for all periods presented. 3M manages its operations in five business segments. The reportable segments are Industrial; Safety and Graphics; Electronics and Energy; Health Care; and Consumer.

Corporate and Unallocated:

In addition to these five business segments, 3M assigns certain costs to "Corporate and Unallocated," which is presented separately in the preceding business segments table and in Note 16. Corporate and Unallocated includes a variety of miscellaneous items, such as corporate investment gains and losses, certain derivative gains and losses, certain insurance-related gains and losses, certain litigation and environmental expenses, corporate restructuring charges and certain under- or over-absorbed costs (e.g. pension, stock-based compensation) that the Company determines not to allocate directly to its business segments. Because this category includes a variety of miscellaneous items, it is subject to fluctuation on a quarterly and annual basis.

Corporate and Unallocated operating expenses decreased by \$75 million in 2016 when compared to 2015. 3M's defined benefit pension and postretirement expense allocation to Corporate and Unallocated decreased by \$223 million in 2016 when compared to 2015. In addition, the portion of the 2015 restructuring actions charged to corporate (\$37 million) provided a favorable year-on-year comparison. These decreases were partially offset by an increase in legal expenses related to an unfavorable second quarter 2016 arbitration ruling on an insurance claim, commercial

litigation settlements related to Andover Healthcare and TransWeb, and accruals for respirator mask/asbestos liabilities (all of which are discussed in Note 14).

Corporate and Unallocated operating expenses increased by \$105 million in 2015 when compared to 2014. This increase was driven by higher defined benefit pension and postretirement benefit expenses, which increased in total by \$165 million. Of this increase, \$153 million was allocated to Corporate and Unallocated. Increases were also driven by fourth quarter 2015 restructuring charges of \$37 million, as indicated in the below table. Items which partially offset these increases within Corporate and Unallocated included higher administrative and R&D cost absorption by the five business segments, resulting in less under-absorbed expense being allocated to Corporate.

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Operating Business Segments:

Each of 3M's business segments incurred restructuring charges in the fourth quarter of 2015, as indicated in the following table.

Restructuring Pre-Tax Charge by Business Segment:

(Millions)	Fourth Quarter 2015
Industrial	42
Safety and Graphics	11
Health Care	9
Electronics and Energy	12
Consumer	3
Corporate and Unallocated	37
Total	\$ 114

Information related to 3M's business segments is presented in the tables that follow. Organic local-currency sales include both organic volume impacts plus selling price impacts. Acquisition and divestiture impacts, if any, are measured separately for the first twelve months post-transaction. Foreign currency translation impacts and total sales change are also provided for each business segment. Any references to EMEA relate to Europe, Middle East and Africa on a combined basis. Any references to "Membrana" refer to the former Separations Media business acquired by 3M from Polypore in 2015.

The following discusses total year results for 2016 compared to 2015, and also discusses 2015 compared to 2014, for each business segment.

Industrial Business (34.3% of consolidated sales):

	2016	2015	2014
Sales (millions)	\$ 10,313	\$ 10,295	\$ 10,985
Sales change analysis:			

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Organic local currency	—	%	0.4	%	4.9	%
Acquisitions	1.6		0.6		—	
Divestitures	(0.3)		—		—	
Translation	(1.1)		(7.3)		(1.8)	
Total sales change	0.2	%	(6.3)	%	3.1	%
Operating income (millions)	\$ 2,376		\$ 2,256		\$ 2,381	
Percent change	5.3	%	(5.3)	%	3.5	%
Percent of sales	23.0	%	21.9	%	21.7	%

The Industrial segment serves a broad range of markets, such as automotive original equipment manufacturer (OEM) and automotive aftermarket (auto body shops and retail), electronics, appliance, paper and printing, packaging, food and beverage, and construction. Industrial products include tapes, a wide variety of coated, non-woven and bonded abrasives, adhesives, advanced ceramics, sealants, specialty materials, separation and purification products, closure systems for personal hygiene products, acoustic systems products, and components and products that are used in the manufacture, repair and maintenance of automotive, marine, aircraft and specialty vehicles. 3M is also a leading global supplier of precision grinding technology serving customers in the area of hard-to-grind precision applications in industrial, automotive, aircraft and cutting tools. 3M develops and produces advanced technical ceramics for demanding applications in the automotive, oil and gas, solar, industrial, electronics and defense industries.

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Year 2016 results:

Sales in Industrial totaled \$10.3 billion, up 0.2 percent in U.S. dollars. Organic local-currency sales were flat, acquisitions added 1.6 percent, divestitures reduced sales by 0.3 percent, and foreign currency translation reduced sales by 1.1 percent. The flat organic local-currency sales impact reflected the continued economic challenges in the global industrial sector. Industrial did rebound in the fourth quarter of 2016, when it reflected 4.6 percent organic local-currency sales growth.

On an organic local-currency sales basis:

- Sales grew in automotive OEM, automotive aftermarket, and separation and purification.
- Sales declined in abrasives, industrial adhesives and tapes, and aerospace and commercial transportation.
- Sales also declined in advanced materials, primarily due to persistent weakness in the oil and gas end markets.
- Geographically, sales increased 5 percent in Latin America/Canada and 2 percent in EMEA, while Asia Pacific declined 1 percent and the United States declined 2 percent.

Acquisitions and divestitures (also discussed in Note 2):

- Acquisition sales growth primarily related to the August 2015 acquisition of Membrana, a leading provider of microporous membranes and modules for filtration in the life sciences, industrial, and specialty segments.
- 3M completed its sale of the assets of 3M's pressurized polyurethane foam adhesives business (formerly known as Polyfoam) in January 2016.
- In October 2016, 3M sold the assets of its temporary protective films business. This business is a provider of adhesive-backed temporary protective films used in a broad range of industries.

Operating income:

- Operating income margins increased by 1.1 percentage points to 23.0 percent, helped by the gain on sale of Polyfoam and its temporary protective films business, productivity benefits from fourth quarter 2015 restructuring actions, and lower raw material costs.
- The Membrana acquisition had a minimal impact on operating income margins.

Year 2015 results:

Sales in Industrial totaled \$10.3 billion, down 6.3 percent in U.S. dollars. Organic local-currency sales increased 0.4 percent, acquisitions added 0.6 percent, and foreign currency translation reduced sales by 7.3 percent.

On an organic local-currency sales basis:

- Sales growth was led by separation and purification, automotive OEM, and aerospace and commercial transportation, while automotive aftermarket increased slightly. Sales in industrial adhesives and tapes were flat.
- Sales in advanced materials declined, primarily due to weakness in the oil and gas market. Sales in abrasive systems also declined.
- Geographically, sales increased 4 percent in Latin America/Canada, 1 percent in Asia Pacific, and were flat in both EMEA and the United States.

Acquisitions:

- Acquisition sales growth related to the August 2015 acquisition of Membrana.
- This business is a provider of microporous membranes and modules for filtration in the life sciences, industrial, and specialty segments. This acquisition enhances 3M's core filtration platform and will help generate new growth opportunities across the company.

Operating income:

- Operating income margins increased by 0.2 percentage points to 21.9 percent, helped by the combination of lower raw material costs and selective selling price increases.
- Operating income margins were negatively impacted by 0.4 percentage points due to the \$42 million restructuring charge, plus an additional 0.3 percentage points penalty due to the Membrana acquisition.

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Safety and Graphics Business (18.8% of consolidated sales):

	2016	2015	2014
Sales (millions)	\$ 5,660	\$ 5,515	\$ 5,732
Sales change analysis:			
Organic local currency	2.2 %	2.4 %	5.4 %
Acquisitions	4.0	2.6	—
Divestitures	(1.9)	(0.4)	—
Translation	(1.7)	(8.4)	(2.7)
Total sales change	2.6 %	(3.8) %	2.7 %
Operating income (millions)	\$ 1,390	\$ 1,305	\$ 1,296
Percent change	6.6 %	0.7 %	5.6 %
Percent of sales	24.6 %	23.7 %	22.6 %

The Safety and Graphics segment serves a broad range of markets that increase the safety, security and productivity of people, facilities and systems. Major product offerings include personal protection products, such as respiratory, hearing, eye and fall protection equipment; traffic safety and security products, including border and civil security solutions; commercial solutions, including commercial graphics sheeting and systems, architectural design solutions for surfaces, and cleaning and protection products for commercial establishments; and roofing granules for asphalt shingles.

Year 2016 results:

Sales in Safety and Graphics totaled \$5.7 billion, an increase of 2.6 percent in U.S. dollars. Organic local-currency sales increased 2.2 percent, and foreign currency translation reduced sales by 1.7 percent. Acquisitions added 4.0 percent, while divestitures reduced sales by 1.9 percent.

On an organic local-currency sales basis:

- Sales growth was led by roofing granules, which had a consistently strong year.
- Commercial solutions and personal safety also showed positive growth.
- Sales declined in traffic safety and security.
- Sales increased 4 percent in Latin America/Canada, 3 percent in the United States and 2 percent in Asia Pacific, while sales in EMEA were flat.

Acquisitions and divestitures (also discussed in Note 2):

- Acquisition sales growth reflects the acquisition of Capital Safety in August 2015. Capital Safety is a leading global provider of fall protection equipment.
- In the fourth quarter of 2015, 3M divested its license plate converting business in France and substantially all of its library systems business. In the first quarter of 2016, 3M divested the remainder of the library systems business.

Operating income:

- Operating income totaled \$1.4 billion, up 6.6 percent.
- Operating income margins were 24.6 percent of sales, compared to 23.7 percent in 2015, benefiting from higher selling prices and lower raw material costs, plus productivity benefits related to fourth quarter 2015 restructuring actions.
- Operating income margins were negatively impacted by margin dilution related to the Capital Safety acquisition, and divestiture impacts on margins.

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Year 2015 results:

Sales in Safety and Graphics totaled \$5.5 billion, down 3.8 percent in U.S. dollars. Organic local-currency sales increased 2.4 percent, and foreign currency translation reduced sales by 8.4 percent. Acquisitions added 2.6 percent, while divestitures reduced sales by 0.4 percent.

On an organic local-currency sales basis:

- Sales growth was led by roofing granules, commercial solutions, and personal safety, while sales were flat in traffic safety and security.
- Sales increased 6 percent in Asia Pacific, 3 percent in the United States, and 2 percent in EMEA, while sales declined 1 percent in Latin America/Canada.

Acquisitions and divestitures:

- Acquisition sales growth reflects the acquisition of Capital Safety in August 2015. Capital Safety is a leading global provider of fall protection equipment.
- In the fourth quarter of 2015, 3M divested its license plate converting business in France and substantially all of its library systems business.

Operating income:

- Operating income in 2015 totaled \$1.3 billion, up 0.7 percent.
- Operating income margins were 23.7 percent of sales, compared to 22.6 percent in 2014.
- Operating income margin improvements were driven by higher selling prices and lower raw material costs, along with productivity.
- Operating income margins penalty from acquisitions was partially offset by a benefit from divestitures, which resulted in a net margin penalty of 0.2 percentage points.

Health Care Business (18.4% of consolidated sales):

	2016	2015	2014
Sales (millions)	\$ 5,527	\$ 5,420	\$ 5,572
Sales change analysis:			
Organic local currency	3.5 %	3.7 %	5.8 %
Acquisitions	0.2	0.8	0.4
Translation	(1.7)	(7.2)	(1.7)
Total sales change	2.0 %	(2.7) %	4.5 %

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Operating income (millions)	\$ 1,754	\$ 1,724	\$ 1,724
Percent change	1.8 %	— %	3.1 %
Percent of sales	31.7 %	31.8 %	30.9 %

The Health Care segment serves markets that include medical clinics and hospitals, pharmaceuticals, dental and orthodontic practitioners, health information systems, and food manufacturing and testing. Products and services provided to these and other markets include medical and surgical supplies, skin health and infection prevention products, inhalation and transdermal drug delivery systems, oral care solutions (dental and orthodontic products), health information systems, and food safety products.

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Year 2016 results:

Health Care sales totaled \$5.5 billion, an increase of 2.0 percent in U.S. dollars. Organic local-currency sales increased 3.5 percent, acquisitions added 0.2 percent, and foreign currency translation reduced sales by 1.7 percent.

On an organic local-currency sales basis:

- Sales growth was broad-based across the entire Health Care portfolio, led by food safety, critical and chronic care, and drug delivery systems.
- On a geographic basis, sales increased 8 percent in Asia Pacific, 7 percent in Latin America/Canada, 2 percent in the United States, and 1 percent in EMEA.
- In developing markets, Health Care organic local-currency sales grew 7 percent.
- 3M continues to increase investments across the businesses to drive efficient growth into the future.

Acquisitions:

- Acquisition sales growth related to the March 2015 purchase of Ivera Medical Corp, a manufacturer of health care products that disinfect and protect devices used for access into a patient's bloodstream.

Operating income:

- Operating income increased 1.8 percent to \$1.8 billion.
- Operating income margins were 31.7 percent, compared to 31.8 percent in 2015.
- Acquisitions had a minimal impact on operating income margins.

Year 2015 results:

Health Care sales totaled \$5.4 billion, a decrease of 2.7 percent in U.S. dollars. Organic local-currency sales increased 3.7 percent, acquisitions added 0.8 percent, and foreign currency translation reduced sales by 7.2 percent.

On an organic local-currency sales basis:

- Sales growth was broad-based across much of the Health Care portfolio, including food safety, health information systems, critical and chronic care, oral care solutions, and infection prevention.
- Sales declined in drug delivery systems.
- On a geographic basis, sales increased 8 percent in Asia Pacific, 6 percent in Latin America/Canada, 4 percent in the United States, and 1 percent in EMEA.
- In developing markets, Health Care organic local-currency sales grew 8 percent.

Acquisitions:

- Acquisition sales growth related to the March 2015 purchase of Ivera Medical Corp. Ivera is a manufacturer of health care products that disinfect and protect devices used for access into a patient's bloodstream.
- In addition, Treo Solutions LLC, acquired in April 2014, provided a year-on-year sales growth benefit. Treo is a provider of data analytics and business intelligence to healthcare payers and providers.

Operating income:

- Operating income was flat in dollars at \$1.7 billion.
- Operating income margins were 31.8 percent in 2015, compared to 30.9 percent in 2014, helped by portfolio management actions that contributed to higher productivity and margins.
- Acquisition impacts reduced operating income margins by 0.2 percentage points.

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Electronics and Energy Business (16.0% of consolidated sales):

	2016	2015	2014
Sales (millions)	\$ 4,826	\$ 5,253	\$ 5,608
Sales change analysis:			
Organic local currency	(7.5) %	(1.5) %	5.2 %
Divestitures	—	(0.8)	—
Translation	(0.6)	(4.0)	(1.3)
Total sales change	(8.1) %	(6.3) %	3.9 %
Operating income (millions)	\$ 1,075	\$ 1,109	\$ 1,122
Percent change	(3.1) %	(1.2) %	16.8 %
Percent of sales	22.3 %	21.1 %	20.0 %

The Electronics and Energy segment serves customers in electronics and energy markets, including solutions that improve the dependability, cost-effectiveness, and performance of electronic devices; electrical products, including infrastructure protection; telecommunications networks; and power generation and distribution. This segment's electronics solutions include optical film solutions for the electronic display industry; high-performance fluids and abrasives; high-temperature and display tapes; flexible circuits, which use electronic packaging and interconnection technology; and touch systems products. This segment's energy solutions include pressure sensitive tapes and resins; electrical insulation; infrastructure products that provide both protection and detection solutions; a wide array of fiber-optic and copper-based telecommunications systems; and renewable energy component solutions for the solar and wind power industries.

The display materials and systems business provides films that serve numerous market segments of the electronic display industry. 3M provides distinct products for five market segments, including products for: 1) LCD computer monitors 2) LCD televisions 3) handheld devices such as cellular phones and tablets 4) notebook PCs and 5) automotive displays. The display materials and systems business includes a number of different products that are protected by various patents and groups of patents. These patents provide varying levels of exclusivity to 3M for a number of such products. As some of 3M's multi-layer optical film patents expired at the end of 2013 and will expire over several years thereafter, 3M is seeing more competition in these products. 3M continues to innovate in the area of optical films and files patents on its new technology and products. 3M's proprietary manufacturing technology and know-how also provide a competitive advantage to 3M independent of its patents.

Year 2016 results:

Electronics and Energy sales totaled \$4.8 billion, down 8.1 percent in U.S. dollars. Organic local-currency sales declined 7.5 percent, and foreign currency translation reduced sales by 0.6 percent.

On an organic local-currency sales basis:

- Sales decreased 10 percent in 3M's electronics-related businesses, with declines in both electronics materials solutions and display materials and systems. 3M continues to be impacted by weak end market demand across most consumer electronic applications.
- Sales decreased approximately 4 percent in 3M's energy-related businesses, with an increase in telecommunications more than offset by declines in electrical markets and renewable energy. 3M exited its renewable energy backsheet business in December 2015, which contributed to the reduction in energy-related sales.
- On a geographic basis, sales declined 1 percent in both Latin America/Canada and EMEA, and declined 2 percent in the United States. Sales declined 11 percent in Asia Pacific, where 3M's electronics business is concentrated.

Divestitures:

- In December 2016, as discussed in Note 2, 3M sold the assets of its cathode battery technology out-licensing business.

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Operating income:

- Operating income decreased 3.1 percent to \$1.1 billion.
- Operating income margins were 22.3 percent compared to 21.1 percent in 2015, as divestiture gains and productivity benefits from past portfolio and restructuring actions benefited results.
- Expenses related to portfolio management actions in 2016, in addition to lower organic volume, reduced operating income margins.

Year 2015 results:

Electronics and Energy sales totaled \$5.3 billion, down 6.3 percent in U.S. dollars. Organic local-currency sales declined 1.5 percent, divestitures reduced sales by 0.8 percent, and foreign currency translation reduced sales by 4.0 percent.

On an organic local-currency sales basis:

- Sales were flat in 3M's electronics-related businesses, with growth in electronics materials solutions offset by a decline in display materials and systems, as 3M experienced softer conditions in the electronics markets.
- Sales decreased approximately 4 percent in 3M's energy-related businesses, as telecommunications, electrical markets, and renewable energy all declined.
- On a geographic basis, sales increased 1 percent in Europe, were flat in the United States, and declined 2 percent in Asia Pacific and 3 percent in Latin America/Canada.

Divestitures:

- 3M completed the sale of its static control business in January 2015.

Operating income:

- Operating income decreased 1.2 percent to \$1.1 billion in 2015.
 - Operating income margins were 21.1 percent compared to 20.0 percent in 2014, helped by prior year portfolio management actions that are contributing to higher productivity.
- Portfolio management actions in 2015 related to renewable energy, plus fourth quarter 2015 restructuring charges, which combined reduced operating income margins by 0.8 percentage points.

Consumer Business (14.9% of consolidated sales):

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	2016	2015	2014
Sales (millions)	\$ 4,482	\$ 4,422	\$ 4,523
Sales change analysis:			
Organic local currency	1.9 %	3.4 %	3.9 %
Divestitures	—	—	(0.1)
Translation	(0.6)	(5.6)	(1.8)
Total sales change	1.3 %	(2.2) %	2.0 %
Operating income (millions)	\$ 1,064	\$ 1,046	\$ 995
Percent change	1.7 %	5.2 %	5.3 %
Percent of sales	23.7 %	23.7 %	22.0 %

The Consumer segment serves markets that include consumer retail, office retail, office business to business, home improvement, drug and pharmacy retail, and other markets. Products in this segment include office supply products, stationery products, home improvement products (do-it-yourself), home care products, protective material products, certain consumer retail personal safety products, and consumer health care products.

Year 2016 results:

Consumer sales totaled \$4.5 billion, up 1.3 percent in U.S. dollars. Organic local-currency sales increased 1.9 percent, and foreign currency translation reduced sales by 0.6 percent.

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On an organic local-currency sales basis:

- Sales growth was led by home improvement, in addition to consumer health care.
- On a geographic basis, sales increased 6 percent in Asia Pacific, and 3 percent in the United States, were flat in Latin America/Canada, and declined 6 percent in EMEA.

Operating income:

- Operating income was \$1.1 billion, up 1.7 percent from 2015.
- Operating income margins were 23.7 percent in both 2016 and 2015, benefiting from ongoing productivity efforts.

Year 2015 results:

Consumer sales totaled \$4.4 billion, down 2.2 percent in U.S. dollars. Organic local-currency sales increased 3.4 percent, and foreign currency translation reduced sales by 5.6 percent.

On an organic local-currency sales basis:

- Sales growth was led by home improvement, stationery and office supplies, and home care. 3M also posted positive growth in its consumer health care business.
- On a geographic basis, organic local-currency sales increased 5 percent in the United States and 3 percent in Asia Pacific, while sales in both EMEA and Latin America/Canada were flat.
- In developing markets, sales growth was 3 percent.

Operating income:

- Consumer operating income was \$1.0 billion, up 5.2 percent from 2014.
- Operating income margins were 23.7 percent, up from 22.0 percent in 2014.
- The combination of strong organic growth and productivity continued to drive efficiencies across this business.

PERFORMANCE BY GEOGRAPHIC AREA

While 3M manages its businesses globally and believes its business segment results are the most relevant measure of performance, the Company also utilizes geographic area data as a secondary performance measure. Export sales are generally reported within the geographic area where the final sales to 3M customers are made. A portion of the products or components sold by 3M's operations to its customers are exported by these customers to different geographic areas. As customers move their operations from one geographic area to another, 3M's results will follow.

Thus, net sales in a particular geographic area are not indicative of end-user consumption in that geographic area. Financial information related to 3M operations in various geographic areas is provided in Note 17.

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A summary of key information and discussion related to 3M's geographic areas follow:

	2016										
	United States		Asia Pacific		Europe, Middle East & Africa		Latin America/Canada		Other Unallocated		Worldwide
Net sales (millions)	\$	12,188	\$	8,847	\$	6,163	\$	2,901	\$	10	\$ 30,109
% of worldwide sales		40.5 %		29.4 %		20.5 %		9.6 %		—	100.0 %
Components of net sales change:											
Volume — organic		0.7 %		(2.5) %		(0.6) %		(2.4) %		—	(0.8) %
Price		(0.2)		(0.3)		1.0		6.1		—	0.7
Organic local-currency sales		0.5		(2.8)		0.4		3.7		—	(0.1)
Acquisitions		1.3		0.7		1.7		1.3		—	1.2
Divestitures		(0.6)		(0.2)		(0.7)		(0.3)		—	(0.4)
Translation		—		0.2		(2.5)		(7.4)		—	(1.2)
Total sales change		1.2 %		(2.1) %		(1.1) %		(2.7) %		—	(0.5) %
Operating income (millions)	\$	2,948	\$	2,560	\$	1,046	\$	705	\$	(36)	\$ 7,223
Percent change		11.4 %		(0.8) %		2.8 %		(0.2) %		—	4.0 %

For total year 2016, as shown in the preceding table, worldwide sales declined 0.5 percent, with organic volume decreases of 0.8 percent and selling price increases of 0.7 percent. Acquisitions added 1.2 percent, while divestitures reduced sales by 0.4 percent. Foreign currency translation reduced sales by 1.2 percent. Organic local-currency sales increased 3.7 percent in Latin America/Canada, 0.5 percent in the United States, 0.4 percent in EMEA, and decreased 2.8 percent in Asia Pacific. For 2016, international operations represented 59.5 percent of 3M's sales.

	2015										
	United States		Asia Pacific		Europe, Middle East & Africa		Latin America/Canada		Other Unallocated		Worldwide
Net sales (millions)	\$	12,049	\$	9,041	\$	6,228	\$	2,982	\$	(26)	\$ 30,274
% of worldwide sales		39.8 %		29.9 %		20.5 %		9.8 %		—	100.0 %
Components of net sales change:											
Volume — organic		1.7 %		0.9 %		(1.0) %		(3.1) %		—	0.2 %
Price		0.4		—		1.8		4.6		—	1.1
Organic local-currency sales		2.1		0.9		0.8		1.5		—	1.3
Acquisitions		1.2		0.4		0.7		0.7		—	0.8
Divestitures		(0.4)		(0.1)		(0.1)		(0.2)		—	(0.2)
Translation		—		(5.2)		(14.9)		(16.9)		—	(6.8)
Total sales change		2.9 %		(4.0) %		(13.5) %		(14.9) %		—	(4.9) %

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Operating income (millions)	\$ 2,647	\$ 2,580	\$ 1,017	\$ 706	\$ (4)	\$ 6,946
Percent change	4.2 %	3.8 %	(17.5) %	(18.5) %	—	(2.6) %

For total year 2015, as shown in the preceding table, sales declined 4.9 percent, with organic volume increases of 0.2 percent and selling price increases of 1.1 percent. Acquisitions added 0.8 percent, while divestitures reduced sales by 0.2 percent. Foreign currency translation reduced sales by 6.8 percent. Organic local-currency sales increased 2.1 percent in the United States, 1.5 percent in Latin America/Canada, 0.9 percent in Asia Pacific, and 0.8 percent in EMEA. For 2015, international operations represented 60.2 percent of 3M's sales.

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Geographic Area Supplemental Information

(Millions, except Employees)	Employees as of			Capital Spending			Property, Plant and Equipment - net	
	December 31, 2016	December 31, 2015	2014	2016	2015	2014	as of December 31, 2016	2015
United States	35,748	35,973	35,581	\$ 834	\$ 936	\$ 909	\$ 4,914	\$ 4,838
Asia Pacific	18,124	17,642	17,854	228	172	184	1,573	1,647
Europe, Middle East and Africa	20,203	20,563	20,506	294	249	288	1,512	1,531
Latin America and Canada	17,509	15,268	15,859	64	104	112	517	499
Total Company	91,584	89,446	89,800	\$ 1,420	\$ 1,461	\$ 1,493	\$ 8,516	\$ 8,515

Employment:

Employment increased by 2,138 positions in 2016 and decreased by 354 positions in 2015. The primary factor that decreased employment in 2015 related to fourth-quarter 2015 restructuring actions that impacted approximately 1,700 positions worldwide. The 2015 acquisitions of Ivera Medical Corp., Membrana, and Capital Safety Group S.A.R.L. increased 2015 headcount by approximately 2,000 positions.

Capital Spending/Net Property, Plant and Equipment:

Investments in property, plant and equipment enable growth across many diverse markets, helping to meet product demand and increasing manufacturing efficiency. 3M's capital spending by geography has been led by the United States (59% of spending in 2016), followed by Europe, Middle East and Africa, Asia Pacific, and Latin America/Canada. 3M is continuing to increase its manufacturing and sourcing capability, particularly in developing economies, in order to more closely align its product capability with its sales in major geographic areas. 3M will continue to make investments in critical developing markets, such as Brazil, China, Mexico, Panama, Poland, Southeast Asia, and Turkey. Capital spending is discussed in more detail later in MD&A in the section entitled "Cash Flows from Investing Activities."

CRITICAL ACCOUNTING ESTIMATES

Information regarding significant accounting policies is included in Note 1. As stated in Note 1, the preparation of financial statements requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenue and expenses, and related disclosure of contingent assets and liabilities. Management bases its estimates on historical experience and on various assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates.

The Company believes its most critical accounting estimates relate to legal proceedings, the Company's pension and postretirement obligations, asset impairments and income taxes. Senior management has discussed the development, selection and disclosure of its critical accounting estimates with the Audit Committee of 3M's Board of Directors.

Legal Proceedings:

The categories of claims for which the Company has a probable and estimable liability, the amount of its liability accruals, and the estimates of its related insurance receivables are critical accounting estimates related to legal proceedings. Please refer to the section entitled "Process for Disclosure and Recording of Liabilities and Insurance Receivables Related to Legal Proceedings" (contained in "Legal Proceedings" in Note 14) for additional information about such estimates.

Pension and Postretirement Obligations:

3M has various company-sponsored retirement plans covering substantially all U.S. employees and many employees outside the United States. The primary U.S. defined-benefit pension plan was closed to new participants effective

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January 1, 2009. The Company accounts for its defined benefit pension and postretirement health care and life insurance benefit plans in accordance with Accounting Standard Codification (ASC) 715, Compensation — Retirement Benefits, in measuring plan assets and benefit obligations and in determining the amount of net periodic benefit cost. ASC 715 requires employers to recognize the underfunded or overfunded status of a defined benefit pension or postretirement plan as an asset or liability in its statement of financial position and recognize changes in the funded status in the year in which the changes occur through accumulated other comprehensive income, which is a component of stockholders' equity. While the company believes the valuation methods used to determine the fair value of plan assets are appropriate and consistent with other market participants, the use of different methodologies or assumptions to determine the fair value of certain financial instruments could result in a different estimate of fair value at the reporting date. See Note 11 for additional discussion of actuarial assumptions used in determining defined benefit pension and postretirement health care liabilities and expenses.

Pension benefits associated with these plans are generally based primarily on each participant's years of service, compensation, and age at retirement or termination. The benefit obligation represents the present value of the benefits that employees are entitled to in the future for services already rendered as of the measurement date. The Company measures the present value of these future benefits by projecting benefit payment cash flows for each future period and discounting these cash flows back to the December 31 measurement date, using the yields of a portfolio of high quality, fixed-income debt instruments that would produce cash flows sufficient in timing and amount to settle projected future benefits. Historically, the single aggregated discount rate used for each plan's benefit obligation was also used for the calculation of all net periodic benefit costs, including the measurement of the service and interest costs. Beginning in 2016, 3M changed the method used to estimate the service and interest cost components of the net periodic pension and other postretirement benefit costs. The new method measures service cost and interest cost separately using the spot yield curve approach applied to each corresponding obligation. Service costs are determined based on duration-specific spot rates applied to the service cost cash flows. The interest cost calculation is determined by applying duration-specific spot rates to the year-by-year projected benefit payments. The spot yield curve approach does not affect the measurement of the total benefit obligations as the change in service and interest costs offset in the actuarial gains and losses recorded in other comprehensive income. The Company changed to the new method to provide a more precise measure of service and interest costs by improving the correlation between the projected benefit cash flows and the discrete spot yield curve rates. The Company accounted for this change as a change in estimate prospectively beginning in the first quarter of 2016.

Using this methodology, the Company determined discount rates for its plans as follow:

	U.S. Qualified Pension	International Pension (weighted average)	U.S. Postretirement Medical	
December 31, 2016 Liability:				
Benefit obligation	4.21	% 2.54	% 4.08	%
2017 Net Periodic Benefit Cost Components:				
Service cost	4.44	% 2.32	% 4.37	%
Interest cost	3.62	% 2.25	% 3.41	%

Another significant element in determining the Company's pension expense in accordance with ASC 715 is the expected return on plan assets, which is based on historical results for similar allocations among asset classes. For the primary U.S. qualified pension plan, the expected long-term rate of return on an annualized basis for 2017 is 7.25%, 0.25% lower than 2016. Refer to Note 11 for information on how the 2016 rate was determined. Return on assets assumptions for international pension and other post-retirement benefit plans are calculated on a plan-by-plan basis using plan asset allocations and expected long-term rate of return assumptions. The weighted average expected return for the international pension plan is 5.16% for 2017, compared to 5.77% for 2016.

For the year ended December 31, 2016, the Company recognized total consolidated defined benefit pre-tax pension and postretirement expense (after settlements, curtailments, special termination benefits and other) of \$251 million, down from \$556 million in 2015. Defined benefit pension and postretirement expense (before settlements, curtailments, special termination benefits and other) is anticipated to increase to approximately \$325 million in 2017, an increase of \$74 million compared to 2016.

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The table below summarizes the impact on 2017 pension expense for the U.S. and international pension plans of a 0.25 percentage point increase/decrease in the expected long-term rate of return on plan assets and discount rate assumptions used to measure plan liabilities and 2016 net periodic benefit cost. The table assumes all other factors are held constant, including the slope of the discount rate yield curves.

(Millions)	Increase (Decrease) in Net Periodic Benefit Cost			
	Discount Rate		Expected Return on Assets	
	-0.25%	+0.25%	-0.25%	+0.25%
U.S. pension plans	\$ 31	\$ (28)	\$ 36	\$ (36)
International pension plans	23	(19)	14	(14)

Asset Impairments:

As of December 31, 2016, net property, plant and equipment totaled \$8.5 billion and net identifiable intangible assets totaled \$2.3 billion. Management makes estimates and assumptions in preparing the consolidated financial statements for which actual results will emerge over long periods of time. This includes the recoverability of long-lived assets employed in the business, including assets of acquired businesses. These estimates and assumptions are closely monitored by management and periodically adjusted as circumstances warrant. For instance, expected asset lives may be shortened or an impairment recorded based on a change in the expected use of the asset or performance of the related asset group.

Of the \$2.3 billion in net identifiable intangible assets, \$0.6 billion relates to indefinite-lived tradenames, primarily Capital Safety, whose tradenames (\$520 million at acquisition date) have been in existence for over 55 years (refer to Note 2 for more detail). The primary valuation technique used in estimating the fair value of indefinite lived intangible assets (tradenames) is a discounted cash flow approach. Specifically, a relief of royalty rate is applied to estimated sales, with the resulting amounts then discounted using an appropriate market/technology discount rate. The relief of royalty rate is the estimated royalty rate a market participant would pay to acquire the right to market/produce the product. If the resulting discounted cash flows are less than the book value of the indefinite lived intangible asset, impairment exists, and the asset value must be written down. Based on impairment testing in the third quarter of 2016, no impairment was indicated. The discounted cash flows related to the Capital Safety tradename exceeded its book value by more than 10 percent.

3M goodwill totaled approximately \$9.2 billion as of December 31, 2016. 3M's annual goodwill impairment testing is performed in the fourth quarter of each year. Impairment testing for goodwill is done at a reporting unit level, with all goodwill assigned to a reporting unit. Reporting units are one level below the business segment level, but can be combined when reporting units within the same segment have similar economic characteristics. At 3M, reporting units correspond to a division. 3M did not combine any of its reporting units for impairment testing.

An impairment loss generally would be recognized when the carrying amount of the reporting unit's net assets exceeds the estimated fair value of the reporting unit. The estimated fair value of a reporting unit is determined using earnings for the reporting unit multiplied by a price/earnings ratio for comparable industry groups, or by using a discounted cash flow analysis. 3M typically uses the price/earnings ratio approach for stable and growing businesses that have a long history and track record of generating positive operating income and cash flows. 3M uses the discounted cash flow approach for start-up, loss position and declining businesses, in addition to businesses where the price/earnings ratio valuation method indicates additional review is warranted. 3M also uses discounted cash flow as an additional tool for businesses that may be growing at a slower rate than planned due to economic or other conditions.

As described in Note 16, effective in the first quarter of 2016, 3M made a product line reporting change involving two of its business segments. For any product moves that resulted in reporting unit changes, the Company applied the relative fair value method to determine the impact on goodwill of the associated reporting units. During the first quarter of 2016, the Company completed its assessment of any potential goodwill impairment for reporting units impacted by this new structure and determined that no impairment existed. The discussion that follows relates to the separate fourth quarter 2016 annual impairment test and is in the context of the reporting unit structure that existed at that time.

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As of October 1, 2016, 3M had 26 primary reporting units, with ten reporting units accounting for approximately 86 percent of the goodwill. These ten reporting units were comprised of the following divisions: Advanced Materials, Communication Markets, Display Materials and Systems, Health Information Systems, Industrial Adhesives and Tapes, Infection Prevention, Oral Care Solutions, Personal Safety (which includes the Capital Safety acquisition), Separation and Purification (which includes the Membrana acquisition), and Traffic Safety and Security. The estimated fair values for these reporting units were in excess of carrying value by approximately 35 percent or more, except for one reporting unit with approximately \$250 million of goodwill, where the fair value exceeded the carrying value by approximately 30 percent. 3M's market value at both December 31, 2016, and September 30, 2016, was significantly in excess of its shareholders' equity of approximately \$10 billion and \$12 billion, at December 31, 2016 and September 30, 2016, respectively.

In 2016, 3M primarily used an industry price-earnings ratio approach, but also used a discounted cash flows approach for certain reporting units, to determine fair values. Where applicable, 3M used a weighted-average discounted cash flow analysis for certain divisions, using projected cash flows that were weighted based on different sales growth and terminal value assumptions, among other factors. The weighting was based on management's estimates of the likelihood of each scenario occurring.

3M is an integrated materials enterprise, thus many of 3M's businesses could not easily be sold on a stand-alone basis. 3M's focus on research and development has resulted in a portion of 3M's value being comprised of internally developed businesses that have no goodwill associated with them. Based on the annual test in the fourth quarter of 2016, no goodwill impairment was indicated for any of the reporting units.

Factors which could result in future impairment charges include, among others, changes in worldwide economic conditions, changes in competitive conditions and customer preferences, and fluctuations in foreign currency exchange rates. These risk factors are discussed in Item 1A, "Risk Factors," of this document. In addition, changes in the weighted average cost of capital could also impact impairment testing results. As indicated above, during the first quarter of 2016, the Company completed its assessment of any potential goodwill impairment for reporting units impacted by changes between reporting units and determined that no impairment existed. Long-lived assets with a definite life are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset (asset group) may not be recoverable. If future non-cash asset impairment charges are taken, 3M would expect that only a portion of the long-lived assets or goodwill would be impaired. 3M will continue to monitor its reporting units and asset groups in 2017 for any triggering events or other indicators of impairment.

Income Taxes:

The extent of 3M's operations involves dealing with uncertainties and judgments in the application of complex tax regulations in a multitude of jurisdictions. The final taxes paid are dependent upon many factors, including negotiations with taxing authorities in various jurisdictions and resolution of disputes arising from federal, state, and international tax audits. The Company recognizes potential liabilities and records tax liabilities for anticipated tax

audit issues in the United States and other tax jurisdictions based on its estimate of whether, and the extent to which, additional taxes will be due. The Company follows guidance provided by ASC 740, Income Taxes, regarding uncertainty in income taxes, to record these liabilities (refer to Note 8 for additional information). The Company adjusts these reserves in light of changing facts and circumstances; however, due to the complexity of some of these uncertainties, the ultimate resolution may result in a payment that is materially different from the Company's current estimate of the tax liabilities. If the Company's estimate of tax liabilities proves to be less than the ultimate assessment, an additional charge to expense would result. If payment of these amounts ultimately proves to be less than the recorded amounts, the reversal of the liabilities would result in tax benefits being recognized in the period when the Company determines the liabilities are no longer necessary.

NEW ACCOUNTING PRONOUNCEMENTS

Information regarding new accounting pronouncements is included in Note 1 to the Consolidated Financial Statements.

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In March 2016, the FASB issued ASU No. 2016-09, Improvements to Employee Share-Based Payment Accounting, which modifies certain accounting aspects for share-based payments to employees including, among other elements, the accounting for income taxes and forfeitures, as well as classifications in the statement of cash flows. The Company early adopted ASU No. 2016-09 as of January 1, 2016. Prospectively beginning January 1, 2016, excess tax benefits/deficiencies have been reflected as income tax benefit/expense in the statement of income resulting in a \$184 million tax benefit for 2016. 3M typically experiences the largest volume of stock option exercises and restricted stock unit vestings in the first quarter of its fiscal year. Refer to Note 1 for additional detail.

FINANCIAL CONDITION AND LIQUIDITY

3M continues its transition to a better-optimized capital structure and is adding leverage at a measured pace. The strength and stability of 3M's business model and strong free cash flow capability, together with proven capital markets access, enable the Company to implement this strategy. Investing in 3M's businesses to drive organic growth remains the first priority for capital deployment, including research and development, capital expenditures, and commercialization capability. Investment in organic growth will be supplemented by complementary acquisitions. 3M will also continue to return cash to shareholders through dividends and share repurchases. Sources for cash availability in the United States, such as ongoing cash flow from operations and access to capital markets, have historically been sufficient to fund dividend payments to shareholders and share repurchases, as well as funding U.S. acquisitions and other items as needed. For those international earnings considered to be reinvested indefinitely, the Company currently has no plans or intentions to repatriate these funds for U.S. operations. However, if these international funds are needed for operations in the U.S., 3M would be required to accrue and pay U.S. taxes to repatriate them. See Note 8 for further information on earnings considered to be reinvested indefinitely.

3M's primary short-term liquidity needs are met through cash on hand and U.S. commercial paper issuances. 3M believes it will have continuous access to the commercial paper market. 3M's commercial paper program permits the Company to have a maximum of \$5 billion outstanding with a maximum maturity of 397 days from date of issuance. Effective July 15, 2016, this program was increased to a maximum of \$5 billion outstanding from a previous program size of \$3 billion.

Total Debt:

The strength of 3M's capital structure and significant ongoing cash flows provide 3M proven access to capital markets. Additionally, the Company's maturity profile is staggered to help ensure refinancing needs in any given year are reasonable in proportion to the total portfolio. 3M currently has an AA- credit rating with a stable outlook from Standard & Poor's and has an A1 credit rating with a stable outlook from Moody's Investors Service.

The Company has a “well-known seasoned issuer” (WKSI) shelf registration statement, effective May 16, 2014, which registers an indeterminate amount of debt and equity securities for future sales. In May 2016, in connection with the WKSI shelf, 3M entered into an amended and restated distribution agreement relating to the future issuance and sale (from time to time) of the Company’s medium-term notes program (Series F), up to the aggregate principal amount of \$18 billion, which was an increase from the previous aggregate principal amount up to \$9 billion of the same Series.

The Company’s total debt was \$853 million higher at December 31, 2016 when compared to December 31, 2015, with the increase primarily due to May 2016 and September 2016 debt issuances, partially offset by the September 2016 repayment of \$1 billion aggregate principal amount of medium-term notes. In May 2016, 3M issued 500 million Euro aggregate principal amount of 5.75-year fixed rate medium-term notes due February 2022 with a coupon rate of 0.375% and 500 million Euro aggregate principal amount of 15-year fixed rate medium-term notes due 2031 with a coupon rate of 1.50%. In September 2016, 3M issued \$600 million aggregate principal amount of five-year fixed rate medium-term notes due 2021 with a coupon rate of 1.625%, \$650 million aggregate principal amount of 10-year fixed rate medium-term notes due 2026 with a coupon rate of 2.250%, and \$500 million aggregate principal amount of 30-year fixed rate medium-term notes due 2046 with a coupon rate of 3.125%. All of these 2016 issuances were under the medium-term notes program (Series F). As of December 31, 2016, the total amount of debt issued as part of the medium-term notes program (Series F), inclusive of debt issued in 2011, 2012, 2014, 2015 and the 2016 debt referenced above, is approximately \$11.1 billion (utilizing the foreign exchange rates applicable at the time of issuance for the Euro

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denominated debt). Information with respect to long-term debt issuances and maturities for the periods presented is included in Note 10.

In March 2016, 3M amended and restated its existing \$2.25 billion five-year revolving credit facility expiring in August 2019 to a \$3.75 billion five-year revolving credit facility expiring in March 2021. This credit agreement includes a provision under which 3M may request an increase of up to \$1.25 billion (at lenders' discretion), bringing the total facility up to \$5.0 billion. This revolving credit facility is undrawn at December 31, 2016. Under the \$3.75 billion credit agreement, the Company is required to maintain its EBITDA to Interest Ratio as of the end of each fiscal quarter at not less than 3.0 to 1. This is calculated (as defined in the agreement) as the ratio of consolidated total EBITDA for the four consecutive quarters then ended to total interest expense on all funded debt for the same period. At December 31, 2016, this ratio was approximately 44 to 1. Debt covenants do not restrict the payment of dividends. Apart from the committed facilities, an additional \$291 million in stand-alone letters of credit and bank guarantees were also issued and outstanding at December 31, 2016. These instruments are utilized in connection with normal business activities.

Cash, Cash Equivalents and Marketable Securities:

At December 31, 2016, 3M had \$2.7 billion of cash, cash equivalents and marketable securities, of which approximately \$2.35 billion was held by the Company's foreign subsidiaries and approximately \$350 million was held by the United States. These balances are invested in bank instruments and other high-quality fixed income securities. At December 31, 2015, cash, cash equivalents and marketable securities held by the Company's foreign subsidiaries and by the United States totaled approximately \$1.7 billion and \$200 million, respectively. Specifics concerning marketable securities investments are provided in Note 9.

Net Debt (non-GAAP measure):

The Company defines net debt as total debt less the total of cash, cash equivalents and marketable securities. 3M considers net debt and its components to be an important indicator of liquidity and a guiding measure of capital structure strategy. Net debt is not defined under U.S. generally accepted accounting principles and may not be computed the same as similarly titled measures used by other companies. The following table provides net debt as of December 31, 2016 and 2015.

At December 31 (Millions)	2016	2015
Total Debt	\$ 11,650	\$ 10,797

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Less: Cash and cash equivalents and marketable securities	2,695	1,925
Net Debt (non-GAAP measure)	\$ 8,955	\$ 8,872

In 2016, net debt rose by \$83 million to a net debt balance of \$9.0 billion (as of December 31, 2016), as 3M progressed on its capital structure strategy. Debt levels were higher due to 2016 issuances, with this increase partially offset by the September 2016 repayment of \$1 billion aggregate principal amount of medium-term notes. Cash and cash equivalents and marketable securities were higher in both the U.S. and internationally.

Balance Sheet:

3M's strong balance sheet and liquidity provide the Company with significant flexibility to take advantage of numerous opportunities going forward. The Company will continue to invest in its operations to drive growth, including continual review of acquisition opportunities.

Various assets and liabilities, including cash and short-term debt, can fluctuate significantly from month to month depending on short-term liquidity needs. Working capital (defined as current assets minus current liabilities) totaled \$5.507 billion at December 31, 2016, compared with \$3.868 billion at December 31, 2015, an increase of \$1.639 billion. Current asset balance changes increased working capital by \$740 million, largely due to higher cash, cash equivalents, and marketable securities balances. Current liability balance changes increased working capital by \$899 million, driven by lower short-term debt balances.

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The Company uses working capital measures that place emphasis and focus on certain working capital assets. These measures are not defined under U.S. generally accepted accounting principles and may not be computed the same as similarly titled measures used by other companies. These measures include accounts receivable turns (defined as quarterly net sales multiplied by 4 divided by ending accounts receivable – net) and inventory turns (defined as quarterly manufacturing cost multiplied by 4 divided by ending inventory). For inventory turns calculation purposes, manufacturing cost is defined as cost of sales less freight and engineering costs. Freight and engineering cost totaled \$160 million for the fourth quarter of 2016, and \$159 million for the fourth quarter of 2015.

Accounts receivable increased \$238 million, or approximately 5.7%, compared with December 31, 2015, as higher December 2016 sales compared to December 2015 sales contributed to this increase. Accounts receivable turns were 6.67 at December 31, 2016, compared to 7.03 at December 31, 2015. Inventories decreased \$133 million, or approximately 3.8 percent, compared with December 31, 2015. Inventory turns were 4.20 at December 30, 2016, up from 4.13 at December 31, 2015. Accounts payable increased by \$104 million compared with December 31, 2015, as changes in business activity impacted balances.

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Return on Invested Capital (non-GAAP measure):

Return on Invested Capital (ROIC) is not defined under U.S. generally accepted accounting principles. Therefore, ROIC should not be considered a substitute for other measures prepared in accordance with U.S. GAAP and may not be comparable to similarly titled measures used by other companies. The Company defines ROIC as adjusted net income (net income including non-controlling interest plus after-tax interest expense) divided by average invested capital (equity plus debt). Total equity has been immaterially revised for prior periods as discussed in Note 1, Significant Accounting Policies, Basis of Presentation. The Company believes ROIC is meaningful to investors as it focuses on shareholder value creation. ROIC was 22.6 percent for 2016, 22.7 percent for 2015, and 22.3 percent for 2014. The calculation is provided in the below table.

Years ended December 31 (Millions)	2016	2015	2014
Return on Invested Capital (non-GAAP measure)			
Net income including non-controlling interest	\$ 5,058	\$ 4,841	\$ 4,998
Interest expense (after-tax) (1)	143	106	102
Adjusted net income (Return)	\$ 5,201	\$ 4,947	\$ 5,100
Average shareholders' equity (including non-controlling interest) (2)	\$ 11,316	\$ 12,484	\$ 16,000
Average short-term and long-term debt (3)	11,725	9,266	6,913
Average invested capital	\$ 23,041	\$ 21,750	\$ 22,913
Return on invested capital (non-GAAP measure)	22.6 %	22.7 %	22.3 %
(1) Effective income tax rate used for interest expense	28.3 %	29.1 %	28.9 %
(2) Calculation of average equity (includes non-controlling interest)			
Ending total equity as of:			
March 31	\$ 11,495	\$ 13,673	\$ 17,645
June 30	11,658	12,851	17,567
September 30	11,769	11,945	15,927
December 31	10,343	11,468	12,863
Average total equity	\$ 11,316	\$ 12,484	\$ 16,000
(3) Calculation of average debt			
Ending short-term and long-term debt as of:			
March 31	\$ 11,139	\$ 6,566	\$ 6,560
June 30	11,749	8,484	6,956
September 30	12,361	11,216	7,323
December 31	11,650	10,797	6,811
Average short-term and long-term debt	\$ 11,725	\$ 9,266	\$ 6,913

Cash Flows:

Cash flows from operating, investing and financing activities are provided in the tables that follow. Individual amounts in the Consolidated Statement of Cash Flows exclude the effects of acquisitions, divestitures and exchange rate impacts on cash and cash equivalents, which are presented separately in the cash flows. Thus, the amounts presented in the following operating, investing and financing activities tables reflect changes in balances from period to period adjusted for these effects.

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Cash Flows from Operating Activities:

Years Ended December 31 (Millions)	2016	2015	2014
Net income including noncontrolling interest	\$ 5,058	\$ 4,841	\$ 4,998
Depreciation and amortization	1,474	1,435	1,408
Company pension contributions	(380)	(264)	(210)
Company postretirement contributions	(3)	(3)	(5)
Company pension expense	202	442	310
Company postretirement expense	49	114	81
Stock-based compensation expense	298	276	280
Income taxes (deferred and accrued income taxes)	108	(349)	60
Excess tax benefits from stock-based compensation	—	(154)	(167)
Accounts receivable	(313)	(58)	(268)
Inventories	57	3	(113)
Accounts payable	148	9	75
Other — net	(36)	128	177
Net cash provided by operating activities	\$ 6,662	\$ 6,420	\$ 6,626

Cash flows from operating activities can fluctuate significantly from period to period, as pension funding decisions, tax timing differences and other items can significantly impact cash flows.

In 2016, cash flows provided by operating activities increased \$242 million compared to the same period last year, with this increase primarily due to lower year-on-year cash taxes and higher net income. These items were partially offset by higher Company pension contributions. The combination of accounts receivable, inventories and accounts payable increased working capital by \$108 million in 2016, compared to working capital increases of \$46 million in 2015. Additional discussion on working capital changes is provided earlier in the “Financial Condition and Liquidity” section. Information concerning defined benefit pension and postretirement contributions and expense is provided in Note 11, with additional discussion in the preceding Results of Operations section. Other-net in the preceding table reflects a reduction in cash flows from operating activities, partially due to divestiture gains in 2016 (discussed in Note 2), as cash divestiture activity is presented as proceeds from sale of businesses within investing activities, not operating activities. Additional discussion on working capital changes is provided earlier in the “Financial Condition and Liquidity” section.

In 2015, cash flows provided by operating activities decreased \$206 million compared to 2014. Operating cash flows decreased due to \$363 million in higher cash income taxes when comparing 2015 to 2014, plus lower net income, which was partially offset by lower year-on-year working capital requirements. The combination of accounts receivable, inventories and accounts payable increased working capital by \$46 million in 2015, compared to increases of \$306 million in 2014, with the year-on-year improvement related to lower organic volume growth.

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Cash Flows from Investing Activities:

Years ended December 31 (Millions)	2016	2015	2014
Purchases of property, plant and equipment (PP&E)	\$ (1,420)	\$ (1,461)	\$ (1,493)
Proceeds from sale of PP&E and other assets	58	33	135
Acquisitions, net of cash acquired	(16)	(2,914)	(94)
Purchases and proceeds from maturities and sale of marketable securities and investments, net	(163)	1,300	754
Proceeds from sale of businesses	142	123	—
Other investing activities	(4)	102	102
Net cash used in investing activities	\$ (1,403)	\$ (2,817)	\$ (596)

Investments in property, plant and equipment enable growth across many diverse markets, helping to meet product demand and increasing manufacturing efficiency. Capital spending was \$1.420 billion in 2016, \$1.461 billion in 2015, and \$1.493 billion in 2014. The Company expects 2017 capital spending to be approximately \$1.3 billion to \$1.5 billion as 3M continues to invest in its businesses.

3M invests in renewable and maintenance programs, which pertains to cost reduction, cycle time, maintaining and renewing current capacity, eliminating pollution, and compliance. Costs related to maintenance, ordinary repairs, and certain other items are expensed. 3M also invests in growth, which adds to capacity, driven by new products, both through expansion of current facilities and new facilities, plus research facilities. Finally, 3M also invests in other initiatives, such as information technology (IT) and corporate laboratory facilities.

In 2016, investments included new sites and buildings, in addition to continued expansion and sustainment of current and new facilities; specifically renewal projects done at the 3M Center in St. Paul, Minnesota. Other investments across geographies included growth, productivity, and capacity, as well as IT systems and infrastructure, particularly the ongoing multi-year phased implementation of an ERP system on a worldwide basis.

In 2015, investments included new sites and buildings, investments in IT, continued expansion of current facilities and new facilities, plus the sustainment of existing facilities, in addition to other initiatives. Specific investments in 2015 included a new state-of-the-art, four story, 400,000 square foot research facility at 3M Center in St. Paul, Minnesota. In addition, 3M continued its investments in IT systems and infrastructure, particularly the ongoing multi-year phased implementation of an ERP system.

In 2014, investments in growth across geographies included production equipment, new sites and buildings, capacity investments, converting, and distribution, and other growth initiatives. Other investments include IT systems and infrastructure, including an ongoing multi-year phased implementation of an ERP system on a worldwide basis. In addition, 3M began a multi-year program in the United States to renew and upgrade laboratory facilities and administrative buildings.

Proceeds from sale of PP&E and other assets totaled \$58 million in 2016, \$33 million in 2015, and \$135 million in 2014. Apart from the normal periodic sales of PP&E, 2014 included proceeds of \$114 million related to the sales of real estate and non-production equipment.

Refer to Note 2 for information on acquisitions and divestitures. The Company is actively considering additional acquisitions, investments and strategic alliances, and from time to time may also divest certain businesses. Proceeds from sale of businesses in 2016 related to the divestiture of the assets of the pressurized polyurethane foam adhesives business (formerly known as Polyfoam) within the Industrial business segment and the completion of the divestiture of the Library business within the Safety and Graphics business segment. In addition, in the fourth quarter of 2016, 3M sold the assets of its protective films business (Industrial) and its cathode battery technology out-licensing business (Electronics and Energy).

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Purchases of marketable securities and investments and proceeds from maturities and sale of marketable securities and investments are primarily attributable to asset-backed securities, certificates of deposit/time deposits, commercial paper, and other securities, which are classified as available-for-sale. Net proceeds from maturities and sale of marketable securities in 2015 were used to help fund the August 2015 acquisitions of Capital Safety and Membrana. Refer to Note 9 for more details about 3M's diversified marketable securities portfolio. Purchases of investments include additional survivor benefit insurance, plus cost method and equity investments.

Cash Flows from Financing Activities:

Years ended December 31 (Millions)	2016	2015	2014
Change in short-term debt — net	\$ (797)	\$ 860	\$ 27
Repayment of debt (maturities greater than 90 days)	(992)	(800)	(1,625)
Proceeds from debt (maturities greater than 90 days)	2,832	3,422	2,608
Total cash change in debt	\$ 1,043	\$ 3,482	\$ 1,010
Purchases of treasury stock	(3,753)	(5,238)	(5,652)
Proceeds from issuances of treasury stock pursuant to stock option and benefit plans	804	635	968
Dividends paid to stockholders	(2,678)	(2,561)	(2,216)
Excess tax benefits from stock-based compensation	—	154	167
Purchase of noncontrolling interest	—	—	(861)
Other — net	(42)	(120)	(19)
Net cash used in financing activities	\$ (4,626)	\$ (3,648)	\$ (6,603)

Total debt was \$11.7 billion at December 31, 2016, \$10.8 billion at December 31, 2015, and \$6.8 billion at December 31, 2014. Total debt was 53 percent of total capital (total capital is defined as debt plus equity) at year-end 2016, 48 percent at year-end 2015, and 35 percent at year-end 2014.

2016 Debt Activity:

Total debt at December 31, 2016 increased \$853 million when compared to year-end 2015, with the increase primarily due to May 2016 debt issuances (approximately \$1.1 billion at issue date exchange rates) and September 2016 debt issuances of approximately \$1.75 billion. This increase was partially offset by the repayment of \$1 billion aggregate principal amount of medium-term notes due September 2016 along with the net impact of repayments and borrowings by international subsidiaries, primarily Japan and Korea (approximately \$0.8 million decrease), which is reflected in “Change in short-term debt—net” in the preceding table. Foreign exchange rate changes also impact debt balances.

Proceeds from debt for 2016 primarily related to the May 2016 issuance of 500 million Euros aggregate principal amount of 5.75-year fixed rate medium-term notes due February 2022, and 500 million Euros aggregate principal amount of 15-year fixed rate medium-term notes due 2031 along with the September 2016 issuances of \$600 million aggregate principal amount of five-year fixed rate medium-term notes due 2021, \$650 million aggregate principal amount of 10-year fixed rate medium-term notes due 2026, and \$500 million aggregate principal amount of 30-year fixed rate medium-term notes due 2046 (refer to Note 10 for more detail).

2015 and 2014 Debt Activity:

In both 2015 and 2014, the change in short-term debt primarily related to bank borrowings by international subsidiaries, primarily Japan and Korea in 2015. In 2015, repayment of debt primarily related to debt assumed (and paid off) as part of the Capital Safety acquisition (refer to Note 2). In 2014, repayment of debt primarily includes repayment of a Eurobond in July 2014 totaling 1.025 billion Euros (approximately \$1.4 billion carrying value), repayment of the three-year 66 million British Pound committed credit facility agreement entered into in December 2012, and repayment of other international debt.

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In 2015, proceeds from debt primarily related to the May 2015 issuance of 650 million Euros aggregate principal amount of five-year floating rate medium-term notes due 2020, 600 million Euros aggregate principal amount of eight-year fixed rate medium-term notes due 2023, and 500 million Euros aggregate principal amount of fifteen-year fixed rate medium-term notes due 2030, which in the aggregate total approximately \$1.9 billion at issue date exchange rates. In addition, August 2015 issuances included \$450 million aggregate principal amount of three-year fixed rate medium-term notes due 2018, \$500 million aggregate principal amount of five-year fixed rate medium-term notes due 2020, and \$550 million aggregate principal amount of 10-year fixed rate medium-term notes due 2025, which in aggregate total \$1.5 billion. In 2014, proceeds from debt primarily related to the June 2014 issuances of \$625 million aggregate principal amount of five-year fixed rate medium-term notes due 2019 and \$325 million aggregate principal amount of thirty-year fixed rate medium-term notes due 2044, as well as the November 2014 issuances of 500 million Euros principal amount of four-year floating rate medium-term notes due 2018 and 750 million Euros principal amount of 12-year fixed rate medium-term notes due 2026. In addition, proceeds from debt for 2014 also include bank borrowings by international subsidiaries. Refer to Note 10 for additional discussion of debt.

Repurchases of Common Stock:

Repurchases of common stock are made to support the Company's stock-based employee compensation plans and for other corporate purposes. In February 2016, 3M's Board of Directors authorized the repurchase of up to \$10 billion of 3M's outstanding common stock, which replaced the Company's February 2014 repurchase program. This authorization has no pre-established end date. In 2016, the Company purchased \$3.75 billion of its own stock, compared to purchases in 2015 and 2014 of more than \$5 billion of its own stock in each year. The Company expects full-year 2017 gross share repurchases will be in the range of \$2.5 billion to \$4.5 billion. For more information, refer to the table titled "Issuer Purchases of Equity Securities" in Part II, Item 5. The Company does not utilize derivative instruments linked to the Company's stock.

Dividends Paid to Shareholders:

Cash dividends paid to shareholders totaled \$2.678 billion (\$4.44 per share) in 2016, \$2.561 billion (\$4.10 per share) in 2015, and \$2.216 billion (\$3.42 per share) in 2014. 3M has paid dividends since 1916. In February 2017, 3M's Board of Directors declared a first-quarter 2017 dividend of \$1.175 per share, an increase of 6 percent. This is equivalent to an annual dividend of \$4.70 per share and marked the 59th consecutive year of dividend increases.

Purchase of Noncontrolling Interest:

On September 1, 2014, 3M purchased (via Sumitomo 3M Limited) Sumitomo Electric Industries, Ltd.'s 25 percent interest in 3M's consolidated Sumitomo 3M Limited subsidiary for 90 billion Japanese Yen. Upon completion of this transaction, 3M owned 100 percent of Sumitomo 3M Limited. This was reflected as a "Purchase of noncontrolling

interest” in the financing section of the consolidated statement of cash flows. In addition, in April 2014, 3M purchased the remaining noncontrolling interest in a consolidated 3M subsidiary for an immaterial amount, which was also classified as a “Purchase of noncontrolling interest” in the financing section of the consolidated statement of cash flows.

Other cash flows from financing activities may include various other items, such as changes in cash overdraft balances, and principal payments for capital leases.

Free Cash Flow (non-GAAP measure):

In addition, to net cash provided by operating activities, 3M believes free cash flow and free cash flow conversion are useful measures of performance and uses these measures as an indication of the strength of the Company and its ability to generate cash. Free cash flow and free cash flow conversion are not defined under U.S. generally accepted accounting principles (GAAP). Therefore, they should not be considered a substitute for income or cash flow data prepared in accordance with U.S. GAAP and may not be comparable to similarly titled measures used by other companies. 3M defines free cash flow as net cash provided by operating activities less purchases of property, plant and equipment (which is classified as an investing activity). It should not be inferred that the entire free cash flow amount is available

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for discretionary expenditures. 3M defines free cash flow conversion as free cash flow divided by net income attributable to 3M. Below find a recap of free cash flow and free cash flow conversion for 2016, 2015 and 2014.

Years ended December 31 (Millions)	2016	2015	2014
Major GAAP Cash Flow Categories			
Net cash provided by operating activities	\$ 6,662	\$ 6,420	\$ 6,626
Net cash used in investing activities	(1,403)	(2,817)	(596)
Net cash used in financing activities	(4,626)	(3,648)	(6,603)
Free Cash Flow (non-GAAP measure)			
Net cash provided by operating activities	\$ 6,662	\$ 6,420	\$ 6,626
Purchases of property, plant and equipment (PP&E)	(1,420)	(1,461)	(1,493)
Free cash flow	\$ 5,242	\$ 4,959	\$ 5,133
Net income attributable to 3M	\$ 5,050	\$ 4,833	\$ 4,956
Free cash flow conversion	104 %	103 %	104 %

Off-Balance Sheet Arrangements and Contractual Obligations:

As of December 31, 2016, the Company has not utilized special purpose entities to facilitate off-balance sheet financing arrangements. Refer to the section entitled "Warranties/Guarantees" in Note 14 for discussion of accrued product warranty liabilities and guarantees.

In addition to guarantees, 3M, in the normal course of business, periodically enters into agreements that require the Company to indemnify either major customers or suppliers for specific risks, such as claims for injury or property damage arising out of the use of 3M products or the negligence of 3M personnel, or claims alleging that 3M products infringe third-party patents or other intellectual property. While 3M's maximum exposure under these indemnification provisions cannot be estimated, these indemnifications are not expected to have a material impact on the Company's consolidated results of operations or financial condition.

A summary of the Company's significant contractual obligations as of December 31, 2016, follows:

Contractual Obligations

(Millions)	Payments due by year						After 2021
	Total	2017	2018	2019	2020	2021	
Long-term debt, including current portion (Note 10)	\$ 11,478	\$ 800	\$ 1,042	\$ 623	\$ 1,176	\$ 1,246	\$ 6,591
Interest on long-term debt	2,936	224	221	210	205	195	1,881
Operating leases (Note 14)	825	210	161	119	89	58	188
Capital leases (Note 14)	59	9	7	5	4	4	30
Unconditional purchase obligations and other	1,361	946	189	123	54	24	25
Total contractual cash obligations	\$ 16,659	\$ 2,189	\$ 1,620	\$ 1,080	\$ 1,528	\$ 1,527	\$ 8,715

Long-term debt payments due in 2017 and 2018 include floating rate notes totaling \$150 million (classified as current portion of long-term debt), and \$71 million (included in other borrowings in the long-term debt table), respectively, as a result of put provisions associated with these debt instruments. Interest projections on both floating and fixed rate long-term debt, including the effects of interest rate swaps, are based on effective interest rates as of December 31, 2016.

Unconditional purchase obligations are defined as an agreement to purchase goods or services that is enforceable and legally binding on the Company. Included in the unconditional purchase obligations category above are certain obligations related to take or pay contracts, capital commitments, service agreements and utilities. These estimates

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include both unconditional purchase obligations with terms in excess of one year and normal ongoing purchase obligations with terms of less than one year. Many of these commitments relate to take or pay contracts, in which 3M guarantees payment to ensure availability of products or services that are sold to customers. The Company expects to receive consideration (products or services) for these unconditional purchase obligations. Contractual capital commitments are included in the preceding table, but these commitments represent a small part of the Company's expected capital spending. The purchase obligation amounts do not represent the entire anticipated purchases in the future, but represent only those items for which the Company is contractually obligated. The majority of 3M's products and services are purchased as needed, with no unconditional commitment. For this reason, these amounts will not provide a reliable indicator of the Company's expected future cash outflows on a stand-alone basis.

Other obligations, included in the preceding table within the caption entitled "Unconditional purchase obligations and other," include the current portion of the liability for uncertain tax positions under ASC 740, which is expected to be paid out in cash in the next 12 months. The Company is not able to reasonably estimate the timing of the long-term payments or the amount by which the liability will increase or decrease over time; therefore, the long-term portion of the net tax liability of \$284 million is excluded from the preceding table. Refer to Note 8 for further details.

As discussed in Note 11, the Company does not have a required minimum cash pension contribution obligation for its U.S. plans in 2017 and Company contributions to its U.S. and international pension plans are expected to be largely discretionary in future years; therefore, amounts related to these plans are not included in the preceding table.

FINANCIAL INSTRUMENTS

The Company enters into foreign exchange forward contracts, options and swaps to hedge against the effect of exchange rate fluctuations on cash flows denominated in foreign currencies and certain intercompany financing transactions. The Company manages interest rate risks using a mix of fixed and floating rate debt. To help manage borrowing costs, the Company may enter into interest rate swaps. Under these arrangements, the Company agrees to exchange, at specified intervals, the difference between fixed and floating interest amounts calculated by reference to an agreed-upon notional principal amount. The Company manages commodity price risks through negotiated supply contracts, price protection agreements and commodity price swaps.

Refer to Item 7A, "Quantitative and Qualitative Disclosures About Market Risk", for further discussion of foreign exchange rates risk, interest rates risk, commodity prices risk and value at risk analysis.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk.

In the context of Item 7A, 3M is exposed to market risk due to the risk of loss arising from adverse changes in foreign currency exchange rates, interest rates and commodity prices. Changes in those factors could cause fluctuations in earnings and cash flows. Senior management provides oversight for risk management and derivative activities, determines certain of the Company's financial risk policies and objectives, and provides guidelines for derivative instrument utilization. Senior management also establishes certain associated procedures relative to control and valuation, risk analysis, counterparty credit approval, and ongoing monitoring and reporting.

The Company is exposed to credit loss in the event of nonperformance by counterparties in interest rate swaps, currency swaps, commodity price swaps, and forward and option contracts. However, the Company's risk is limited to the fair value of the instruments. The Company actively monitors its exposure to credit risk through the use of credit approvals and credit limits, and by selecting major international banks and financial institutions as counterparties. The Company does not anticipate nonperformance by any of these counterparties.

Foreign Exchange Rates Risk:

Foreign currency exchange rates and fluctuations in those rates may affect the Company's net investment in foreign subsidiaries and may cause fluctuations in cash flows related to foreign denominated transactions. 3M is also exposed to the translation of foreign currency earnings to the U.S. dollar. The Company enters into foreign exchange forward and option contracts to hedge against the effect of exchange rate fluctuations on cash flows denominated in foreign

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currencies. These transactions are designated as cash flow hedges. 3M may dedesignate these cash flow hedge relationships in advance of the occurrence of the forecasted transaction. Beginning in the second quarter of 2014, 3M began extending the maximum length of time over which it hedges its exposure to the variability in future cash flows of the forecasted transactions from a previous term of 12 months to a longer term of 24 months, with certain currencies being extended further to 36 months starting in the first quarter of 2015. In addition, 3M enters into foreign currency forward contracts that are not designated in hedging relationships to offset, in part, the impacts of certain intercompany activities (primarily associated with intercompany licensing arrangements and intercompany financing transactions). As circumstances warrant, the Company also uses foreign currency forward contracts and foreign currency denominated debt as hedging instruments to hedge portions of the Company's net investments in foreign operations. The dollar equivalent gross notional amount of the Company's foreign exchange forward and option contracts designated as cash flow hedges and those not designated as hedging instruments were \$3.2 billion and \$5.7 billion, respectively, at December 31, 2016. As of December 31, 2016, the Company had 150 million Euros and 248 billion South Korean Won in notional amount of foreign currency forward contracts designated as net investment hedges along with 4.4 billion Euros in principal amount of foreign currency denominated debt designated as non-derivative hedging instruments in certain net investment hedges as discussed in Note 12 in the "Net Investment Hedges" section.

Interest Rates Risk:

The Company may be impacted by interest rate volatility with respect to existing debt and future debt issuances. 3M manages interest rate risk and expense using a mix of fixed and floating rate debt. In addition, the Company may enter into interest rate swaps that are designated and qualify as fair value hedges. Under these arrangements, the Company agrees to exchange, at specified intervals, the difference between fixed and floating interest amounts calculated by reference to an agreed-upon notional principal amount. The dollar equivalent (based on inception date foreign currency exchange rates) gross notional amount of the Company's interest rate swaps at December 31, 2016 was \$2.0 billion. Additional details about 3M's long-term debt can be found in Note 10, including references to information regarding derivatives and/or hedging instruments associated with the Company's long-term debt.

Commodity Prices Risk:

The Company manages commodity price risks through negotiated supply contracts, price protection agreements and commodity price swaps. 3M used commodity price swaps as cash flow hedges of forecasted commodity transactions to manage price volatility, but discontinued this practice in the first quarter of 2015. The related mark-to-market gain or loss on qualifying hedges was included in other comprehensive income to the extent effective, and reclassified into cost of sales in the period during which the hedged transaction affected earnings. The Company may enter into other commodity price swaps to offset, in part, fluctuation and costs associated with the use of certain commodities and precious metals. These instruments are not designated in hedged relationships and the extent to which they were outstanding at December 31, 2016 was not material.

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Value At Risk:

The value at risk analysis is performed annually to assess the Company's sensitivity to changes in currency rates, interest rates, and commodity prices. A Monte Carlo simulation technique was used to test the impact on after-tax earnings related to financial instruments (primarily debt), derivatives and underlying exposures outstanding at December 31, 2016. The model (third-party bank dataset) used a 95 percent confidence level over a 12-month time horizon. The exposure to changes in currency rates model used 18 currencies, interest rates related to three currencies, and commodity prices related to five commodities. This model does not purport to represent what actually will be experienced by the Company. This model does not include certain hedge transactions, because the Company believes their inclusion would not materially impact the results. The following table summarizes the possible adverse and positive impacts to after-tax earnings related to these exposures.

(Millions)	Adverse impact on after-tax earnings		Positive impact on after-tax earnings	
	2016	2015	2016	2015
Foreign exchange rates	\$ (245)	\$ (254)	\$ 264	\$ 273
Interest rates	(13)	(13)	(2)	9
Commodity prices	(2)	(1)	1	1

In addition to the possible adverse and positive impacts discussed in the preceding table related to foreign exchange rates, recent historical information is as follows. 3M estimates that year-on-year currency effects, including hedging impacts, had the following effects on pre-tax income: 2016 (\$127 million decrease) and 2015 (\$390 million decrease). This estimate includes the effect of translating profits from local currencies into U.S. dollars; the impact of currency fluctuations on the transfer of goods between 3M operations in the United States and abroad; and transaction gains and losses, including derivative instruments designed to reduce foreign currency exchange rate risks. 3M estimates that year-on-year derivative and other transaction gains and losses had the following effects on pre-tax income: 2016 (\$69 million decrease) and 2015 (\$180 million increase).

An analysis of the global exposures related to purchased components and materials is performed at each year-end. A one percent price change would result in a pre-tax cost or savings of approximately \$70 million per year. The global energy exposure is such that a ten percent price change would result in a pre-tax cost or savings of approximately \$40 million per year. Global energy exposure includes energy costs used in 3M production and other facilities, primarily electricity and natural gas.

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Item 8. Financial Statements and Supplementary Data.

Index to Financial Statements

A complete summary of Form 10-K content, including the index to financial statements, is found at the beginning of this document.

Management's Responsibility for Financial Reporting

Management is responsible for the integrity and objectivity of the financial information included in this report. The financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America. Where necessary, the financial statements reflect estimates based on management's judgment.

Management has established and maintains a system of internal control over financial reporting for the Company and its subsidiaries. This system and its established accounting procedures and related controls are designed to provide reasonable assurance that assets are safeguarded, that the books and records properly reflect all transactions, that policies and procedures are implemented by qualified personnel, and that published financial statements are properly prepared and fairly presented. The Company's system of internal control over financial reporting is supported by widely communicated written policies, including business conduct policies, which are designed to require all employees to maintain high ethical standards in the conduct of Company affairs. Internal auditors continually review the accounting and control system.

3M Company

Management's Report on Internal Control Over Financial Reporting

Management is responsible for establishing and maintaining an adequate system of internal control over financial reporting. Management conducted an assessment of the Company's internal control over financial reporting based on the framework established by the Committee of Sponsoring Organizations of the Treadway Commission in Internal Control — Integrated Framework (2013). Based on the assessment, management concluded that, as of December 31, 2016, the Company's internal control over financial reporting is effective.

The Company's internal control over financial reporting as of December 31, 2016 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report which is included herein, which expresses an unqualified opinion on the effectiveness of the Company's internal control over financial reporting as of December 31, 2016.

3M Company

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Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors of 3M Company

In our opinion, the accompanying consolidated balance sheet and the related consolidated statements of income, comprehensive income, changes in equity and cash flows present fairly, in all material respects, the financial position of 3M Company and its subsidiaries (the “Company”) at December 31, 2016 and 2015, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2016 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, 2016, 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 the accompanying Management's Report on Internal Control over Financial Reporting. 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.

/s/ PricewaterhouseCoopers LLP
PricewaterhouseCoopers LLP
Minneapolis, Minnesota
February 9, 2017

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3M Company and Subsidiaries

Consolidated Statement of Income

Years ended December 31

(Millions, except per share amounts)	2016	2015	2014
Net sales	\$ 30,109	\$ 30,274	\$ 31,821
Operating expenses			
Cost of sales	15,040	15,383	16,447
Selling, general and administrative expenses	6,111	6,182	6,469
Research, development and related expenses	1,735	1,763	1,770
Total operating expenses	22,886	23,328	24,686
Operating income	7,223	6,946	7,135
Interest expense and income			
Interest expense	199	149	142
Interest income	(29)	(26)	(33)
Total interest expense — net	170	123	109
Income before income taxes	7,053	6,823	7,026
Provision for income taxes	1,995	1,982	2,028
Net income including noncontrolling interest	\$ 5,058	\$ 4,841	\$ 4,998
Less: Net income attributable to noncontrolling interest	8	8	42
Net income attributable to 3M	\$ 5,050	\$ 4,833	\$ 4,956
Weighted average 3M common shares outstanding — basic	604.7	625.6	649.2
Earnings per share attributable to 3M common shareholders — basic	\$ 8.35	\$ 7.72	\$ 7.63
Weighted average 3M common shares outstanding — diluted	618.7	637.2	662.0
Earnings per share attributable to 3M common shareholders — diluted	\$ 8.16	\$ 7.58	\$ 7.49
Cash dividends paid per 3M common share	\$ 4.44	\$ 4.10	\$ 3.42

The accompanying Notes to Consolidated Financial Statements are an integral part of this statement.

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3M Company and Subsidiaries

Consolidated Statement of Comprehensive Income

Years ended December 31

(Millions)	2016	2015	2014
Net income including noncontrolling interest	\$ 5,058	\$ 4,841	\$ 4,998
Other comprehensive income (loss), net of tax:			
Cumulative translation adjustment	(331)	(586)	(942)
Defined benefit pension and postretirement plans adjustment	(524)	489	(1,562)
Debt and equity securities, unrealized gain (loss)	—	—	2
Cash flow hedging instruments, unrealized gain (loss)	(33)	25	107
Total other comprehensive income (loss), net of tax	(888)	(72)	(2,395)
Comprehensive income (loss) including noncontrolling interest	4,170	4,769	2,603
Comprehensive (income) loss attributable to noncontrolling interest	(6)	(6)	(48)
Comprehensive income (loss) attributable to 3M	\$ 4,164	\$ 4,763	\$ 2,555

The accompanying Notes to Consolidated Financial Statements are an integral part of this statement.

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3M Company and Subsidiaries

Consolidated Balance Sheet

At December 31

(Dollars in millions, except per share amount)	2016	2015
Assets		
Current assets		
Cash and cash equivalents	\$ 2,398	\$ 1,798
Marketable securities — current	280	118
Accounts receivable — net of allowances of \$88 and \$91	4,392	4,154
Inventories		
Finished goods	1,629	1,655
Work in process	1,039	1,008
Raw materials and supplies	717	855
Total inventories	3,385	3,518
Other current assets	1,271	1,398
Total current assets	11,726	10,986
Marketable securities — non-current	17	9
Investments	128	117
Property, plant and equipment	23,499	23,098
Less: Accumulated depreciation	(14,983)	(14,583)
Property, plant and equipment — net	8,516	8,515
Goodwill	9,166	9,249
Intangible assets — net	2,320	2,601
Prepaid pension benefits	52	188
Other assets	981	1,218
Total assets	\$ 32,906	\$ 32,883
Liabilities		
Current liabilities		
Short-term borrowings and current portion of long-term debt	\$ 972	\$ 2,044
Accounts payable	1,798	1,694
Accrued payroll	678	644
Accrued income taxes	299	332
Other current liabilities	2,472	2,404
Total current liabilities	6,219	7,118
Long-term debt	10,678	8,753
Pension and postretirement benefits	4,018	3,520
Other liabilities	1,648	2,024
Total liabilities	\$ 22,563	\$ 21,415
Commitments and contingencies (Note 14)		
Equity		
3M Company shareholders' equity:		
Common stock par value, \$.01 par value	\$ 9	\$ 9

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Shares outstanding - 2016: 596,726,278		
Shares outstanding - 2015: 609,330,124		
Additional paid-in capital	5,061	4,791
Retained earnings	37,907	36,296
Treasury stock	(25,434)	(23,308)
Accumulated other comprehensive income (loss)	(7,245)	(6,359)
Total 3M Company shareholders' equity	10,298	11,429
Noncontrolling interest	45	39
Total equity	\$ 10,343	\$ 11,468
Total liabilities and equity	\$ 32,906	\$ 32,883

The accompanying Notes to Consolidated Financial Statements are an integral part of this statement.

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3M Company and Subsidiaries

Consolidated Statement of Changes in Equity

Years Ended December 31

(Dollars in millions, except per share amounts)	Total	3M Company Shareholders			Accumulated Other Comprehensive Income (Loss)	Non- control Interest
		Common Stock and Additional Paid-in Capital	Retained Earnings	Treasury Stock		
Balance at December 31, 2013	\$ 17,669	\$ 4,384	\$ 32,137	\$ (15,385)	\$ (3,913)	\$ 446
Net income	4,998		4,956			42
Other comprehensive income (loss), net of tax:						
Cumulative translation adjustment	(942)				(948)	6
Defined benefit pension and post-retirement plans adjustment	(1,562)				(1,562)	—
Debt and equity securities - unrealized gain (loss)	2				2	—
Cash flow hedging instruments - unrealized gain (loss)	107				107	—
Total other comprehensive income (loss), net of tax	(2,395)					
Dividends declared (\$3.59 per share, Note 6)	(2,297)		(2,297)			
Purchase of subsidiary shares	(870)	(434)			25	(461)
Stock-based compensation, net of tax impacts	438	438				
Reacquired stock	(5,643)			(5,643)		
Issuances pursuant to stock option and benefit plans	963		(758)	1,721		
Balance at December 31, 2014	\$ 12,863	\$ 4,388	\$ 34,038	\$ (19,307)	\$ (6,289)	\$ 33
Net income	4,841		4,833			8
Other comprehensive income (loss), net of tax:						
Cumulative translation adjustment	(586)				(584)	(2)
Defined benefit pension and post-retirement plans adjustment	489				489	—
Debt and equity securities - unrealized gain (loss)	—				—	—
Cash flow hedging instruments - unrealized gain (loss)	25				25	—
Total other comprehensive income (loss), net of tax	(72)					
Dividends declared (\$3.075 per share, Note 6)	(1,913)		(1,913)			
Stock-based compensation, net of tax impacts	412	412				
Reacquired stock	(5,304)			(5,304)		
	641		(662)	1,303		

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Issuances pursuant to stock option and benefit plans

Balance at December 31, 2015	\$ 11,468	\$ 4,800	\$ 36,296	\$ (23,308)	\$ (6,359)	\$ 39
Net income	5,058		5,050			8
Other comprehensive income (loss), net of tax:						
Cumulative translation adjustment	(331)				(329)	(2)
Defined benefit pension and post-retirement plans adjustment	(524)				(524)	—
Debt and equity securities - unrealized gain (loss)	—				—	—
Cash flow hedging instruments - unrealized gain/(loss)	(33)				(33)	—
Total other comprehensive income (loss), net of tax	(888)					
Dividends declared (\$4.44 per share, Note 6)	(2,678)		(2,678)			
Stock-based compensation	270	270				
Reacquired stock	(3,699)			(3,699)		
Issuances pursuant to stock option and benefit plans	812		(761)	1,573		
Balance at December 31, 2016	\$ 10,343	\$ 5,070	\$ 37,907	\$ (25,434)	\$ (7,245)	\$ 45

Supplemental share information

	2016	2015	2014
Treasury stock			
Beginning balance	334,702,932	308,898,462	280,736,817
Reacquired stock	22,602,748	34,072,584	40,664,061
Issuances pursuant to stock options and benefit plans	(9,998,902)	(8,268,114)	(12,502,416)
Ending balance	347,306,778	334,702,932	308,898,462

The accompanying Notes to Consolidated Financial Statements are an integral part of this statement.

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3M Company and Subsidiaries

Consolidated Statement of Cash Flows

Years ended December 31

(Millions)	2016	2015	2014
Cash Flows from Operating Activities			
Net income including noncontrolling interest	\$ 5,058	\$ 4,841	\$ 4,998
Adjustments to reconcile net income including noncontrolling interest to net cash provided by operating activities			
Depreciation and amortization	1,474	1,435	1,408
Company pension and postretirement contributions	(383)	(267)	(215)
Company pension and postretirement expense	251	556	391
Stock-based compensation expense	298	276	280
Deferred income taxes	7	395	(146)
Excess tax benefits from stock-based compensation	—	(154)	(167)
Changes in assets and liabilities			
Accounts receivable	(313)	(58)	(268)
Inventories	57	3	(113)
Accounts payable	148	9	75
Accrued income taxes (current and long-term)	101	(744)	206
Other — net	(36)	128	177
Net cash provided by operating activities	6,662	6,420	6,626
Cash Flows from Investing Activities			
Purchases of property, plant and equipment (PP&E)	(1,420)	(1,461)	(1,493)
Proceeds from sale of PP&E and other assets	58	33	135
Acquisitions, net of cash acquired	(16)	(2,914)	(94)
Purchases of marketable securities and investments	(1,410)	(652)	(1,280)
Proceeds from maturities and sale of marketable securities and investments	1,247	1,952	2,034
Proceeds from sale of businesses	142	123	—
Other investing	(4)	102	102
Net cash used in investing activities	(1,403)	(2,817)	(596)
Cash Flows from Financing Activities			
Change in short-term debt — net	(797)	860	27
Repayment of debt (maturities greater than 90 days)	(992)	(800)	(1,625)
Proceeds from debt (maturities greater than 90 days)	2,832	3,422	2,608
Purchases of treasury stock	(3,753)	(5,238)	(5,652)
Proceeds from issuance of treasury stock pursuant to stock option and benefit plans	804	635	968
Dividends paid to shareholders	(2,678)	(2,561)	(2,216)
Excess tax benefits from stock-based compensation	—	154	167
Purchase of noncontrolling interest	—	—	(861)

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Other — net	(42)	(120)	(19)
Net cash used in financing activities	(4,626)	(3,648)	(6,603)
Effect of exchange rate changes on cash and cash equivalents	(33)	(54)	(111)
Net increase (decrease) in cash and cash equivalents	600	(99)	(684)
Cash and cash equivalents at beginning of year	1,798	1,897	2,581
Cash and cash equivalents at end of period	\$ 2,398	\$ 1,798	\$ 1,897

The accompanying Notes to Consolidated Financial Statements are an integral part of this statement.

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Notes to Consolidated Financial Statements

NOTE 1. Significant Accounting Policies

Consolidation: 3M is a diversified global manufacturer, technology innovator and marketer of a wide variety of products. All subsidiaries are consolidated. All intercompany transactions are eliminated. As used herein, the term “3M” or “Company” refers to 3M Company and subsidiaries unless the context indicates otherwise.

Basis of presentation: Certain consolidated balance sheet amounts relative to prior periods have been immaterially revised to correct the Company’s application of Accounting Standards Codification (ASC) 450, Contingencies, with respect to its respirator mask/asbestos liability associated with pending and future claims and related defense costs. This correction reflects the inclusion of all potentially relevant years rather than a subset of future years when estimating this liability. See Note 14 for further detail. 3M assessed the materiality of this correction to prior periods’ financial statements in accordance with Securities and Exchange Commission Staff Accounting Bulletin No. (SAB) 99, Materiality, and SAB 108, Considering the Effects of Prior Year Misstatements when Quantifying Misstatements in Current Year Financial Statements, codified in ASC 250, Presentation of Financial Statements. The Company concluded that the correction was not material to prior periods and therefore, amendments of previously filed reports are not required. In accordance with ASC 250, 3M corrected prior periods presented herein by revising the consolidated balance sheet amounts, including associated deferred taxes. Period to period changes in previous estimates of probable loss were similar to those of the revised amounts. Accordingly, the correction had no impact on consolidated results of operations and cash flows for the periods presented, as this correction originates in periods prior to those presented in the annual report. The impact of this revision on the Company’s previously reported consolidated balance sheet, consolidated statement of changes in equity, and related amounts in Notes 5, 8, 14 and 16 is as follows:

(Millions)	December 31, 2015			December 31, 2014		
	Previously Reported	Adjustment	As Revised	Previously Reported	Adjustment	As Revised
Other assets	\$ 1,053	\$ 165	\$ 1,218	\$ 1,769	\$ 165	\$ 1,934
Total assets	32,718	165	32,883	31,209	165	31,374
Other liabilities	1,580	444	2,024	1,555	444	1,999
Total liabilities	20,971	444	21,415	18,067	444	18,511
Retained earnings	36,575	(279)	36,296	34,317	(279)	34,038
Total 3M Company shareholders' equity	11,708	(279)	11,429	13,109	(279)	12,830
Total equity	11,747	(279)	11,468	13,142	(279)	12,863

As the correction originates in periods prior to those presented in this annual report, the previously reported amounts of retained earnings and total equity as of December 31, 2013 of \$32,416 million and \$17,948 million, respectively, in the consolidated statement of changes in equity have each been reduced by \$279 million.

Foreign currency translation: Local currencies generally are considered the functional currencies outside the United States. Assets and liabilities for operations in local-currency environments are translated at month-end exchange rates of the period reported. Income and expense items are translated at month-end exchange rates of each applicable month. Cumulative translation adjustments are recorded as a component of accumulated other comprehensive income (loss) in shareholders' equity.

Although local currencies are typically considered as the functional currencies outside the United States, under ASC 830, Foreign Currency Matters, the reporting currency of a foreign entity's parent is assumed to be that entity's functional currency when the economic environment of a foreign entity is highly inflationary—generally when its cumulative inflation is approximately 100 percent or more for the three years that precede the beginning of a reporting period. 3M has a subsidiary in Venezuela with operating income representing less than 1.0 percent of 3M's consolidated operating income for 2016. Since January 1, 2010, the financial statements of the Venezuelan subsidiary have been remeasured as if its functional currency were that of its parent.

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The Venezuelan government sets official rates of exchange and conditions precedent to purchase foreign currency at these rates with local currency. Such rates and conditions have been and continue to be subject to change. In January 2014, the Venezuelan government announced that the National Center for Foreign Commerce (CENCOEX), had assumed the role with respect to the continuation of the existing official exchange rate, significantly expanded the use of a second currency auction exchange mechanism called the Complementary System for Foreign Currency Acquirement (or SICAD1), and issued exchange regulations indicating the SICAD1 rate of exchange would be used for payments related to international investments. In late March 2014, the Venezuelan government launched a third foreign exchange mechanism, SICAD2, which it later replaced with another foreign currency exchange platform in February 2015 called the Marginal System of Foreign Currency (SIMADI). The SIMADI rate was described as being derived from daily private bidders and buyers exchanging offers through authorized agents. This rate was approved and published by the Venezuelan Central Bank. In March 2016, the Venezuelan government effected a replacement of its preferential CENCOEX rate with Tipo de Cambio Protegido (DIPRO), described as available largely for essential imports; eliminated its SICAD exchange mechanism; and replaced its SIMADI rate with Tipo de Cambio Complementario (DICOM), published by the Venezuelan Central Bank and described as fluctuating in rate based on supply and demand.

The financial statements of 3M's Venezuelan subsidiary were remeasured utilizing the official CENCOEX (or its predecessor) rate into March 2014, the SICAD1 rate beginning in late March 2014, the SICAD2 rate beginning in June 2014, and the DICOM rate (or its SIMADI predecessor) beginning in February 2015. 3M's uses of these rates were based upon evaluation of a number of factors including, but not limited to, the exchange rate the Company's Venezuelan subsidiary may legally use to convert currency, settle transactions or pay dividends; the probability of accessing and obtaining currency by use of a particular rate or mechanism; and the Company's intent and ability to use a particular exchange mechanism. Other factors notwithstanding, remeasurement impacts of the changes in use of these exchange rates did not have material impacts on 3M's consolidated results of operations or financial condition.

The Company continues to monitor circumstances relative to its Venezuelan subsidiary. Changes in applicable exchange rates or exchange mechanisms may continue in the future. These changes could impact the rate of exchange applicable to remeasure the Company's net monetary assets (liabilities) denominated in Venezuelan Bolivars (VEF). As of December 31, 2016, the Company had a balance of net monetary assets denominated in VEF of less than 1.5 billion VEF and the DIPRO and DICOM exchange rates were approximately 10 VEF and 670 VEF per U.S. dollar, respectively.

A need to deconsolidate the Company's Venezuelan subsidiary's operations may result from a lack of exchangeability of VEF-denominated cash coupled with an acute degradation in the ability to make key operational decisions due to government regulations in Venezuela. 3M monitors factors such as its ability to access various exchange mechanisms; the impact of government regulations on the Company's ability to manage its Venezuelan subsidiary's capital structure, purchasing, product pricing, and labor relations; and the current political and economic situation within Venezuela. Based upon such factors as of December 31, 2016, the Company continues to consolidate its Venezuelan subsidiary. As of December 31, 2016, the balance of intercompany receivables due from this subsidiary and its equity balance were not significant.

Reclassifications: Certain amounts in the prior years' consolidated financial statements have been reclassified to conform to the current year presentation.

Use of estimates: The preparation of financial statements in conformity with U.S. generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from these estimates.

Cash and cash equivalents: Cash and cash equivalents consist of cash and temporary investments with maturities of three months or less when acquired.

Marketable securities: The classification of marketable securities as current or non-current is based on the nature of the securities and availability for use in current operations. 3M reviews impairments associated with its marketable securities in accordance with the measurement guidance provided by ASC 320, Investments-Debt and Equity Securities, when determining the classification of the impairment as "temporary" or "other-than-temporary". A temporary impairment

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charge results in an unrealized loss being recorded in the other comprehensive income component of shareholders' equity. Such an unrealized loss does not reduce net income for the applicable accounting period because the loss is not viewed as other-than-temporary. The factors evaluated to differentiate between temporary and other-than-temporary include the projected future cash flows, credit ratings actions, and assessment of the credit quality of the underlying collateral, as well as other factors.

Investments: Investments primarily include equity method, cost method, and available-for-sale equity investments. Available-for-sale investments are recorded at fair value. Unrealized gains and losses relating to investments classified as available-for-sale are recorded as a component of accumulated other comprehensive income (loss) in shareholders' equity.

Other assets: Other assets include deferred income taxes, product and other insurance receivables, the cash surrender value of life insurance policies, and other long-term assets. Investments in life insurance are reported at the amount that could be realized under contract at the balance sheet date, with any changes in cash surrender value or contract value during the period accounted for as an adjustment of premiums paid. Cash outflows and inflows associated with life insurance activity are included in "Purchases of marketable securities and investments" and "Proceeds from maturities and sale of marketable securities and investments," respectively.

Inventories: Inventories are stated at the lower of cost or market, with cost generally determined on a first-in, first-out basis.

Property, plant and equipment: Property, plant and equipment, including capitalized interest and internal engineering costs, are recorded at cost. Depreciation of property, plant and equipment generally is computed using the straight-line method based on the estimated useful lives of the assets. The estimated useful lives of buildings and improvements primarily range from ten to forty years, with the majority in the range of twenty to forty years. The estimated useful lives of machinery and equipment primarily range from three to fifteen years, with the majority in the range of five to ten years. Fully depreciated assets are retained in property and accumulated depreciation accounts until disposal. Upon disposal, assets and related accumulated depreciation are removed from the accounts and the net amount, less proceeds from disposal, is charged or credited to operations. Property, plant and equipment amounts are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset (asset group) may not be recoverable. An impairment loss would be recognized when the carrying amount of an asset exceeds the estimated undiscounted future cash flows expected to result from the use of the asset and its eventual disposition. The amount of the impairment loss recorded is calculated by the excess of the asset's carrying value over its fair value. Fair value is generally determined using a discounted cash flow analysis.

Conditional asset retirement obligations: A liability is initially recorded at fair value for an asset retirement obligation associated with the retirement of tangible long-lived assets in the period in which it is incurred if a reasonable estimate of fair value can be made. Conditional asset retirement obligations exist for certain long-term assets of the Company. The obligation is initially measured at fair value using expected present value techniques. Over time the liabilities are

accreted for the change in their present value and the initial capitalized costs are depreciated over the remaining useful lives of the related assets. The asset retirement obligation liability was \$111 million and \$102 million at December 31, 2016 and 2015, respectively.

Goodwill: Goodwill is the excess of cost of an acquired entity over the amounts assigned to assets acquired and liabilities assumed in a business combination. Goodwill is not amortized. Goodwill is tested for impairment annually in the fourth quarter of each year, and is tested for impairment between annual tests if an event occurs or circumstances change that would indicate the carrying amount may be impaired. Impairment testing for goodwill is done at a reporting unit level, with all goodwill assigned to a reporting unit. Reporting units are one level below the business segment level, but can be combined when reporting units within the same segment have similar economic characteristics. 3M did not combine any of its reporting units for impairment testing. An impairment loss generally would be recognized when the carrying amount of the reporting unit's net assets exceeds the estimated fair value of the reporting unit. The estimated fair value of a reporting unit is determined using earnings for the reporting unit multiplied by a price/earnings ratio for comparable industry groups, or by using a discounted cash flow analysis. Companies have the option to first assess qualitative factors to determine whether the fair value of a reporting unit is not "more likely than not" less than its carrying amount, which

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is commonly referred to as “Step 0”. 3M has chosen not to apply Step 0 for 2016 or prior period annual goodwill assessments.

Intangible assets: Intangible asset types include customer related, patents, other technology-based, tradenames and other intangible assets acquired from an independent party. Intangible assets with a definite life are amortized over a period ranging from one to twenty years on a systematic and rational basis (generally straight line) that is representative of the asset’s use. The estimated useful lives vary by category, with customer related largely between seven to seventeen years, patents largely between five to thirteen years, other technology-based largely between two to fifteen years, definite lived tradenames largely between three and twenty years, and other intangibles largely between two to ten years. Costs related to internally developed intangible assets, such as patents, are expensed as incurred, primarily in “Research, development and related expenses.”

Intangible assets with a definite life are tested for impairment whenever events or circumstances indicate that the carrying amount of an asset (asset group) may not be recoverable. An impairment loss is recognized when the carrying amount of an asset exceeds the estimated undiscounted cash flows used in determining the fair value of the asset. The amount of the impairment loss recorded is calculated by the excess of the asset’s carrying value over its fair value. Fair value is generally determined using a discounted cash flow analysis.

Intangible assets with an indefinite life, namely certain tradenames, are not amortized. Indefinite-lived intangible assets are tested for impairment annually, and are tested for impairment between annual tests if an event occurs or circumstances change that would indicate that the carrying amount may be impaired. An impairment loss generally would be recognized when the fair value is less than the carrying value of the indefinite-lived intangible asset.

Restructuring actions: Restructuring actions generally include significant actions involving employee-related severance charges, contract termination costs, and impairment or accelerated depreciation/amortization of assets associated with such actions. Employee-related severance charges are largely based upon distributed employment policies and substantive severance plans. These charges are reflected in the quarter when the actions are probable and the amounts are estimable, which typically is when management approves the associated actions. Severance amounts for which affected employees were required to render service in order to receive benefits at their termination dates were measured at the date such benefits were communicated to the applicable employees and recognized as expense over the employees’ remaining service periods. Contract termination and other charges primarily reflect costs to terminate a contract before the end of its term (measured at fair value at the time the Company provided notice to the counterparty) or costs that will continue to be incurred under the contract for its remaining term without economic benefit to the Company. Asset impairment charges related to intangible assets and property, plant and equipment reflect the excess of the assets’ carrying values over their fair values.

Revenue (sales) recognition: The Company sells a wide range of products to a diversified base of customers around the world and has no material concentration of credit risk. Revenue is recognized when the risks and rewards of ownership have substantively transferred to customers. This condition normally is met when the product has been

delivered or upon performance of services. The Company records estimated reductions to revenue or records expense for customer and distributor incentives, primarily comprised of rebates and free goods, at the time of the initial sale. These sales incentives are accounted for in accordance with ASC 605, Revenue Recognition. The estimated reductions of revenue for rebates are based on the sales terms, historical experience, trend analysis and projected market conditions in the various markets served. Since the Company serves numerous markets, the rebate programs offered vary across businesses, but the most common incentive relates to amounts paid or credited to customers for achieving defined volume levels or growth objectives. Free goods are accounted for as an expense and recorded in cost of sales. Sales, use, value-added and other excise taxes are not recognized in revenue.

The vast majority of 3M's sales agreements are for standard products and services with customer acceptance occurring upon delivery of the product or performance of the service. However, to a limited extent 3M also enters into agreements that involve multiple elements (such as equipment, installation and service), software, or non-standard terms and conditions.

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For non-software multiple-element arrangements, the Company recognizes revenue for delivered elements when they have stand-alone value to the customer, they have been accepted by the customer, and for which there are only customary refund or return rights. Arrangement consideration is allocated to the deliverables by use of the relative selling price method. The selling price used for each deliverable is based on vendor-specific objective evidence (VSOE) if available, third-party evidence (TPE) if VSOE is not available, or estimated selling price if neither VSOE nor TPE is available. Estimated selling price is determined in a manner consistent with that used to establish the price to sell the deliverable on a standalone basis. In addition to the preceding conditions, equipment revenue is not recorded until the installation has been completed if equipment acceptance is dependent upon installation or if installation is essential to the functionality of the equipment. Installation revenues are not recorded until installation has been completed.

For arrangements (or portions of arrangements) falling within software revenue recognition standards and that do not involve significant production, modification, or customization, revenue for each software or software-related element is recognized when the Company has VSOE of the fair value of all of the undelivered elements and applicable criteria have been met for the delivered elements. When the arrangements involve significant production, modification or customization, long-term construction-type accounting involving proportional performance is generally employed.

For prepaid service contracts, sales revenue is recognized on a straight-line basis over the term of the contract, unless historical evidence indicates the costs are incurred on other than a straight-line basis. License fee revenue is recognized as earned, and no revenue is recognized until the inception of the license term.

On occasion, agreements will contain milestones, or 3M will recognize revenue based on proportional performance. For these agreements, and depending on the specifics, 3M may recognize revenue upon completion of a substantive milestone, or in proportion to costs incurred to date compared with the estimate of total costs to be incurred.

Accounts receivable and allowances: Trade accounts receivable are recorded at the invoiced amount and do not bear interest. The Company maintains allowances for bad debts, cash discounts, product returns and various other items. The allowance for doubtful accounts and product returns is based on the best estimate of the amount of probable credit losses in existing accounts receivable and anticipated sales returns. The Company determines the allowances based on historical write-off experience by industry and regional economic data and historical sales returns. The Company reviews the allowance for doubtful accounts monthly. The Company does not have any significant off-balance-sheet credit exposure related to its customers.

Advertising and merchandising: These costs are charged to operations in the period incurred, and totaled \$385 million in 2016, \$368 million in 2015 and \$407 million in 2014.

Research, development and related expenses: These costs are charged to operations in the period incurred and are shown on a separate line of the Consolidated Statement of Income. Research, development and related expenses totaled \$1.735 billion in 2016, \$1.763 billion in 2015 and \$1.770 billion in 2014. Research and development expenses, covering basic scientific research and the application of scientific advances in the development of new and improved products and their uses, totaled \$1.225 billion in 2016, \$1.223 billion in 2015 and \$1.193 billion in 2014. Related expenses primarily include technical support; internally developed patent costs, which include costs and fees incurred to prepare, file, secure and maintain patents; amortization of externally acquired patents and externally acquired in-process research and development; and gains/losses associated with certain corporate approved investments in R&D-related ventures, such as equity method effects and impairments.

Internal-use software: The Company capitalizes direct costs of services used in the development of internal-use software. Amounts capitalized are amortized over a period of three to seven years, generally on a straight-line basis, unless another systematic and rational basis is more representative of the software's use. Amounts are reported as a component of either machinery and equipment or capital leases within property, plant and equipment.

Environmental: Environmental expenditures relating to existing conditions caused by past operations that do not contribute to current or future revenues are expensed. Reserves for liabilities related to anticipated remediation costs are recorded on an undiscounted basis when they are probable and reasonably estimable, generally no later than the completion of feasibility studies, the Company's commitment to a plan of action, or approval by regulatory agencies.

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Environmental expenditures for capital projects that contribute to current or future operations generally are capitalized and depreciated over their estimated useful lives.

Income taxes: The provision for income taxes is determined using the asset and liability approach. Under this approach, deferred income taxes represent the expected future tax consequences of temporary differences between the carrying amounts and tax basis of assets and liabilities. The Company records a valuation allowance to reduce its deferred tax assets when uncertainty regarding their realizability exists. As of December 31, 2016 and 2015, the Company had valuation allowances of \$47 million and \$31 million on its deferred tax assets, respectively. The increase in valuation allowance at December 31, 2016 relates to certain international jurisdictions with taxable loss carryforwards that are expected to expire prior to utilization. The Company recognizes and measures its uncertain tax positions based on the rules under ASC 740, Income Taxes.

Earnings per share: The difference in the weighted average 3M shares outstanding for calculating basic and diluted earnings per share attributable to 3M common shareholders is the result of the dilution associated with the Company's stock-based compensation plans. Certain options outstanding under these stock-based compensation plans during the years 2016, 2015 and 2014 were not included in the computation of diluted earnings per share attributable to 3M common shareholders because they would have had an anti-dilutive effect (3.6 million average options for 2016, 5.0 million average options for 2015, and 1.4 million average options for 2014). The computations for basic and diluted earnings per share for the years ended December 31 follow:

Earnings Per Share Computations

(Amounts in millions, except per share amounts)	2016	2015	2014
Numerator:			
Net income attributable to 3M	\$ 5,050	\$ 4,833	\$ 4,956
Denominator:			
Denominator for weighted average 3M common shares outstanding – basic	604.7	625.6	649.2
Dilution associated with the Company's stock-based compensation plans	14.0	11.6	12.8
Denominator for weighted average 3M common shares outstanding – diluted	618.7	637.2	662.0
Earnings per share attributable to 3M common shareholders – basic	\$ 8.35	\$ 7.72	\$ 7.63
Earnings per share attributable to 3M common shareholders – diluted	\$ 8.16	\$ 7.58	\$ 7.49

Stock-based compensation: The Company recognizes compensation expense for its stock-based compensation programs, which include stock options, restricted stock, restricted stock units, performance shares, and the General Employees' Stock Purchase Plan (GESPP). Under applicable accounting standards, the fair value of share-based

compensation is determined at the grant date and the recognition of the related expense is recorded over the period in which the share-based compensation vests. Refer to the New Accounting Pronouncements section that follows for discussion of Accounting Standards Update (ASU) No. 2016-09, Improvements to Employee Share-Based Payment Accounting, which 3M adopted on January 1, 2016.

Comprehensive income: Total comprehensive income and the components of accumulated other comprehensive income (loss) are presented in the Consolidated Statement of Comprehensive Income and the Consolidated Statement of Changes in Equity. Accumulated other comprehensive income (loss) is composed of foreign currency translation effects (including hedges of net investments in international companies), defined benefit pension and postretirement plan adjustments, unrealized gains and losses on available-for-sale debt and equity securities, and unrealized gains and losses on cash flow hedging instruments.

Derivatives and hedging activities: All derivative instruments within the scope of ASC 815, Derivatives and Hedging, are recorded on the balance sheet at fair value. The Company uses interest rate swaps, currency and commodity price swaps, and foreign currency forward and option contracts to manage risks generally associated with foreign exchange

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rate, interest rate and commodity market volatility. All hedging instruments that qualify for hedge accounting are designated and effective as hedges, in accordance with U.S. generally accepted accounting principles. If the underlying hedged transaction ceases to exist, all changes in fair value of the related derivatives that have not been settled are recognized in current earnings. Instruments that do not qualify for hedge accounting are marked to market with changes recognized in current earnings. Cash flows from derivative instruments are classified in the statement of cash flows in the same category as the cash flows from the items subject to designated hedge or undesignated (economic) hedge relationships. The Company does not hold or issue derivative financial instruments for trading purposes and is not a party to leveraged derivatives.

Credit risk: The Company is exposed to credit loss in the event of nonperformance by counterparties in interest rate swaps, currency swaps, commodity price swaps, and forward and option contracts. However, the Company's risk is limited to the fair value of the instruments. The Company actively monitors its exposure to credit risk through the use of credit approvals and credit limits, and by selecting major international banks and financial institutions as counterparties. 3M enters into master netting arrangements with counterparties when possible to mitigate credit risk in derivative transactions. A master netting arrangement may allow each counterparty to net settle amounts owed between a 3M entity and the counterparty as a result of multiple, separate derivative transactions. The Company does not anticipate nonperformance by any of these counterparties. 3M has elected to present the fair value of derivative assets and liabilities within the Company's consolidated balance sheet on a gross basis even when derivative transactions are subject to master netting arrangements and may otherwise qualify for net presentation.

Fair value measurements: 3M follows ASC 820, Fair Value Measurements and Disclosures, with respect to assets and liabilities that are measured at fair value on a recurring basis and nonrecurring basis. Under the standard, fair value is defined as the exit price, or the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants as of the measurement date. The standard also establishes a hierarchy for inputs used in measuring fair value that maximizes the use of observable inputs and minimizes the use of unobservable inputs by requiring that the most observable inputs be used when available. Observable inputs are inputs market participants would use in valuing the asset or liability developed based on market data obtained from sources independent of the Company. Unobservable inputs are inputs that reflect the Company's assumptions about the factors market participants would use in valuing the asset or liability developed based upon the best information available in the circumstances. The hierarchy is broken down into three levels. Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities. Level 2 inputs include quoted prices for similar assets or liabilities in active markets, quoted prices for identical or similar assets or liabilities in markets that are not active, and inputs (other than quoted prices) that are observable for the asset or liability, either directly or indirectly. Level 3 inputs are unobservable inputs for the asset or liability. Categorization within the valuation hierarchy is based upon the lowest level of input that is significant to the fair value measurement.

Acquisitions: The Company accounts for business acquisitions in accordance with ASC 805, Business Combinations. This standard requires the acquiring entity in a business combination to recognize all (and only) the assets acquired and liabilities assumed in the transaction and establishes the acquisition-date fair value as the measurement objective for all assets acquired and liabilities assumed in a business combination. Certain provisions of this standard prescribe, among other things, the determination of acquisition-date fair value of consideration paid in a business combination (including contingent consideration) and the exclusion of transaction and acquisition-related restructuring costs from acquisition accounting.

New Accounting Pronouncements

In May 2014, the Financial Accounting Standards Board (FASB) issued ASU No. 2014-09, Revenue from Contracts with Customers, and in August 2015 issued ASU No. 2015-14, which amended the standard as to effective date. The ASU provides a single comprehensive model to be used in the accounting for revenue arising from contracts with customers and supersedes most current revenue recognition guidance, including industry-specific guidance. The standard's stated core principle is that an entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. To achieve this core principle the ASU includes provisions within a five step model that includes identifying the contract with a customer, identifying the performance obligations in the contract, determining the transaction price,

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allocating the transaction price to the performance obligations, and recognizing revenue when (or as) an entity satisfies a performance obligation. The standard also specifies the accounting for some costs to obtain or fulfill a contract with a customer and requires expanded disclosures about the nature, amount, timing and uncertainty of revenue and cash flows arising from contracts with customers. During 2016, the FASB also issued ASU No. 2016-08, Principal versus Agent Considerations (Reporting Revenue Gross versus Net); ASU No. 2016-10, Identifying Performance Obligations and Licensing; ASU No. 2016-12, Narrow-Scope Improvements and Practical Expedients, and ASU No. 2016-20, Technical Corrections and Improvements to Topic 606, Revenue from Contracts with Customers which amend ASU No. 2014-09. These amendments include clarification of principal versus agent guidance in situations in which a revenue transaction involves a third party in providing goods or services to a customer. In such circumstances, an entity must determine whether the nature of its promise to the customer is to provide the underlying goods or services (i.e., the entity is the principal in the transaction) or to arrange for the third party to provide the underlying goods or services (i.e., the entity is the agent in the transaction). The amendments clarify, in terms of identifying performance obligations, how entities would determine whether promised goods or services are separately identifiable from other promises in a contract and, therefore, would be accounted for separately. The guidance allows entities to disregard goods or services that are immaterial in the context of a contract and provides an accounting policy election to account for shipping and handling activities as fulfillment costs rather than as additional promised services. With regard to the licensing, the amendments clarify how an entity would evaluate the nature of its promise in granting a license of intellectual property, which determines whether the entity recognizes revenue over time or at a point in time. The amendments also address implementation issues relative to transition (adding a practical expedient for contract modifications and clarifying what constitutes a completed contract when employing full or modified retrospective transition methods), collectability, noncash consideration, and the presentation of sales and other similar-type taxes (allowing entities to exclude sales-type taxes collected from transaction price). Finally, the amendments make certain technical corrections and provide additional guidance in the areas of disclosure of performance obligations, provisions for losses on certain types of contracts, scoping, and other areas. Overall, ASU No. 2014-09, as amended, provides for either full retrospective adoption or a modified retrospective adoption by which it is applied only to the most current period presented. For 3M, the ASU is effective January 1, 2018. The Company is continuing to evaluate the standard's impact on 3M's consolidated results of operations and financial condition. 3M has conducted initial analyses, developed project management relative to the process of adopting this ASU, and is currently completing detailed contract reviews to determine necessary adjustments to existing accounting policies and to support an evaluation of the standard's impact on the Company's consolidated results of operations and financial condition. For the majority of 3M's revenue arrangements, no significant impacts are expected as these transactions are not accounted for under industry-specific guidance that will be superseded by the ASU and generally consist of a single performance obligation to transfer promised goods or services. However, in addition to expanded disclosures regarding revenue, the ASU could, for example, impact the timing of revenue recognition in some arrangements for which software industry-specific guidance (which the ASU supersedes) is presently utilized. The Company currently anticipates utilizing the modified retrospective method of adoption on January 1, 2018.

In February 2015, the FASB issued ASU No. 2015-02, Amendments to the Consolidation Analysis, which changes guidance related to both the variable interest entity (VIE) and voting interest entity (VOE) consolidation models. With respect to the VIE model, the standard changes, among other things, the identification of variable interests associated with fees paid to a decision maker or service provider, the VIE characteristics for a limited partner or similar entity, and the primary beneficiary determination. With respect to the VOE model, the ASU eliminates the presumption that a general partner controls a limited partnership or similar entity unless the presumption can otherwise be overcome. Under the new guidance, a general partner would largely not consolidate a partnership or similar entity under the VOE model. The Company adopted this ASU effective January 1, 2016. Because 3M did not have significant involvement with entities subject to consolidation considerations impacted by the VIE model changes or with limited partnerships

potentially impacted by the VOE model changes, the adoption did not have a material impact on the Company's consolidated results of operations and financial condition.

In April 2015, the FASB issued ASU No. 2015-05, Customer's Accounting for Fees Paid in a Cloud Arrangement, which requires a customer to determine whether a cloud computing arrangement contains a software license. If the arrangement contains a software license, the customer would account for fees related to the software license element in a manner consistent with accounting for the acquisition of other acquired software licenses. If the arrangement does not contain a software license, the customer would account for the arrangement as a service contract. An arrangement would

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contain a software license element if both (1) the customer has the contractual right to take possession of the software at any time during the hosting period without significant penalty and (2) it is feasible for the customer to either run the software on its own hardware or contract with another party unrelated to the vendor to host the software. 3M adopted this ASU prospectively to arrangements entered into, or materially modified beginning January 1, 2016. The adoption did not have a material impact on 3M's consolidated results of operations and financial condition.

In July 2015, the FASB issued ASU No. 2015-11, Simplifying the Measurement of Inventory, which modifies existing requirements regarding measuring inventory at the lower of cost or market. Under existing standards, the market amount requires consideration of replacement cost, net realizable value (NRV), and NRV less an approximately normal profit margin. The new ASU replaces market with NRV, defined as estimated selling prices in the ordinary course of business, less reasonably predictable costs of completion, disposal and transportation. This eliminates the need to determine and consider replacement cost or NRV less an approximately normal profit margin when measuring inventory. For 3M, this standard is effective prospectively beginning January 1, 2017. The Company does not expect this ASU to have a material impact on 3M's consolidated results of operations and financial condition.

In January 2016, the FASB issued ASU No. 2016-01, Recognition and Measurement of Financial Assets and Financial Liabilities, which revises the accounting related to (1) the classification and measurement of investments in equity securities and (2) the presentation of certain fair value changes for financial liabilities measured at fair value. The ASU also amends certain disclosure requirements associated with the fair value of financial instruments. The new guidance requires the fair value measurement of investments in equity securities and other ownership interests in an entity, including investments in partnerships, unincorporated joint ventures and limited liability companies (collectively, equity securities) that do not result in consolidation and are not accounted for under the equity method. Entities will need to measure these investments and recognize changes in fair value in net income. Entities will no longer be able to recognize unrealized holding gains and losses on equity securities they classify under current guidance as available for sale in other comprehensive income (OCI). They also will no longer be able to use the cost method of accounting for equity securities that do not have readily determinable fair values. Instead, for these types of equity investments that do not otherwise qualify for the net asset value practical expedient, entities will be permitted to elect a practicability exception and measure the investment at cost less impairment plus or minus observable price changes (in orderly transactions). The ASU also establishes an incremental recognition and disclosure requirement related to the presentation of fair value changes of financial liabilities for which the fair value option (FVO) has been elected. Under this guidance, an entity would be required to separately present in OCI the portion of the total fair value change attributable to instrument-specific credit risk as opposed to reflecting the entire amount in earnings. For derivative liabilities for which the FVO has been elected, however, any changes in fair value attributable to instrument-specific credit risk would continue to be presented in net income, which is consistent with current guidance. For 3M, this standard is effective beginning January 1, 2018 via a cumulative-effect adjustment to beginning retained earnings, except for guidance relative to equity securities without readily determinable fair values which is applied prospectively. The Company is currently assessing this ASU's impact on 3M's consolidated results of operations and financial condition.

In February 2016, the FASB issued ASU No. 2016-02, Leases, replacing existing lease accounting guidance. The new standard introduces a lessee model that would require entities to recognize assets and liabilities for most leases, but recognize expenses on their income statements in a manner similar to current accounting. The ASU does not make fundamental changes to existing lessor accounting. However, it modifies what qualifies as a sales-type and direct

financing lease and related accounting and aligns a number of the underlying principles with those of the new revenue standard, ASU No. 2014-09, such as evaluating how collectability should be considered and determining when profit can be recognized. The guidance eliminates existing real estate-specific provisions and requires expanded qualitative and quantitative disclosures. The standard requires modified retrospective transition by which it is applied at the beginning of the earliest comparative period presented in the year of adoption. For 3M, the ASU is effective January 1, 2019. Information under existing lease guidance with respect to rent expense for operating leases and the Company's minimum lease payments for capital and operating leases with non-cancelable terms in excess one year as of December 31, 2016 is included in Note 14. The Company is currently assessing this ASU's impact on 3M's consolidated results of operations and financial condition.

In March 2016, the FASB issued ASU No. 2016-06, Contingent Put and Call Options in Debt Instruments. This ASU clarifies guidance used to determine if debt instruments that contain contingent put or call options would require

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separation of the embedded put or call feature from the debt instrument and trigger accounting for the feature as a derivative with changes in fair value recorded through income. Under the new guidance, fewer put or call options embedded in debt instruments would require derivative accounting. For 3M, this ASU is effective January 1, 2017. The Company's outstanding debt with embedded put provisions does not require separate derivative accounting under existing guidance. As a result, 3M does not expect this ASU to have a material impact on the Company's consolidated results of operations and financial condition.

In March 2016, the FASB issued ASU No. 2016-07, Simplifying the Transition to the Equity Method of Accounting, which eliminates the existing requirement to apply the equity method of accounting retrospectively (revising prior periods as if the equity method had always been applied) when an entity obtains significant influence over a previously held investment. The new guidance would require the investor to apply the equity method prospectively from the date the investment qualifies for the equity method. The investor would add the carrying value of the existing investment to the cost of any additional investment to determine the initial cost basis of the equity method investment. For 3M, this ASU is effective January 1, 2017 on a prospective basis, with early adoption permitted. 3M would apply this guidance to investments that transition to the equity method after the adoption date.

In March 2016, the FASB issued ASU No. 2016-09, Improvements to Employee Share-Based Payment Accounting, which modifies certain accounting aspects for share-based payments to employees including, among other elements, the accounting for income taxes and forfeitures, as well as classifications in the statement of cash flows. With respect to income taxes, under current guidance, when a share-based payment award such as a stock option or restricted stock unit (RSU) is granted to an employee, the fair value of the award is generally recognized over the vesting period. However, the related deduction from taxes payable is based on the award's intrinsic value at the time of exercise (for an option) or on the fair value upon vesting of the award (for RSUs), which can be either greater (creating an excess tax benefit) or less (creating a tax deficiency) than the compensation cost recognized in the financial statements. Excess tax benefits are recognized in additional paid-in capital (APIC) within equity, and tax deficiencies are similarly recognized in APIC to the extent there is a sufficient APIC amount (APIC pool) related to previously recognized excess tax benefits. Under the new guidance, all excess tax benefits/deficiencies would be recognized as income tax benefit/expense in the statement of income. The new ASU's income tax aspects also impact the calculation of diluted earnings per share by excluding excess tax benefits/deficiencies from the calculation of assumed proceeds available to repurchase shares under the treasury stock method. Relative to forfeitures, the new standard allows an entity-wide accounting policy election either to continue to estimate the number of awards that will be forfeited or to account for forfeitures as they occur. The new guidance also impacts classifications within the statement of cash flows by no longer requiring inclusion of excess tax benefits as both a hypothetical cash outflow within cash flows from operating activities and hypothetical cash inflow within cash flows from financing activities. Instead, excess tax benefits would be classified in operating activities in the same manner as other cash flows related to income taxes. Additionally, the new ASU requires cash payments to tax authorities when an employer uses a net-settlement feature to withhold shares to meet statutory tax withholding provisions to be presented as financing activity (eliminating previous diversity in practice). For 3M, this standard is required effective January 1, 2017, with early adoption permitted. The Company early adopted ASU No. 2016-09 as of January 1, 2016. Prospectively beginning January 1, 2016, excess tax benefits/deficiencies have been reflected as income tax benefit/expense in the statement of income resulting in a \$184 million tax benefit in 2016. The extent of excess tax benefits/deficiencies is subject to variation in 3M stock price and timing/extent of RSU vestings and employee stock option exercises. 3M's adoption of this ASU also resulted in associated excess tax benefits being classified as operating activity in the same manner as other cash flows related to income taxes in the statement of cash flows prospectively beginning January 1, 2016. Based on the adoption methodology applied, the statement of cash flows classification of prior periods has not changed. In addition, 3M did

not change its accounting principles relative to elements of this standard and continued its existing practice of estimating the number of awards that will be forfeited.

In June 2016, the FASB issued ASU No. 2016-13, Measurement of Credit Losses on Financial Instruments, which revises guidance for the accounting for credit losses on financial instruments within its scope. The new standard introduces an approach, based on expected losses, to estimate credit losses on certain types of financial instruments and modifies the impairment model for available-for-sale debt securities. The new approach to estimating credit losses (referred to as the current expected credit losses model) applies to most financial assets measured at amortized cost and certain other instruments, including trade and other receivables, loans, held-to-maturity debt securities, net investments in leases and off-balance-sheet credit exposures. With respect to available-for-sale (AFS) debt securities, the ASU

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amends the current other-than-temporary impairment model. For such securities with unrealized losses, entities will still consider if a portion of any impairment is related only to credit losses and therefore recognized as a reduction in income. However, rather than also reflecting that credit loss amount as a permanent reduction in cost (amortized cost) basis of that AFS debt security, the ASU requires that credit losses be reflected as an allowance. As a result, under certain circumstances, a recovery in value could result in previous allowances, or portions thereof, reversing back into income. For 3M, this ASU is effective January 1, 2020, with early adoption permitted. Entities are required to apply the standard's provisions as a cumulative-effect adjustment to retained earnings as of the beginning of the first reporting period in which the guidance is adopted. The Company is currently assessing this ASU's impact on 3M's consolidated result of operations and financial condition.

In August 2016, the FASB issued ASU No. 2016-15, Classification of Certain Cash Receipts and Cash Payments, which is intended to reduce diversity in practice in how certain cash receipts and payments are presented and classified in the statement of cash flows. The standard provides guidance in a number of situations including, among others, settlement of zero-coupon bonds, contingent consideration payments made after a business combination, proceeds from the settlement of insurance claims, and distributions received from equity method investees. The ASU also provides guidance for classifying cash receipts and payments that have aspects of more than one class of cash flows. For 3M, this ASU is effective January 1, 2018, with early adoption permitted. The standard requires application using a retrospective transition method. The Company does not expect this ASU to have a material impact on 3M's consolidated results of operations and financial condition.

In October 2016, the FASB issued ASU No. 2016-16, Intra-Entity Transfers of Assets Other Than Inventory, which modifies existing guidance and is intended to reduce diversity in practice with respect to the accounting for the income tax consequences of intra-entity transfers of assets. The ASU indicates that the current exception to income tax accounting that requires companies to defer the income tax effects of certain intercompany transactions would apply only to intercompany inventory transactions. That is, the exception would no longer apply to intercompany sales and transfers of other assets (e.g., intangible assets). Under the existing exception, income tax expense associated with intra-entity profits in an intercompany sale or transfer of assets is eliminated from earnings. Instead, that cost is deferred and recorded on the balance sheet (e.g., as a prepaid asset) until the assets leave the consolidated group. Similarly, the entity is prohibited from recognizing deferred tax assets for the increases in tax bases due to the intercompany sale or transfer. For 3M, this ASU is effective January 1, 2018, with early adoption permitted as of January 1, 2017. The standard requires modified retrospective transition with a cumulative catch-up adjustment to opening retained earnings in the period of adoption. Upon adoption, a company would write off any income tax effects that had been deferred from past intercompany transactions involving non-inventory assets to opening retained earnings. In addition, an entity would record deferred tax assets with an offset to opening retained earnings for amounts that entity had previously not recognized under existing guidance but would recognize under the new guidance. While 3M could initiate additional relevant transactions prior to this ASU's adoption date, based on deferred tax amounts related to applicable past intercompany transactions as of December 31, 2016, the Company does not expect this ASU to have a material impact on 3M's consolidated results of operations and financial condition.

In October 2016, the FASB issued ASU No. 2016-17, Interests Held through Related Parties That Are under Common Control, which modifies existing guidance with respect to how a decision maker that holds an indirect interest in a variable interest entity (VIE) through a common control party determines whether it is the primary beneficiary of the VIE as part of the analysis of whether the VIE would need to be consolidated. Under the ASU, a decision maker

would need to consider only its proportionate indirect interest in the VIE held through a common control party. Previous guidance had required the decision maker to treat the common control party's interest in the VIE as if the decision maker held the interest itself. As a result of the ASU, in certain cases, previous consolidation conclusions may change. For 3M, the standard is effective January 1, 2017 with retrospective application to January 1, 2016. 3M does not have significant involvement with entities subject to consolidation considerations impacted by VIE model factors. As a result, 3M does not expect this ASU to have a material impact on the Company's consolidated results of operations and financial condition.

In November 2016, the FASB issued ASU No. 2016-18, Restricted Cash, which clarifies guidance on the classification and presentation of restricted cash in the statement of cash flows. Under the ASU, changes in restricted cash and restricted cash equivalents would be included along with those of cash and cash equivalents in the statement of cash

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flows. As a result, entities would no longer present transfers between cash/equivalents and restricted cash/equivalents in the statement of cash flows. In addition, a reconciliation between the balance sheet and the statement of cash flows would be disclosed when the balance sheet includes more than one line item for cash/equivalents and restricted cash/equivalents. For 3M, this ASU is effective January 1, 2018, with early adoption permitted. Entities are required to apply the standard's provisions on a retrospective basis. 3M does not expect this ASU to have a material impact on the Company's consolidated results of operations and financial condition.

In January 2017, the FASB issued ASU No. 2017-01, Clarifying the Definition of a Business, which narrows the existing definition of a business and provides a framework for evaluating whether a transaction should be accounted for as an acquisition (or disposal) of assets or a business. The ASU requires an entity to evaluate if substantially all of the fair value of the gross assets acquired is concentrated in a single identifiable asset or a group of similar identifiable assets; if so, the set of transferred assets and activities (collectively, the set) is not a business. To be considered a business, the set would need to include an input and a substantive process that together significantly contribute to the ability to create outputs. The standard also narrows the definition of outputs. The definition of a business affects areas of accounting such as acquisitions, disposals and goodwill. Under the new guidance, fewer acquired sets are expected to be considered businesses. For 3M, this ASU is effective January 1, 2018 on a prospective basis with early adoption permitted. 3M would apply this guidance to applicable transactions after the adoption date.

In January 2017, the FASB issued ASU No. 2017-04, Simplifying the Test for Goodwill Impairment. Under the new standard, goodwill impairment would be measured as the amount by which a reporting unit's carrying value exceeds its fair value, not to exceed the carrying value of goodwill. This ASU eliminates existing guidance that requires an entity to determine goodwill impairment by calculating the implied fair value of goodwill by hypothetically assigning the fair value of a reporting unit to all of its assets and liabilities as if that reporting unit had been acquired in a business combination. For 3M, this ASU is effective prospectively to impairment tests beginning January 1, 2020, with early adoption permitted. 3M would apply this guidance to applicable impairment tests after the adoption date.

NOTE 2. Acquisitions and Divestitures

Acquisitions:

3M makes acquisitions of certain businesses from time to time that are aligned with its strategic intent with respect to, among other factors, growth markets and adjacent product lines or technologies.

Goodwill resulting from business combinations is largely attributable to the existing workforce of the acquired businesses and synergies expected to arise after 3M's acquisition of these businesses. Pro forma information related to acquisitions was not included because the impact on the Company's consolidated results of operations was not considered to be material.

In addition to business combinations, 3M periodically acquires certain tangible and/or intangible assets and purchases interests in certain enterprises that do not otherwise qualify for accounting as business combinations. These transactions are largely reflected as additional asset purchase and investment activity.

2016 acquisitions:

During 2016, 3M completed the acquisition of Semfinder AG and Sembrowser AG (collectively “Semfinder”) along with an additional immaterial acquisition, the impacts of which on the consolidated balance sheet were not considered material. In September 2016, 3M (Health Care Business) acquired all of the outstanding shares of Semfinder, headquartered in Kreuzlingen, Switzerland. Semfinder is a leading developer of precision software that enables efficient coding of medical procedures in multiple languages. The purchase price paid for these business combinations (net of cash acquired) during 2016 aggregated to \$16 million.

Adjustments in 2016 to the preliminary purchase price allocations of other acquisitions within the allocation period primarily related to the identification of contingent liabilities and certain tax-related items aggregating to approximately \$35 million along with other balances related to the 2015 acquisition of Capital Safety Group S.A.R.L. The change to

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provisional amounts resulted in an immaterial impact to the results of operations in the third quarter of 2016, a portion of which related to earlier quarters in the measurement period.

Purchased identifiable finite-lived intangible assets related to acquisition activity in 2016 totaled \$4 million. The associated finite-lived intangible assets acquired in 2016 will be amortized on a systematic and rational basis (generally straight line) over a weighted-average life of 8 years (lives ranging from two to 20 years). Acquired in-process research and development and identifiable intangible assets for which significant assumed renewals or extensions of underlying arrangements impacted the determination of their useful lives were not material.

2015 acquisitions:

In March 2015, 3M (Health Care Business) purchased all of the outstanding shares of Ivera Medical Corp., headquartered in San Diego, California. Ivera Medical Corp. is a manufacturer of health care products that disinfect and protect devices used for access into a patient's bloodstream. In addition, in the first quarter of 2015, 3M (Industrial Business) purchased the remaining interest in a former equity method investment for an immaterial amount.

In August 2015, 3M (Safety and Graphics Business) acquired all of the outstanding shares of Capital Safety Group S.A.R.L., with operating headquarters in Bloomington, Minnesota, from KKR & Co. L.P. for \$1.7 billion, net of cash acquired. The net assets acquired included the assumption of \$0.8 billion of debt. Capital Safety is a leading global provider of fall protection equipment.

In August 2015, 3M (Industrial Business) acquired the assets and liabilities associated with Polypore International, Inc.'s Separations Media business (hereafter referred to as Membrana), headquartered in Wuppertal, Germany, for \$1.0 billion. Membrana is a leading provider of microporous membranes and modules for filtration in the life sciences, industrial and specialty segments.

The impact on the consolidated balance sheet of the purchase price allocations related to 2015 acquisitions and assigned weighted-average intangible asset lives, including adjustments relative to other acquisitions within the measurement period, follows. Adjustments in 2015 to the preliminary allocations primarily related to the identification and valuation of certain indefinite-lived intangible assets. The change to provisional amounts resulted in an immaterial impact to results of operations in the fourth quarter of 2015, a portion of which relates to earlier quarters in the measurement period.

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(Millions)	2015 Acquisition Activity				Finite-Lived Intangible-Asset
	Capital	Polypore Separations Media	Other	Total	Weighted-Average Lives (Years)
Asset (Liability)	Safety	(Membrana)	Other	Total	Lives (Years)
Accounts receivable	\$ 66	\$ 30	\$ 7	\$ 103	
Inventory	63	35	4	102	
Other current assets	10	1	1	12	
Property, plant, and equipment	36	128	7	171	
Purchased finite-lived intangible assets:					
Customer related intangible assets	445	270	40	755	16
Patents	44	11	7	62	7
Other technology-based intangible assets	85	42	1	128	7
Definite-lived tradenames	26	6	1	33	16
Other amortizable intangible assets	—	—	2	2	4
Purchased indefinite-lived intangible assets	520	—	—	520	
Purchased goodwill	1,764	636	95	2,495	
Accounts payable and other liabilities, net of other assets	(105)	(122)	(5)	(232)	
Interest bearing debt	(766)	—	—	(766)	
Deferred tax asset/(liability)	(464)	—	(7)	(471)	
Net assets acquired	\$ 1,724	\$ 1,037	\$ 153	\$ 2,914	
Supplemental information:					
Cash paid	\$ 1,758	\$ 1,037	\$ 154	\$ 2,949	
Less: Cash acquired	34	—	1	35	
Cash paid, net of cash acquired	\$ 1,724	\$ 1,037	\$ 153	\$ 2,914	

Purchased identifiable finite-lived intangible assets related to acquisition activity in 2015 totaled \$1.0 billion. The associated finite-lived intangible assets acquired in 2015 will be amortized on a systematic and rational basis (generally straight line) over a weighted-average life of 14 years (lives ranging from two to 20 years). Indefinite-lived intangible assets of \$520 million relate to certain tradenames associated with the Capital Safety acquisition which have been in existence for over 55 years, have a history of leading market-share positions, have been and are intended to be continuously renewed, and the associated products of which are expected to generate cash flows for 3M for an indefinite period of time. Acquired in-process research and development and identifiable intangible assets for which significant assumed renewals or extensions of underlying arrangements impacted the determination of their useful lives were not material.

2014 acquisitions:

3M completed one business combination during 2014, the impact of which on the consolidated balance sheet was not considered material. In April 2014, 3M (Health Care Business) purchased all of the outstanding equity interests of Treo Solutions LLC, headquartered in Troy, New York. Treo Solutions LLC is a provider of data analytics and business intelligence to healthcare payers and providers. The purchase price paid for this business combination (net of cash acquired) and the impact of other matters (net) during 2014 aggregated to \$94 million.

Separately, as discussed in Note 6, during 2014, 3M (via Sumitomo 3M Limited) purchased Sumitomo Electric Industries, Ltd.'s 25 percent interest in 3M's consolidated Sumitomo 3M Limited subsidiary for 90 billion Japanese Yen. Because 3M already had a controlling interest in this consolidated subsidiary, this transaction was separately recorded as a financing activity in the statement of cash flows.

Purchased identifiable finite-lived intangible assets related to acquisition activity in 2014 totaled \$34 million. The associated finite-lived intangible assets acquired in 2014 will be amortized on a systematic and rational basis (generally straight line) over a weighted-average life of six years (lives ranging from three to 10 years). Acquired in-process

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research and development and identifiable intangible assets for which significant assumed renewals or extensions of underlying arrangements impacted the determination of their useful lives were not material.

Divestitures:

3M may divest certain businesses from time to time based upon review of the Company's portfolio considering, among other items, factors relative to the extent of strategic and technological alignment and optimization of capital deployment, in addition to considering if selling the businesses results in the greatest value creation for the Company and for shareholders.

In January 2015, 3M (Electronics and Energy Business) completed the sale of its global Static Control business to Desco Industries Inc., based in Chino, California. 2014 sales of this business were \$46 million. This transaction was not considered material.

In the fourth quarter of 2015, 3M (Safety and Graphics Business) entered into agreements with One Equity Partners Capital Advisors L.P. (OEP) to sell the assets of 3M's library systems business. The sales of the North American business and the majority of the business outside of North America closed in October and November 2015, respectively. The sale of the remainder of the library systems business closed in the first quarter of 2016 (discussed further below). In December 2015, 3M (Safety and Graphics Business) also completed the sale of Faab Fabricauto, a wholly-owned subsidiary of 3M, to Hills Numberplates Limited. The library systems business, part of the Traffic Safety and Security Division, delivers circulation management solutions to library customers with on-premise hardware and software, maintenance and service, and an emerging cloud-based digital lending platform. Faab Fabricauto, also part of the Traffic Safety and Security Division, is a leading French manufacturer of license plates and signage solutions. The aggregate cash proceeds relative to the 2015 global library systems and Faab Fabricauto divestiture transactions was \$104 million. The Company recorded a net pre-tax gain of \$40 million (approximately \$10 million after tax) in 2015 as a result of the sale and any adjustment of carrying value.

In the first quarter of 2016, 3M (Safety and Graphics Business) completed the sale of the remainder of the assets of 3M's library systems business to One Equity Partners Capital Advisors L.P. (OEP). 3M had previously sold the North American business and the majority of the business outside of North America to OEP in the fourth quarter of 2015. The library systems business delivers circulation management solutions to library customers with on-premise hardware and software, maintenance and service, and an emerging cloud-based digital lending platform. Also in the first quarter of 2016, 3M (Industrial Business) sold to Innovative Chemical Products Group, a portfolio company of Audax Private Equity, the assets of 3M's pressurized polyurethane foam adhesives business (formerly known as Polyfoam). This business is a provider of pressurized polyurethane foam adhesive formulations and systems into the residential roofing, commercial roofing and insulation and industrial foam segments in the United States with annual sales of approximately \$20 million. The Company recorded a pre-tax gain of \$40 million in the first quarter of 2016 as a result of the sales of these businesses (recorded in selling, general and administrative expenses).

In October 2016, 3M (Industrial Business) sold the assets of its temporary protective films business to Pregis LLC. This business, with annual sales of approximately \$50 million, is a provider of adhesive-backed temporary protective films used in a broad range of industries. In December 2016, 3M (Electronics and Energy Business) sold the assets of its cathode battery technology out-licensing business, with annual sales of approximately \$10 million, to UMICORE. The aggregate selling price relative to these two businesses was \$86 million. The Company recorded a pre-tax gain of \$71 million in the fourth quarter of 2016 as a result of the sales of these businesses (recorded in selling, general and administrative expenses).

In December 2016, 3M (Safety and Graphics Business) announced that it agreed to sell its identity management business to Gemalto N.V. for \$850 million, subject to closing and other adjustments. This business, with 2016 sales of approximately \$205 million, is a leader in identity management solutions providing biometric hardware and software that enable identity verification and authentication, as well as secure materials and document readers. The transaction is expected to close during the first half of 2017. In January 2017, 3M (Safety and Graphics Business) sold the assets of its safety prescription eyewear business, with annual sales of approximately \$45 million, to HOYA Vision Care. The Company expects a pre-tax gain of approximately \$500 million as a result of these two divestitures. The amounts of

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major assets and liabilities associated with these disposal groups classified as held-for-sale as of December 31, 2016 include accounts receivable; property, plant and equipment (net); intangible assets; and deferred revenue (other current liabilities) of approximately \$25 million, \$25 million, \$35 million, and \$35 million, respectively. In addition, approximately \$270 million of goodwill is estimated to be attributable to these businesses as of December 31, 2016 based upon relative fair value. These amounts have not been segregated and are classified within the existing corresponding line items on the Company's consolidated balance sheet. The aggregate operating income of these two businesses was less than \$20 million in each of 2016, 2015 and 2014.

NOTE 3. Goodwill and Intangible Assets

Purchased goodwill from acquisitions totaled \$14 million in 2016, none of which is deductible for tax purposes. The acquisition activity in the following table also includes the net impact of adjustments to the preliminary allocation of purchase price within the one year measurement-period following prior acquisitions, which increased goodwill by \$39 million during 2016. Purchased goodwill from acquisitions totaled \$2.5 billion in 2015, \$636 million of which is deductible for tax purposes. The amounts in the "Translation and other" column in the following table primarily relate to changes in foreign currency exchange rates. The goodwill balance by business segment follows:

Goodwill

(Millions)	Dec. 31, 2014 Balance	2015 acquisition activity	2015 translation and other	Dec. 31, 2015 Balance	2016 acquisition activity	2016 translation and other	Dec. 31, 2016 Balance
Industrial	\$ 2,042	\$ 637	\$ (106)	\$ 2,573	\$ —	\$ (37)	\$ 2,536
Safety and Graphics	1,650	1,764	(72)	3,342	41	(59)	3,324
Health Care	1,589	94	(59)	1,624	12	(27)	1,609
Electronics and Energy	1,554	—	(44)	1,510	—	(21)	1,489
Consumer	215	—	(15)	200	—	8	208
Total Company	\$ 7,050	\$ 2,495	\$ (296)	\$ 9,249	\$ 53	\$ (136)	\$ 9,166

Accounting standards require that goodwill be tested for impairment annually and between annual tests in certain circumstances such as a change in reporting units or the testing of recoverability of a significant asset group within a reporting unit. At 3M, reporting units correspond to a division.

As described in Note 16, effective in the first quarter of 2016, the Company changed its business segment reporting in its continuing effort to improve the alignment of its businesses around markets and customers. For any product changes that resulted in reporting unit changes, the Company applied the relative fair value method to determine the

impact on goodwill of the associated reporting units. During the first quarter of 2016, the Company completed its assessment of any potential goodwill impairment for reporting units impacted by this new structure and determined that no impairment existed. The Company also completed its annual goodwill impairment test in the fourth quarter of 2016 for all reporting units and determined that no impairment existed. In addition, the Company had no impairments of goodwill in prior years.

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Acquired Intangible Assets

The carrying amount and accumulated amortization of acquired finite-lived intangible assets, in addition to the balance of non-amortizable intangible assets, as of December 31, follow:

(Millions)	2016	2015
Customer related intangible assets	\$ 1,939	\$ 1,973
Patents	602	616
Other technology-based intangible assets	524	525
Definite-lived tradenames	420	421
Other amortizable intangible assets	211	216
Total gross carrying amount	\$ 3,696	\$ 3,751
Accumulated amortization — customer related	(797)	(668)
Accumulated amortization — patents	(497)	(481)
Accumulated amortization — other technology based	(302)	(252)
Accumulated amortization — definite-lived tradenames	(236)	(215)
Accumulated amortization — other	(173)	(169)
Total accumulated amortization	\$ (2,005)	\$ (1,785)
Total finite-lived intangible assets — net	\$ 1,691	\$ 1,966
Non-amortizable intangible assets (primarily tradenames)	629	635
Total intangible assets — net	\$ 2,320	\$ 2,601

Certain tradenames acquired by 3M are not amortized because they have been in existence for over 55 years, have a history of leading-market share positions, have been and are intended to be continuously renewed, and the associated products of which are expected to generate cash flows for 3M for an indefinite period of time.

Amortization expense for the years ended December 31 follows:

(Millions)	2016	2015	2014
Amortization expense	\$ 262	\$ 229	\$ 228

Expected amortization expense for acquired amortizable intangible assets recorded as of December 31, 2016 follows:

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(Millions)	2017	2018	2019	2020	2021	After 2021
Amortization expense	\$ 223	\$ 202	\$ 190	\$ 180	\$ 164	\$ 732

The preceding expected amortization expense is an estimate. Actual amounts of amortization expense may differ from estimated amounts due to additional intangible asset acquisitions, changes in foreign currency exchange rates, impairment of intangible assets, accelerated amortization of intangible assets and other events. 3M expenses the costs incurred to renew or extend the term of intangible assets.

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NOTE 4. Restructuring Actions

2015 Restructuring Actions:

During the fourth quarter of 2015, management approved and committed to undertake certain restructuring actions primarily focused on structural overhead, largely in the U.S. and slower-growing markets, with particular emphasis on Europe, Middle East, and Africa (EMEA) and Latin America. This impacted approximately 1,700 positions worldwide and resulted in a fourth-quarter 2015 pre-tax charge of \$114 million.

Components of these restructuring charges are summarized by business segment as follows:

(Millions)	Year ended December 31, 2015		
	Employee	Asset-Related	Total
Industrial	\$ 30	\$ 12	\$ 42
Safety and Graphics	11	—	11
Health Care	9	—	9
Electronics and Energy	8	4	12
Consumer	3	—	3
Corporate and Unallocated	37	—	37
Total Expense	\$ 98	\$ 16	\$ 114

The preceding restructuring charges were recorded in the income statement as follows:

(Millions)	2015
Cost of sales	40
Selling, general and administrative expenses	62
Research, development and related expenses	12
Total	\$ 114

Components of these restructuring actions, including cash and non-cash impacts, follow:

(Millions)	Employee	Asset-Related	Total
Expense incurred	\$ 98	\$ 16	\$ 114

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Non-cash changes	(8)	(16)	(24)
Cash payments	(27)	—	(27)
Accrued restructuring action balances as of December 31, 2015	\$ 63	\$ —	\$ 63
Cash payments	(57)	—	(57)
Accrued restructuring action balances as of December 31, 2016	\$ 6	\$ —	\$ 6

Non-cash changes include certain pension settlements and special termination benefits recorded in accrued defined benefit pension and postretirement benefits and accelerated depreciation resulting from the cessation of use of certain long-lived assets.

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NOTE 5. Supplemental Balance Sheet Information

Accounts payable (included as a separate line item in the Consolidated Balance Sheet) includes drafts payable on demand of \$88 million at December 31, 2016, and \$79 million at December 31, 2015. Accumulated depreciation for capital leases totaled \$89 million and \$98 million as of December 31, 2016, and 2015, respectively. Additional supplemental balance sheet information is provided in the table that follows.

(Millions)	2016	2015
Other current assets		
Prepaid expenses and other	\$ 1,014	\$ 1,081
Derivative assets-current	148	211
Insurance related (receivables, prepaid expenses and other)	109	106
Total other current assets	\$ 1,271	\$ 1,398
Investments		
Equity method	\$ 60	\$ 56
Cost method	67	59
Other investments	1	2
Total investments	\$ 128	\$ 117
Property, plant and equipment - at cost		
Land	\$ 341	\$ 354
Buildings and leasehold improvements	7,252	7,120
Machinery and equipment	14,935	14,743
Construction in progress	809	723
Capital leases	162	158
Gross property, plant and equipment	23,499	23,098
Accumulated depreciation	(14,983)	(14,583)
Property, plant and equipment - net	\$ 8,516	\$ 8,515
Other assets		
Deferred income taxes	\$ 422	\$ 675
Insurance related receivables and other	68	49
Cash surrender value of life insurance policies	236	241
Other	255	253
Total other assets	\$ 981	\$ 1,218
Other current liabilities		
Accrued trade payables	\$ 578	\$ 566
Deferred income	551	518
Derivative liabilities	92	65
Employee benefits and withholdings	155	148
Contingent liability claims and other	201	147
Property and other taxes	90	89

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Pension and postretirement benefits	66	60
Other	739	811
Total other current liabilities	\$ 2,472	\$ 2,404
Other liabilities		
Long term income taxes payable	\$ 244	\$ 154
Employee benefits	256	254
Contingent liability claims and other	719	739
Capital lease obligations	45	46
Deferred income	15	19
Deferred income taxes	145	551
Other	224	261
Total other liabilities	\$ 1,648	\$ 2,024

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NOTE 6. Supplemental Equity and Comprehensive Income Information

Common stock (\$.01 par value per share) of 3.0 billion shares is authorized, with 944,033,056 shares issued. Treasury stock is reported at cost, with 347,306,778 shares at December 31, 2016, 334,702,932 shares at December 31, 2015, and 308,898,462 shares at December 31, 2014. Preferred stock, without par value, of 10 million shares is authorized but unissued.

Cash dividends declared and paid totaled \$1.11 per share for each quarter in 2016, which resulted in total year declared dividends of \$4.44 per share. In 2015, 3M's Board of Directors declared a second, third, and fourth quarter dividend of \$1.025 per share, which resulted in total year 2015 declared dividends of \$3.075 per share. In December 2014, 3M's Board of Directors declared a first quarter 2015 dividend of \$1.025 per share (paid in March 2015), which when added to second, third and fourth quarter 2014 declared dividends of \$0.855 per share, resulted in total year 2014 declared dividends of \$3.59 per share. In December 2013, 3M's Board of Directors declared a first quarter 2014 dividend of \$0.855 per share (paid in March 2014).

Changes in Accumulated Other Comprehensive Income (Loss) Attributable to 3M by Component

(Millions)	Cumulative Translation Adjustment	Defined Benefit Pension and Postretirement Plans Adjustment	Debt and Equity Securities, Unrealized Gain (Loss)	Cash Flow Hedging Instruments, Unrealized Gain (Loss)	Accumulated Other Comprehensive Income (Loss)
Balance at December 31, 2013, net of tax:	\$ (188)	\$ (3,715)	\$ (2)	\$ (8)	\$ (3,913)
Other comprehensive income (loss), before tax:					
Amounts before reclassifications	(856)	(2,638)	2	171	(3,321)
Amounts reclassified out	—	360	1	(4)	357
Total other comprehensive income (loss), before tax	(856)	(2,278)	3	167	(2,964)
Tax effect	(92)	716	(1)	(60)	563
Total other comprehensive income (loss), net of tax	(948)	(1,562)	2	107	(2,401)
Impact from purchase of subsidiary shares	41	(16)	—	—	25
Balance at December 31, 2014, net of tax:	\$ (1,095)	\$ (5,293)	\$ —	\$ 99	\$ (6,289)
Other comprehensive income (loss), before tax:					
Amounts before reclassifications	(447)	367	—	212	132
Amounts reclassified out	—	537	—	(174)	363
Total other comprehensive income (loss), before tax	(447)	904	—	38	495

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Tax effect	(137)	(415)	—	(13)	(565)
Total other comprehensive income (loss), net of tax	(584)	489	—	25	(70)
Balance at December 31, 2015, net of tax	\$ (1,679)	\$ (4,804)	\$ —	\$ 124	\$ (6,359)
Other comprehensive income (loss), before tax:					
Amounts before reclassifications	(244)	(1,122)	—	57	(1,309)
Amounts reclassified out	—	421	—	(109)	312
Total other comprehensive income (loss), before tax	(244)	(701)	—	(52)	(997)
Tax effect	(85)	177	—	19	111
Total other comprehensive income (loss), net of tax	(329)	(524)	—	(33)	(886)
Balance at December 31, 2016, net of tax:	\$ (2,008)	\$ (5,328)	\$ —	\$ 91	\$ (7,245)

Income taxes are not provided for foreign translation relating to permanent investments in international subsidiaries, but tax effects within cumulative translation does include impacts from items such as net investment hedge transactions. Reclassification adjustments are made to avoid double counting in comprehensive income items that are also recorded as part of net income.

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Reclassifications out of Accumulated Other Comprehensive Income Attributable to 3M

Details about Accumulated Other Comprehensive Income Components (Millions)	Amounts Reclassified from Accumulated Other Comprehensive Income			Location on Income Statement
	Year ended December 31, 2016	Year ended December 31, 2015	Year ended December 31, 2014	
Gains (losses) associated with, defined benefit pension and postretirement plans amortization				
Transition asset	\$ 1	\$ 1	\$ 1	See Note 11
Prior service benefit	92	79	59	See Note 11
Net actuarial loss	(506)	(626)	(420)	See Note 11
Curtailments/Settlements	(8)	9	—	See Note 11
Total before tax	(421)	(537)	(360)	
Tax effect	148	176	122	Provision for income taxes
Net of tax	\$ (273)	\$ (361)	\$ (238)	
Debt and equity security gains (losses)				
Sales or impairments of securities	\$ —	\$ —	\$ (1)	Selling, general and administrative expenses
Total before tax	—	—	(1)	
Tax effect	—	—	—	Provision for income taxes
Net of tax	\$ —	\$ —	\$ (1)	
Cash flow hedging instruments gains (losses)				
Foreign currency forward/option contracts	\$ 110	\$ 178	\$ 3	Cost of sales
Commodity price swap contracts	—	(2)	2	Cost of sales
Interest rate swap contracts	(1)	(2)	(1)	Interest expense
Total before tax	109	174	4	
Tax effect	(39)	(63)	(1)	Provision for income taxes
Net of tax	\$ 70	\$ 111	\$ 3	
Total reclassifications for the period, net of tax	\$ (203)	\$ (250)	\$ (236)	

Purchase of Subsidiary Shares

On September 1, 2014, 3M (via Sumitomo 3M Limited) purchased Sumitomo Electric Industries, Ltd.'s 25 percent interest in 3M's consolidated Sumitomo 3M Limited subsidiary for 90 billion Japanese Yen. Upon completion of the transaction, 3M owned 100 percent of Sumitomo 3M Limited. This transaction was recorded as a financing activity (Purchase of noncontrolling interest) in the statement of cash flows.

In April 2014, 3M purchased the remaining noncontrolling interest in a consolidated 3M subsidiary for an immaterial amount, which was classified as a financing activity (Purchase of noncontrolling interest) in the consolidated statement of cash flows.

The following table summarizes the effects of these 2014 transactions on equity attributable to 3M Company shareholders:

(Millions)	Year ended December 31, 2014
Net income attributable to 3M	\$ 4,956
Impact of purchase of subsidiary shares	(409)
Change in 3M Company shareholders' equity from net income attributable to 3M and impact of purchase of subsidiary shares	\$ 4,547

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NOTE 7. Supplemental Cash Flow Information

(Millions)	2016	2015	2014
Cash income tax payments, net of refunds	\$ 1,888	\$ 2,331	\$ 1,968
Cash interest payments	194	134	178
Capitalized interest	10	13	15

Cash interest payments include interest paid on debt and capital lease balances, including net interest payments/receipts related to accreted debt discounts/premiums, payment of debt issue costs, as well as net interest payments/receipts associated with interest rate swap contracts.

Individual amounts in the Consolidated Statement of Cash Flows exclude the impacts of acquisitions, divestitures and exchange rate impacts, which are presented separately.

Transactions related to investing and financing activities with significant non-cash components are as follows:

- 3M sold and leased-back, under a capital lease, certain recently constructed machinery and equipment in return for municipal bonds with the City of Nevada, Missouri during 2016 and 2014 valued at approximately \$12 million and \$15 million, respectively, as of the transaction date.

In addition, as discussed in Note 6, in the fourth quarter of 2014, 3M's Board of Directors declared a first quarter 2015 dividend of \$1.025 per share (paid in March 2015). In the fourth quarter of 2013, 3M's Board of Directors declared a first quarter 2014 dividend of \$0.855 per share (paid in March 2014).

NOTE 8. Income Taxes

Income Before Income Taxes

(Millions)	2016	2015	2014
United States	\$ 4,366	\$ 4,399	\$ 3,815
International	2,687	2,424	3,211
Total	\$ 7,053	\$ 6,823	\$ 7,026

Provision for Income Taxes

(Millions)	2016	2015	2014
Currently payable			
Federal	\$ 1,192	\$ 1,338	\$ 1,103
State	75	101	108
International	733	566	1,008
Deferred			
Federal	(3)	(55)	(171)
State	9	6	(9)
International	(11)	26	(11)
Total	\$ 1,995	\$ 1,982	\$ 2,028

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Components of Deferred Tax Assets and Liabilities

(Millions)	2016	2015
Deferred tax assets:		
Accruals not currently deductible		
Employee benefit costs	\$ 195	\$ 175
Product and other claims	326	311
Miscellaneous accruals	92	114
Pension costs	1,217	1,120
Stock-based compensation	302	305
Net operating/capital loss carryforwards	93	109
Foreign tax credits	22	25
Inventory	53	46
Gross deferred tax assets	2,300	2,205
Valuation allowance	(47)	(31)
Total deferred tax assets	\$ 2,253	\$ 2,174
Deferred tax liabilities:		
Product and other insurance receivables	\$ (27)	\$ (28)
Accelerated depreciation	(730)	(736)
Intangible amortization	(903)	(1,017)
Currency translation	(276)	(199)
Other	(40)	(70)
Total deferred tax liabilities	\$ (1,976)	\$ (2,050)
Net deferred tax assets	\$ 277	\$ 124

The net deferred tax assets are included as components of Other Assets and Other Liabilities within the Consolidated Balance Sheet. See Note 5 “Supplemental Balance Sheet Information” for further details.

As of December 31, 2016, the Company had tax effected operating losses, capital losses, and tax credit carryovers for federal (approximately \$21 million), state (approximately \$1 million), and international (approximately \$71 million), with all amounts before valuation allowances. The federal tax attribute carryovers will expire after 15 to 20 years, the state after 5 to 10 years, and the international after one to three years or have an indefinite carryover period. The tax attributes being carried over arise as certain jurisdictions may have tax losses or may have inability to utilize certain losses without the same type of taxable income. As of December 31, 2016, the Company has provided \$47 million of valuation allowance against certain of these deferred tax assets based on management’s determination that it is more-likely-than-not that the tax benefits related to these assets will not be realized.

Reconciliation of Effective Income Tax Rate

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	2016	2015	2014
Statutory U.S. tax rate	35.0 %	35.0 %	35.0 %
State income taxes - net of federal benefit	0.9	1.1	0.9
International income taxes - net	(2.7)	(3.9)	(5.8)
U.S. research and development credit	(0.5)	(0.5)	(0.4)
Reserves for tax contingencies	0.2	(1.0)	0.6
Domestic Manufacturer's deduction	(1.8)	(1.8)	(1.3)
Employee share-based payments	(2.8)	(0.1)	(0.1)
All other - net	—	0.3	—
Effective worldwide tax rate	28.3 %	29.1 %	28.9 %

The effective tax rate for 2016 was 28.3 percent, compared to 29.1 percent in 2015, a decrease of 0.8 percentage points, impacted by several factors. Primary factors that decreased the Company's effective tax rate included the recognition of

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excess tax benefits beginning in 2016 related to employee share-based payments (resulting from the adoption of ASU No. 2016-09, as discussed in Note 1) and a reduction in state taxes. Combined, these factors decreased the Company's effective tax rate by 3.2 percentage points. The decrease was partially offset by a 2.4 percentage point increase, which related to remeasurements of 3M's uncertain tax positions and international taxes that were impacted by changes to both the geographic mix of income before taxes and additional tax expense related to global cash optimization actions.

The effective tax rate for 2015 was 29.1 percent, compared to 28.9 percent in 2014, an increase of 0.2 percentage points, impacted by many factors. Primary factors which increased the Company's effective tax rate included international taxes, which were impacted by both changes in foreign currency rates and changes to the geographic mix of income before taxes, and an increase in state taxes. Combined, these factors increased the Company's effective tax rate by 2.4 percentage points. This increase was partially offset by a 2.2 percentage point decrease, which related to the remeasurements of 3M's uncertain tax positions, including the restoration of tax basis on certain assets for which depreciation deductions were previously limited, and increases in the domestic manufacturer's deduction and U.S. research and development credit benefits.

The Company files income tax returns in the U.S. federal jurisdiction, and various states and foreign jurisdictions. With few exceptions, the Company is no longer subject to U.S. federal, state and local, or non-U.S. income tax examinations by tax authorities for years before 2005.

The IRS has completed its field examination of the Company's U.S. federal income tax returns for the years 2005 through 2014. The Company protested certain IRS positions within these tax years and entered into the administrative appeals process with the IRS. In December 2012, the Company received a statutory notice of deficiency for the 2006 year. The Company filed a petition in Tax Court in the first quarter of 2013 relating to the 2006 tax year.

Currently, the Company is under examination by the IRS for its U.S. federal income tax returns for the years 2015 and 2016. It is anticipated that the IRS will complete its examination of the Company for 2015 by the end of the second quarter of 2017 and for 2016 by the end of the first quarter of 2018. As of December 31, 2016, the IRS has not proposed any significant adjustments to the Company's tax positions for which the Company is not adequately reserved.

Payments relating to other proposed assessments arising from the 2005 through 2016 examinations may not be made until a final agreement is reached between the Company and the IRS on such assessments or upon a final resolution resulting from the administrative appeals process or judicial action. In addition to the U.S. federal examination, there is also audit activity in several U.S. state and foreign jurisdictions.

3M anticipates changes to the Company's uncertain tax positions due to the closing and resolution of audit issues for various audit years mentioned above and closure of statutes. Currently, the Company is estimating a decrease in

unrecognized tax benefits during the next 12 months as a result of anticipated resolutions of audit issues.

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A reconciliation of the beginning and ending amount of gross unrecognized tax benefits (UTB) is as follows:

Federal, State and Foreign Tax

(Millions)	2016	2015	2014
Gross UTB Balance at January 1	\$ 381	\$ 583	\$ 659
Additions based on tax positions related to the current year	67	77	201
Additions for tax positions of prior years	43	140	30
Reductions for tax positions of prior years	(66)	(399)	(74)
Settlements	(95)	(4)	(154)
Reductions due to lapse of applicable statute of limitations	(11)	(16)	(79)
Gross UTB Balance at December 31	\$ 319	\$ 381	\$ 583
Net UTB impacting the effective tax rate at December 31	\$ 333	\$ 369	\$ 265

The total amount of UTB, if recognized, would affect the effective tax rate by \$333 million as of December 31, 2016, \$369 million as of December 31, 2015, and \$265 million as of December 31, 2014. The ending net UTB results from adjusting the gross balance for items such as Federal, State, and non-U.S. deferred items, interest and penalties, and deductible taxes. The net UTB is included as components of Other Assets, Accrued Income Taxes, and Other Liabilities within the Consolidated Balance Sheet.

The Company recognizes interest and penalties accrued related to unrecognized tax benefits in tax expense. The Company recognized in the consolidated statement of income on a gross basis approximately \$10 million of expense, \$2 million of expense, and \$14 million of benefit in 2016, 2015, and 2014, respectively. The amount of interest and penalties recognized may be an expense or benefit due to new or remeasured unrecognized tax benefit accruals. At December 31, 2016, and December 31, 2015, accrued interest and penalties in the consolidated balance sheet on a gross basis were \$52 million and \$45 million, respectively. Included in these interest and penalty amounts are interest and penalties related to tax positions for which the ultimate deductibility is highly certain but for which there is uncertainty about the timing of such deductibility. Because of the impact of deferred tax accounting, other than interest and penalties, the disallowance of the shorter deductibility period would not affect the annual effective tax rate but would accelerate the payment of cash to the taxing authority to an earlier period.

As a result of certain employment commitments and capital investments made by 3M, income from certain manufacturing activities in the following countries is subject to reduced tax rates or, in some cases, is exempt from tax for years through the following: China (2016), Thailand (2018), Korea (2019), Brazil (2023), Switzerland (2024), and Singapore (2025). The income tax benefits attributable to the tax status of these subsidiaries are estimated to be \$142 million (23 cents per diluted share) in 2016, \$114 million (18 cents per diluted share) in 2015, and \$99 million (15

cents per diluted share) in 2014.

The Company has not provided deferred taxes on unremitted earnings attributable to international companies that have been considered to be reinvested indefinitely. The unremitted earnings relate to ongoing operations and were approximately \$14 billion as of December 31, 2016. Because of the availability of U.S. foreign tax credits, the multiple avenues in which to repatriate the earnings to minimize tax cost, and because a large portion of these earnings are not liquid, it is not practical to determine the income tax liability that would be payable if such earnings were not reinvested indefinitely.

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NOTE 9. Marketable Securities

The Company invests in asset-backed securities, certificates of deposit/time deposits, commercial paper, and other securities. The following is a summary of amounts recorded on the Consolidated Balance Sheet for marketable securities (current and non-current).

(Millions)	December 31, 2016	December 31, 2015
Corporate debt securities	\$ 10	\$ 10
Foreign government agency securities	—	10
Commercial paper	14	12
Certificates of deposit/time deposits	197	26
U.S. municipal securities	3	3
Asset-backed securities:		
Automobile loan related	31	26
Credit card related	18	10
Other	7	21
Asset-backed securities total	56	57
Current marketable securities	\$ 280	\$ 118
U.S. municipal securities	\$ 17	\$ 9
Non-current marketable securities	\$ 17	\$ 9
Total marketable securities	\$ 297	\$ 127

Classification of marketable securities as current or non-current is based on the nature of the securities and availability for use in current operations. At December 31, 2016 and 2015, gross unrealized gains and/or losses (pre-tax) were not material. Refer to Note 6 for a table that provides the net realized gains (losses) related to sales or impairments of debt and equity securities, which includes marketable securities. The gross amounts of the realized gains or losses were not material. Cost of securities sold use the first in, first out (FIFO) method. Since these marketable securities are classified as available-for-sale securities, changes in fair value will flow through other comprehensive income, with amounts reclassified out of other comprehensive income into earnings upon sale or “other-than-temporary” impairment.

3M reviews impairments associated with its marketable securities in accordance with the measurement guidance provided by ASC 320, Investments-Debt and Equity Securities, when determining the classification of the impairment as “temporary” or “other-than-temporary”. A temporary impairment charge results in an unrealized loss being recorded in

the other comprehensive income component of shareholders' equity. Such an unrealized loss does not reduce net income attributable to 3M for the applicable accounting period because the loss is not viewed as other-than-temporary. The factors evaluated to differentiate between temporary and other-than-temporary include the projected future cash flows, credit ratings actions, and assessment of the credit quality of the underlying collateral, as well as other factors.

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The balance at December 31, 2016, for marketable securities by contractual maturity are shown below. Actual maturities may differ from contractual maturities because the issuers of the securities may have the right to prepay obligations without prepayment penalties.

(Millions)	December 31, 2016
Due in one year or less	\$ 216
Due after one year through five years	77
Due after five years through ten years	4
Total marketable securities	\$ 297

3M has a diversified marketable securities portfolio. Within this portfolio, asset-backed securities primarily include interests in automobile loans, credit cards and other asset-backed securities. 3M's investment policy allows investments in asset-backed securities with minimum credit ratings of Aa3 by Moody's Investors Service or AA- by Standard & Poor's or Fitch Ratings or DBRS. Asset-backed securities must be rated by at least two of the aforementioned rating agencies, one of which must be Moody's Investors Service or Standard & Poor's. At December 31, 2016, all asset-backed security investments were in compliance with this policy. Approximately 84.8 percent of all asset-backed security investments were rated AAA or A-1+ by Standard & Poor's and/or Aaa or P-1 by Moody's Investors Service and/or AAA or F1+ by Fitch Ratings. Interest rate risk and credit risk related to the underlying collateral may impact the value of investments in asset-backed securities, while factors such as general conditions in the overall credit market and the nature of the underlying collateral may affect the liquidity of investments in asset-backed securities. 3M does not currently expect risk related to its holding in asset-backed securities to materially impact its financial condition or liquidity.

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NOTE 10. Long-Term Debt and Short-Term Borrowings

The following debt tables reflect effective interest rates, which include the impact of interest rate swaps, as of December 31, 2016. If the debt was issued on a combined basis, the debt has been separated to show the impact of the fixed versus floating effective interest rates. Carrying value includes the impact of debt issuance costs and fair value hedging activity. Long-term debt and short-term borrowings as of December 31 consisted of the following:

Long-Term Debt

(Millions)	Currency/ Fixed vs. Floating	Effective Interest Rate		Final Maturity Date	Carrying Value	
Description / 2016 Principal Amount					2016	2015
Medium-term note (\$1 billion)	USD Fixed	—	%	—	\$ —	\$ 999
Medium-term note (\$650 million)	USD Fixed	1.10	%	2017	649	648
Medium-term note (500 million Euros)	Euro Floating	—	%	2018	523	545
Medium-term note (\$450 million)	USD Floating	0.98	%	2018	448	448
Medium-term note (\$600 million)	Floating	1.00	%	2019	598	597
Medium-term note (\$25 million)	USD Fixed	1.74	%	2019	25	25
Medium-term note (650 million Euros)	Euro Floating	—	%	2020	680	708
Medium-term note (\$300 million)	USD Floating	1.06	%	2020	297	297
Medium-term note (\$200 million)	USD Fixed	2.12	%	2020	199	198
Eurobond (300 million Euros)	Euro Floating	0.01	%	2021	336	348
Eurobond (300 million Euros)	Euro Fixed	1.97	%	2021	312	326
Medium-term note (\$600 million)	USD Fixed	1.63	%	2021	598	—
Medium-term note (500 million Euros)	Euro Fixed	0.45	%	2022	520	—
Medium-term note (\$600 million)	USD Fixed	2.17	%	2022	593	592
Medium-term note (600 million Euros)	Euro Fixed	1.14	%	2023	619	644
Medium-term note (\$550 million)	USD Fixed	3.04	%	2025	546	545
Medium-term note (750 million Euros)	Euro Fixed	1.71	%	2026	770	801
Medium-term note (\$650 million)	USD Fixed	2.25	%	2026	640	—
30-year debenture (\$330 million)	USD Fixed	6.01	%	2028	342	343
Medium-term note (500 million Euros)	Euro Fixed	1.90	%	2030	512	533
Medium-term note (500 million Euros)	Euro Fixed	1.54	%	2031	518	—
30-year bond (\$750 million)	USD Fixed	5.73	%	2037	743	743
Floating rate note (\$96 million)	USD Floating	0.65	%	2041	96	96
Medium-term note (\$325 million)	USD Fixed	4.05	%	2044	313	313
Floating rate note (\$55 million)	Floating	0.61	%	2044	54	55

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	USD					
	Floating					
Medium-term note (\$500 million)	USD Fixed	3.13	%	2046	473	—
Other borrowings	Various	0.82	%	2017-2040	74	74
Total long-term debt					\$ 11,478	\$ 9,878
Less: current portion of long-term debt					800	1,125
Long-term debt (excluding current portion)					\$ 10,678	\$ 8,753

Post-Swap Borrowing (Long-Term Debt, Including Current Portion)

(Millions)	2016		2015	
	Carrying Value	Effective Interest Rate	Carrying Value	Effective Interest Rate
Fixed-rate debt	\$ 8,372	2.42 %	\$ 6,712	2.54 %
Floating-rate debt	3,106	0.48 %	3,166	0.32 %
Total long-term debt, including current portion	\$ 11,478		\$ 9,878	

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Short-Term Borrowings and Current Portion of Long-Term Debt

(Millions)	Effective Interest Rate	Carrying Value	
		2016	2015
Current portion of long-term debt	1.01	\$ 800	\$ 1,125
U.S. dollar commercial paper	—	—	—
Other borrowings	0.48	172	919
Total short-term borrowings and current portion of long-term debt		\$ 972	\$ 2,044

In both 2016 and 2015, other short-term borrowings primarily consisted of bank borrowings by international subsidiaries, primarily Japan and Korea.

Maturities of Long-term Debt

Maturities of long-term debt for the five years subsequent of December 31, 2016 are as follows (in millions):

2017	2018	2019	2020	2021	After 2021	Total
\$ 800	\$ 1,042	\$ 623	\$ 1,176	\$ 1,246	\$ 6,591	\$ 11,478

Long-term debt payments due in 2017 and 2018 include floating rate notes totaling \$150 million (classified as current portion of long-term debt), and \$71 million (included in other borrowings in the long-term debt table), respectively, as a result of put provisions associated with these debt instruments.

Credit Facilities

In March 2016, 3M amended and restated its existing \$2.25 billion five-year revolving credit facility expiring in August 2019 to a \$3.75 billion five-year revolving credit facility expiring in March 2021. This credit agreement includes a provision under which 3M may request an increase of up to \$1.25 billion (at lender's discretion), bringing the total facility up to \$5.0 billion. This revolving credit facility was undrawn at December 31, 2016. Under the \$3.75 billion credit agreement, the Company is required to maintain its EBITDA to Interest Ratio as of the end of each fiscal quarter at not less than 3.0 to 1. This is calculated (as defined in the agreement) as the ratio of consolidated total EBITDA for the four consecutive quarters then ended to total interest expense on all funded debt for the same period.

At December 31, 2016, this ratio was approximately 44 to 1. Debt covenants do not restrict the payment of dividends.

Other Credit Facilities

Apart from the committed revolving facility, an additional \$291 million in stand-alone letters of credit and bank guarantees were also issued and outstanding at December 31, 2016. These instruments are utilized in connection with normal business activities.

Long-Term Debt Issuances

The principal amounts, interest rates and maturity dates of individual long-term debt issuances can be found in the long-term debt table found at the beginning of this note.

In May 2016, 3M issued 1 billion Euros aggregate principal amount of medium-term notes. In September 2016, 3M issued \$1.75 billion aggregate principal amount of medium-term notes.

In May 2015, 3M issued 1.750 billion Euros aggregate principal amount of medium-term notes. In August 2015, 3M issued \$1.500 billion aggregate principal amount of medium-term notes. Upon debt issuance, the Company entered into two interest rate swaps as fair value hedges of a portion of the fixed interest rate medium-term note obligation. The first converted a \$450 million three-year fixed rate note, and the second converted \$300 million of a five-year fixed rate note included in this issuance to an interest rate based on a floating three-month LIBOR index.

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In June 2014, 3M issued \$950 million aggregate principal amount of medium-term notes. Upon debt issuance, the Company entered into an interest rate swap to convert \$600 million of a \$625 million note included in this issuance to an interest rate based on a floating three-month LIBOR index as a fair value hedge of a portion of the fixed interest rate medium-term note obligation. In November 2014, the Company issued 1.250 billion Euros aggregate principal amount of medium-term notes.

Long-Term Debt Maturities

In September 2016, 3M repaid \$1 billion aggregate principal amount of medium-term notes.

In July 2014, 3M retired at maturity 1.025 billion Euros of seven-year 5.0% fixed rate Eurobonds. In December 2012, 3M entered into a three-year 66 million British Pound (approximately \$106 million based on agreement date exchange rates) committed credit facility agreement with JP Morgan Chase Bank, which was fully drawn as of December 31, 2012. 3M repaid the balance in 2014.

Floating Rate Notes

At various times, 3M has issued floating rate notes containing put provisions. 3M would be required to repurchase these securities at various prices ranging from 99 percent to 100 percent of par value according to the reduction schedules for each security. In December 2004, 3M issued a forty-year \$60 million floating rate note, with a rate based on a floating LIBOR index. Under the terms of this floating rate note due in 2044, holders have an annual put feature at 100 percent of par value from 2014 and every anniversary thereafter until final maturity. Under the terms of the floating rate notes due in 2027, 2040 and 2041, holders have put options that commence ten years from the date of issuance and each third anniversary thereafter until final maturity at prices ranging from 99 percent to 100 percent of par value. For the periods presented, 3M was required to repurchase an immaterial amount of principal on the aforementioned floating rate notes.

NOTE 11. Pension and Postretirement Benefit Plans

3M has company-sponsored retirement plans covering substantially all U.S. employees and many employees outside the United States. In total, 3M has over 80 defined benefit plans in 27 countries. Pension benefits associated with these plans generally are based on each participant's years of service, compensation, and age at retirement or termination. The primary U.S. defined-benefit pension plan was closed to new participants effective January 1, 2009. The Company also provides certain postretirement health care and life insurance benefits for its U.S. employees who reach retirement age while employed by the Company and were employed by the Company prior to January 1, 2016.

Most international employees and retirees are covered by government health care programs. The cost of company-provided postretirement health care plans for international employees is not material and is combined with U.S. amounts in the tables that follow.

The Company has made deposits for its defined benefit plans with independent trustees. Trust funds and deposits with insurance companies are maintained to provide pension benefits to plan participants and their beneficiaries. There are no plan assets in the non-qualified plan due to its nature. For its U.S. postretirement health care and life insurance benefit plans, the Company has set aside amounts at least equal to annual benefit payments with an independent trustee.

3M's primary U.S. qualified defined benefit plan does not have a mandatory cash contribution because the Company has a significant credit balance from previous discretionary contributions that can be applied to any Pension Protection Act funding requirements.

The Company also sponsors employee savings plans under Section 401(k) of the Internal Revenue Code. These plans are offered to substantially all regular U.S. employees. Beginning on January 1, 2016, for U.S. employees, the Company reduced its match on employee 401(k) contributions. For eligible employees hired prior to January 1, 2009, employee 401(k) contributions of up to 5% (down from 6% prior to 2016) of eligible compensation matched in cash at rates of 45% or 60%, depending on the plan in which the employee participates. Employees hired on or after January 1, 2009, receive a cash match of 100% for employee 401(k) contributions of up to 5% (down from 6% prior to 2016) of eligible compensation and receive an employer retirement income account cash contribution of 3% of the participant's total eligible compensation. All contributions are invested in a number of investment funds pursuant to the employees'

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elections. Employer contributions to the U.S. defined contribution plans were \$139 million, \$165 million and \$153 million for 2016, 2015 and 2014, respectively. 3M subsidiaries in various international countries also participate in defined contribution plans. Employer contributions to the international defined contribution plans were \$87 million, \$77 million and \$75 million for 2016, 2015 and 2014, respectively.

As a result of changes made to its U.S. postretirement health care benefit plans in 2010, the Company has transitioned all current and future retirees to a savings account benefits-based plan. These changes became effective beginning January 1, 2013, for all Medicare eligible retirees and their Medicare eligible dependents and became effective beginning January 1, 2016, for all non-Medicare eligible retirees and their eligible dependents. In August 2015, 3M modified the 3M Retiree Welfare Benefit Plan postretirement medical benefit reducing the future benefit for participants not retired as of January 1, 2016. For participants retiring after January 1, 2016, the Retiree Medical Savings Account (RMSA) is no longer credited with interest and the indexation on both the RMSA and the Medicare Health Reimbursement Arrangement is reduced from 3 percent to 1.5 percent per year (for those employees who are eligible for these accounts). Also effective January 1, 2016, 3M no longer offers 3M Retiree Health Care Accounts to new hires. Due to these changes the plan was re-measured in the third quarter of 2015, resulting in a decrease to the projected benefit obligation liability of approximately \$233 million, and a related increase to shareholders' equity, specifically accumulated other comprehensive income.

As of December 31, 2014, the Company converted to the "RP 2014 Mortality Tables" and updated the mortality improvement scale it used for calculating the year-end 2014 U.S. defined benefit pension annuitant and postretirement obligations and 2015 expense. The impact of this change increased the year-end 2014 U.S. pension projected benefit obligation (PBO) by approximately \$820 million and the U.S. accumulated postretirement benefit obligation by approximately \$100 million. As of December 31, 2016, the Company updated the mortality improvement scale to Scale MP-2016, which was released by the Society of Actuaries in October 2016. The impact of this change decreased the year-end 2016 U.S. pension PBO by approximately \$440 million and the U.S. accumulated postretirement benefit obligation by approximately \$60 million.

In March 2015, 3M Japan modified the Japan Limited Defined Benefit Corporate Pension Plan (DBCPP). Beginning July 1, 2015, eligible employees receive a company provided contribution match of 6.12% of their eligible salary to their defined contribution plan. Employees no longer earn additional service towards their defined benefit pension plans after July 1, 2015, except for eligible salaries above the statutory defined contribution limits. As a result of this plan modification, the Company re-measured the DBCPP, which resulted in a \$17 million pre-tax curtailment gain for the year ended December 31, 2015. In March 2015, 3M also received a favorable Internal Revenue Service tax determination letter to terminate a frozen defined benefit pension plan of one of 3M's acquired subsidiaries. By the end of 2015, this plan made final distributions of \$16 million to participants. The Company also had other settlements, curtailments, special termination benefits and other items in 2015 aggregating to the amounts indicated in these components in the applicable tables that follow.

3M was informed during the first quarter of 2009, that the general partners of WG Trading Company, in which 3M's benefit plans hold limited partnership interests, are the subject of a criminal investigation as well as civil proceedings by the SEC and CFTC (Commodity Futures Trading Commission). In March 2011, over the objections of 3M and six

other limited partners of WG Trading Company, the district court judge ruled in favor of the court appointed receiver's proposed distribution plan (and in April 2013, the United States Court of Appeals for the Second Circuit affirmed the district court's ruling). The benefit plan trustee holdings of WG Trading Company interests were adjusted to reflect the decreased estimated fair market value, inclusive of estimated insurance proceeds, as of the annual measurement dates. The Company has insurance that it believes, based on what is currently known, will result in the probable recovery of a portion of the decrease in original asset value. In the first quarter of 2014, 3M and certain 3M benefit plans filed a lawsuit in the U.S. District Court for the District of Minnesota against five insurers seeking insurance coverage for the WG Trading Company claim. In September 2015, the court ruled in favor of the defendant insurance companies on a motion for summary judgment and dismissed the lawsuit. In October 2015, 3M and the 3M benefit plans filed a notice of appeal to the United States Court of Appeals for the Eighth Circuit. As of the 2016 measurement date, these holdings represented less than one half of one percent of 3M's fair value of total plan assets. 3M currently believes that the resolution of these events will not have a material adverse effect on the consolidated financial position of the Company.

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The following tables include a reconciliation of the beginning and ending balances of the benefit obligation and the fair value of plan assets as well as a summary of the related amounts recognized in the Company's consolidated balance sheet as of December 31 of the respective years. 3M also has certain non-qualified unfunded pension and postretirement benefit plans, inclusive of plans related to supplement/excess benefits for employees impacted by particular relocations and other matters, that individually and in the aggregate are not significant and which are not included in the tables that follow. The obligations for these plans are included within other liabilities in the Company's consolidated balance sheet and aggregated less than \$35 million as of December 31, 2016 and 2015.

(Millions)	Qualified and Non-qualified Pension Benefits				Postretirement Benefits	
	United States		International		2016	2015
	2016	2015	2016	2015		
Change in benefit obligation						
Benefit obligation at beginning of year	\$ 15,856	\$ 16,452	\$ 6,322	\$ 6,979	\$ 2,216	\$ 2,462
Acquisitions/Transfers	—	—	(5)	94	—	—
Service cost	259	293	133	154	54	75
Interest cost	575	655	171	206	79	98
Participant contributions	—	—	8	9	—	14
Foreign exchange rate changes	—	—	(472)	(589)	7	(22)
Plan amendments	5	—	(4)	(6)	—	(211)
Actuarial (gain) loss	427	(657)	724	(274)	7	(80)
Medicare Part D Reimbursement	—	—	—	—	—	1
Benefit payments	(919)	(874)	(245)	(232)	(104)	(122)
Settlements, curtailments, special termination benefits and other	(1)	(13)	(7)	(19)	—	1
Benefit obligation at end of year	\$ 16,202	\$ 15,856	\$ 6,625	\$ 6,322	\$ 2,259	\$ 2,216
Change in plan assets						
Fair value of plan assets at beginning of year	\$ 13,966	\$ 14,643	\$ 5,669	\$ 5,957	\$ 1,367	\$ 1,436
Acquisitions/Transfers	—	—	—	8	—	—
Actual return on plan assets	779	100	512	287	90	36
Company contributions	259	113	121	151	3	3
Participant contributions	—	—	8	9	—	14
Foreign exchange rate changes	—	—	(444)	(498)	—	—
Benefit payments	(919)	(874)	(245)	(232)	(104)	(122)
Settlements, curtailments, special termination benefits and other	(4)	(16)	(4)	(13)	—	—
Fair value of plan assets at end of year	\$ 14,081	\$ 13,966	\$ 5,617	\$ 5,669	\$ 1,356	\$ 1,367
Funded status at end of year	\$ (2,121)	\$ (1,890)	\$ (1,008)	\$ (653)	\$ (903)	\$ (849)

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(Millions)	Qualified and Non-qualified Pension Benefits				Postretirement Benefits	
	United States		International		2016	2015
	2016	2015	2016	2015		
Amounts recognized in the Consolidated Balance Sheet as of Dec. 31,						
Non-current assets	\$ 4	\$ 3	\$ 48	\$ 185	\$ —	\$ —
Accrued benefit cost						
Current liabilities	(52)	(47)	(10)	(10)	(4)	(3)
Non-current liabilities	(2,073)	(1,846)	(1,046)	(828)	(899)	(846)
Ending balance	\$ (2,121)	\$ (1,890)	\$ (1,008)	\$ (653)	\$ (903)	\$ (849)

(Millions)	Qualified and Non-qualified Pension Benefits				Postretirement Benefits	
	United States		International		2016	2015
	2016	2015	2016	2015		
Amounts recognized in accumulated other comprehensive income as of Dec. 31,						
Net transition obligation (asset)	\$ —	\$ —	\$ —	\$ (2)	\$ —	\$ —
Net actuarial loss (gain)	5,704	5,366	1,933	1,610	761	815
Prior service cost (credit)	(198)	(227)	(56)	(68)	(214)	(270)
Ending balance	\$ 5,506	\$ 5,139	\$ 1,877	\$ 1,540	\$ 547	\$ 545

The balance of amounts recognized for international plans in accumulated other comprehensive income as of December 31 in the preceding table are presented based on the foreign currency exchange rate on that date.

The pension accumulated benefit obligation represents the actuarial present value of benefits based on employee service and compensation as of the measurement date and does not include an assumption about future compensation levels. The accumulated benefit obligation of the U.S. pension plans was \$15.149 billion and \$14.834 billion at December 31, 2016 and 2015, respectively. The accumulated benefit obligation of the international pension plans was \$6.058 billion and \$5.773 billion at December 31, 2016 and 2015, respectively.

The following amounts relate to pension plans with accumulated benefit obligations in excess of plan assets as of December 31:

(Millions)	Qualified and Non-qualified Pension Plans			
	United States		International	
	2016	2015	2016	2015
Projected benefit obligation	\$ 16,202	\$ 15,856	\$ 2,590	\$ 2,382
Accumulated benefit obligation	15,149	14,834	2,351	2,149
Fair value of plan assets	14,081	13,966	1,635	1,566

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Components of net periodic cost and other amounts recognized in other comprehensive income

Net periodic benefit cost is recorded in cost of sales, selling, general and administrative expenses, and research, development and related expenses. Components of net periodic benefit cost and other changes in plan assets and benefit obligations recognized in other comprehensive income for the years ended December 31 follow:

(Millions)	Qualified and Non-qualified Pension Benefits						Postretirement Benefits		
	United States			International			2016	2015	2014
	2016	2015	2014	2016	2015	2014			
Net periodic benefit cost (benefit)									
Service cost	\$ 259	\$ 293	\$ 241	\$ 133	\$ 154	\$ 141	\$ 54	\$ 75	\$ 65
Interest cost	575	655	676	171	206	252	79	98	97
Expected return on plan assets	(1,043)	(1,069)	(1,043)	(308)	(308)	(312)	(90)	(91)	(90)
Amortization of transition (asset) obligation	—	—	—	(1)	(1)	(1)	—	—	—
Amortization of prior service cost (benefit)	(24)	(24)	4	(13)	(13)	(16)	(55)	(42)	(47)
Amortization of net actuarial (gain) loss	354	409	243	91	144	121	61	73	56
Settlements, curtailments, special termination benefits and other	4	2	—	4	(6)	4	—	1	—
Net periodic benefit cost (benefit) after settlements, curtailments, special termination benefits and other	\$ 125	\$ 266	\$ 121	\$ 77	\$ 176	\$ 189	\$ 49	\$ 114	\$ 81
Other changes in plan assets and benefit obligations recognized in other comprehensive (income) loss									
Amortization of transition (asset) obligation	—	—	—	1	1	1	—	—	—
Prior service cost (benefit)	5	—	(266)	(5)	10	3	—	(212)	—

Amortization of prior service cost (benefit)	24	24	(4)	13	13	16	55	42	47
Net actuarial (gain) loss	692	312	2,167	512	(270)	592	8	(23)	358
Amortization of net actuarial (gain) loss	(354)	(409)	(243)	(91)	(144)	(121)	(61)	(73)	(56)
Foreign currency	—	—	—	(93)	(174)	(215)	—	(1)	(1)
Total recognized in other comprehensive (income) loss	\$ 367	\$ (73)	\$ 1,654	\$ 337	\$ (564)	\$ 276	\$ 2	\$ (267)	\$ 348
Total recognized in net periodic benefit cost (benefit) and other comprehensive (income) loss	\$ 492	\$ 193	\$ 1,775	\$ 414	\$ (388)	\$ 465	\$ 51	\$ (153)	\$ 429

Amounts expected to be amortized from accumulated other comprehensive income into net periodic benefit costs over the next fiscal year

(Millions)	Qualified and Non-qualified Pension Benefits		Postretirement Benefits
	United States	International	
Amortization of transition (asset) obligation	\$ —	\$ —	\$ —
Amortization of prior service cost (benefit)	(23)	(12)	(53)
Amortization of net actuarial (gain) loss	387	119	56
Total amortization expected over the next fiscal year	\$ 364	\$ 107	\$ 3

The Company primarily amortizes amounts recognized as prior service cost (benefit) over the average future service period of active employees at the date of the amendment.

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Weighted-average assumptions used to determine benefit obligations as of December 31

	Qualified and Non-qualified Pension Benefits						Postretirement Benefits		
	United States			International			2016	2015	2014
	2016	2015	2014	2016	2015	2014			
Discount rate	4.21 %	4.47 %	4.10 %	2.54 %	3.12 %	3.11 %	4.26 %	4.48 %	4.07 %
Compensation rate increase	4.10 %	4.10 %	4.10 %	2.90 %	2.90 %	3.33 %	N/A	N/A	N/A

Weighted-average assumptions used to determine net cost for years ended December 31

	Qualified and Non-qualified Pension Benefits						Postretirement Benefits		
	United States			International			2016	2015	2014
	2016	2015	2014	2016	2015	2014			
Discount rate - service cost	4.70 %	4.10 %	4.98 %	2.84 %	3.11 %	4.02 %	4.70 %	4.07 %	4.83 %
Discount rate - interest cost	3.73 %	4.10 %	4.98 %	2.72 %	3.11 %	4.02 %	3.80 %	4.07 %	4.83 %
Expected return on assets	7.50 %	7.75 %	7.75 %	5.77 %	5.90 %	5.83 %	6.91 %	6.91 %	7.11 %
Compensation rate increase	4.10 %	4.10 %	4.00 %	2.90 %	3.33 %	3.35 %	N/A	N/A	N/A

The Company provides eligible retirees in the U.S. postretirement health care benefit plans to a savings account benefits-based plan. The contributions provided by the Company to the health savings accounts increase 3 percent per year for employees who retired prior to January 1, 2016 and increase 1.5 percent for employees who retire on or after January 1, 2016. Therefore, the Company no longer has material exposure to health care cost inflation.

The Company determines the discount rate used to measure plan liabilities as of the December 31 measurement date for the pension and postretirement benefit plans, which is also the date used for the related annual measurement assumptions. The discount rate reflects the current rate at which the associated liabilities could be effectively settled at the end of the year. The Company sets its rate to reflect the yield of a portfolio of high quality, fixed-income debt instruments that would produce cash flows sufficient in timing and amount to settle projected future benefits. Using this methodology, the Company determined a discount rate of 4.21% for pension and 4.26% for postretirement benefits to be appropriate for its U.S. plans as of December 31, 2016, which is a decrease of 0.26 percentage points and 0.22 percentage points, respectively, from the rates used as of December 31, 2015. For the international pension and postretirement plans the discount rates also reflect the current rate at which the associated liabilities could be

effectively settled at the end of the year. If the country has a deep market in corporate bonds the Company matches the expected cash flows from the plan either to a portfolio of bonds that generate sufficient cash flow or a notional yield curve generated from available bond information. In countries that do not have a deep market in corporate bonds, government bonds are considered with a risk premium to approximate corporate bond yields.

Beginning in 2016, 3M changed the method used to estimate the service and interest cost components of the net periodic pension and other postretirement benefit costs. The new method measures service cost and interest cost separately using the spot yield curve approach applied to each corresponding obligation. Service costs are determined based on duration-specific spot rates applied to the service cost cash flows. The interest cost calculation is determined by applying duration-specific spot rates to the year-by-year projected benefit payments. The spot yield curve approach does not affect the measurement of the total benefit obligations as the change in service and interest costs offset in the actuarial gains and losses recorded in other comprehensive income. The Company changed to the new method to provide a more precise measure of service and interest costs by improving the correlation between the projected benefit cash flows and the discrete spot yield curve rates. The Company accounted for this change as a change in estimate prospectively beginning in the first quarter of 2016. As a result of the change to the spot yield curve approach, 2016 annual defined benefit pension and postretirement net periodic benefit cost decreased approximately \$180 million.

For the primary U.S. qualified pension plan, the Company's assumption for the expected return on plan assets was 7.50% in 2016. Projected returns are based primarily on broad, publicly traded equity and fixed-income indices and forward-looking estimates of active portfolio and investment management. As of December 31, 2016, the Company's 2017 expected long-term rate of return on U.S. plan assets is 7.25%, a decrease of 0.25 percentage points from 2016. The

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expected return assumption is based on the strategic asset allocation of the plan, long term capital market return expectations and expected performance from active investment management. The 2016 expected long-term rate of return is based on an asset allocation assumption of 25% global equities, 18% private equities, 41% fixed-income securities, and 16% absolute return investments independent of traditional performance benchmarks, along with positive returns from active investment management. The actual net rate of return on plan assets in 2016 was 5.8%. In 2015 the plan earned a rate of return of 0.7% and in 2014 earned a return of 13.0%. The average annual actual return on the plan assets over the past 10 and 25 years has been 7.2% and 9.2%, respectively. Return on assets assumptions for international pension and other post-retirement benefit plans are calculated on a plan-by-plan basis using plan asset allocations and expected long-term rate of return assumptions.

During 2016, the Company contributed \$380 million to its U.S. and international pension plans and \$3 million to its postretirement plans. During 2015, the Company contributed \$264 million to its U.S. and international pension plans and \$3 million to its postretirement plans. In 2017, the Company expects to contribute an amount in the range of \$300 million to \$500 million of cash to its U.S. and international retirement plans. The Company does not have a required minimum cash pension contribution obligation for its U.S. plans in 2017. Future contributions will depend on market conditions, interest rates and other factors.

Future Pension and Postretirement Benefit Payments

The following table provides the estimated pension and postretirement benefit payments that are payable from the plans to participants.

(Millions)	Qualified and Non-qualified Pension Benefits		Postretirement Benefits
	United States	International	
2017 Benefit Payments	\$ 1,020	\$ 203	\$ 129
2018 Benefit Payments	1,040	212	139
2019 Benefit Payments	1,057	228	147
2020 Benefit Payments	1,071	235	157
2021 Benefit Payments	1,088	256	166
Next five years	5,586	1,452	839

Plan Asset Management

3M's investment strategy for its pension and postretirement plans is to manage the funds on a going-concern basis. The primary goal of the trust funds is to meet the obligations as required. The secondary goal is to earn the highest rate of return possible, without jeopardizing its primary goal, and without subjecting the Company to an undue amount of

contribution risk. Fund returns are used to help finance present and future obligations to the extent possible within actuarially determined funding limits and tax-determined asset limits, thus reducing the potential need for additional contributions from 3M. The investment strategy has used long duration cash bonds and derivative instruments to offset a significant portion of the interest rate sensitivity of U.S. pension liabilities.

Normally, 3M does not buy or sell any of its own securities as a direct investment for its pension and other postretirement benefit funds. However, due to external investment management of the funds, the plans may indirectly buy, sell or hold 3M securities. The aggregate amount of 3M securities are not considered to be material relative to the aggregate fund percentages.

The discussion that follows references the fair value measurements of certain assets in terms of levels 1, 2 and 3. See Note 13 for descriptions of these levels. While the company believes the valuation methods are appropriate and consistent with other market participants, the use of different methodologies or assumptions to determine the fair value of certain financial instruments could result in a different estimate of fair value at the reporting date.

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U.S. Pension Plans and Postretirement Benefit Plan Assets

In order to achieve the investment objectives in the U.S. pension plans and U.S. postretirement benefit plans, the investment policies include a target strategic asset allocation. The investment policies allow some tolerance around the target in recognition that market fluctuations and illiquidity of some investments may cause the allocation to a specific asset class to vary from the target allocation, potentially for long periods of time. Acceptable ranges have been designed to allow for deviation from strategic targets and to allow for the opportunity for tactical over- and under-weights. The portfolios will normally be rebalanced when the quarter-end asset allocation deviates from acceptable ranges. The allocation is reviewed regularly by the named fiduciary of the plans. Approximately 42% of the postretirement benefit plan assets are in a 401(h) account. The 401(h) account assets are in the same trust as the primary U.S. pension plan and invested with the same investment objectives as the primary U.S. pension plan.

The fair values of the assets held by the U.S. pension plans by asset class are as follows:

(Millions) Asset Class	Fair Value Measurements Using Inputs Considered as						Fair Value at	
	Level 1		Level 2		Level 3		Dec. 31,	
	2016	2015	2016	2015	2016	2015	2016	2015
Equities								
U.S. equities	\$ 1,522	\$ 1,897	\$ —	\$ —	\$ —	\$ —	\$ 1,522	\$ 1,897
Non-U.S. equities	1,179	1,149	—	—	—	—	1,179	1,149
Index and long/short equity funds*							414	578
Total Equities	\$ 2,701	\$ 3,046	\$ —	\$ —	\$ —	\$ —	\$ 3,115	\$ 3,624
Fixed Income								
U.S. government securities	\$ 1,701	\$ 1,095	\$ 560	\$ 456	\$ —	\$ —	\$ 2,261	\$ 1,551
Non-U.S. government securities	—	—	146	126	—	—	146	126
Preferred and convertible securities	4	4	1	8	—	—	5	12
U.S. corporate bonds	10	9	3,392	2,820	—	—	3,402	2,829
Non-U.S. corporate bonds	—	—	672	616	—	—	672	616
Derivative instruments	(1)	(1)	(31)	40	—	—	(32)	39
Other*							7	11
Total Fixed Income	\$ 1,714	\$ 1,107	\$ 4,740	\$ 4,066	\$ —	\$ —	\$ 6,461	\$ 5,184
Private Equity								
Derivative instruments	\$ —	\$ —	\$ —	\$ —	\$ (83)	\$ (106)	\$ (83)	\$ (106)
Growth equity	19	24	—	—	—	—	19	24
							2,188	2,450

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Partnership investments*								
Total Private Equity Absolute Return	\$ 19	\$ 24	\$ —	\$ —	\$ (83)	\$ (106)	\$ 2,124	\$ 2,368
Derivative instruments	\$ —	\$ —	\$ (7)	\$ (5)	\$ —	\$ —	\$ (7)	\$ (5)
Fixed income and other	29	253	78	46	—	—	107	299
Hedge fund/fund of funds*							1,793	1,409
Partnership investments*							296	355
Total Absolute Return	\$ 29	\$ 253	\$ 71	\$ 41	\$ —	\$ —	\$ 2,189	\$ 2,058
Cash and Cash Equivalents								
Cash and cash equivalents	\$ 55	\$ 102	\$ —	\$ 1	\$ 2	\$ —	\$ 57	\$ 103
Repurchase agreements and derivative margin activity	—	—	(545)	5	—	—	(545)	5
Cash and cash equivalents, valued at net asset value*							931	783
Total Cash and Cash Equivalents	\$ 55	\$ 102	\$ (545)	\$ 6	\$ 2	\$ —	\$ 443	\$ 891
Total	\$ 4,518	\$ 4,532	\$ 4,266	\$ 4,113	\$ (81)	\$ (106)	\$ 14,332	\$ 14,125
Other items to reconcile to fair value of plan assets							\$ (251)	\$ (159)
Fair value of plan assets							\$ 14,081	\$ 13,966

* In accordance with ASC 820-10, certain investments that are measured at fair value using the net asset value (NAV) per share (or its equivalent) as a practical expedient have not been classified in the fair value hierarchy. The NAV is based on the fair value of the underlying assets owned by the fund, minus its liabilities then divided by the number of units outstanding and is determined by the investment manager or custodian of the fund. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the amounts presented in the fair value of plan assets.

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The fair values of the assets held by the postretirement benefit plans by asset class are as follows:

(Millions) Asset Class	Fair Value Measurements Using Inputs Considered as						Fair Value at	
	Level 1		Level 2		Level 3		Dec. 31,	
	2016	2015	2016	2015	2016	2015	2016	2015
Equities								
U.S. equities	\$ 477	\$ 508	\$ —	\$ —	\$ —	\$ —	\$ 477	\$ 508
Non-U.S. equities	62	59	—	—	—	—	62	59
Index and long/short equity funds*							40	49
Total Equities	\$ 539	\$ 567	\$ —	\$ —	\$ —	\$ —	\$ 579	\$ 616
Fixed Income								
U.S. government securities	\$ 102	\$ 71	\$ 191	\$ 192	\$ —	\$ —	\$ 293	\$ 263
Non-U.S. government securities	—	—	9	8	—	—	9	8
U.S. corporate bonds	—	—	172	153	—	—	172	153
Non-U.S. corporate bonds	—	—	36	35	—	—	36	35
Derivative instruments	—	—	(1)	2	—	—	(1)	2
Total Fixed Income	\$ 102	\$ 71	\$ 407	\$ 390	\$ —	\$ —	\$ 509	\$ 461
Private Equity								
Derivative instruments	\$ —	\$ —	\$ —	\$ —	\$ (3)	\$ (4)	\$ (3)	\$ (4)
Growth equity	1	1	—	—	—	—	1	1
Partnership investments*							113	136
Total Private Equity	\$ 1	\$ 1	\$ —	\$ —	\$ (3)	\$ (4)	\$ 111	\$ 133
Absolute Return								
Fixed income and other	\$ 1	\$ 10	\$ 3	\$ 2	\$ —	\$ —	\$ 4	\$ 12
Hedge fund/fund of funds*							72	54
Partnership investments*							12	14
Total Absolute Return	\$ 1	\$ 10	\$ 3	\$ 2	\$ —	\$ —	\$ 88	\$ 80
Cash and Cash Equivalents								
Cash and cash equivalents	\$ 44	\$ 38	\$ 3	\$ —	\$ —	\$ —	\$ 47	\$ 38
Repurchase agreements and derivative margin activity	—	—	(22)	—	—	—	(22)	—
Cash and cash equivalents, valued at net asset value*							38	30
Total Cash and Cash Equivalents	\$ 44	\$ 38	\$ (19)	\$ —	\$ —	\$ —	\$ 63	\$ 68
Total	\$ 687	\$ 687	\$ 391	\$ 392	\$ (3)	\$ (4)	\$ 1,350	\$ 1,358
Other items to reconcile to fair value of plan assets							\$ 6	\$ 9
Fair value of plan assets							\$ 1,356	\$ 1,367

*In accordance with ASC 820-10, certain investments that are measured at fair value using the net asset value per share (or its equivalent) as a practical expedient have not been classified in the fair value hierarchy. The NAV is based on the fair value of the underlying assets owned by the fund, minus its liabilities then divided by the number of units outstanding and is determined by the investment manager or custodian of the fund. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the amounts presented in the fair value

of plan assets.

Publicly traded equities are valued at the closing price reported in the active market in which the individual securities are traded.

Fixed income includes derivative instruments such as credit default swaps, interest rate swaps and futures contracts. Corporate debt includes bonds and notes, asset backed securities, collateralized mortgage obligations and private placements. Swaps and derivative instruments are valued by the custodian using closing market swap curves and market derived inputs. U.S. government and government agency bonds and notes are valued at the closing price reported in the active market in which the individual security is traded. Corporate bonds and notes, asset backed securities and collateralized mortgage obligations are valued at either the yields currently available on comparable securities of issuers with similar credit ratings or valued under a discounted cash flow approach that utilizes observable inputs, such as current yields of similar instruments, but includes adjustments for certain risks that may not be observable such as credit and liquidity risks. Private placements are valued by the custodian using recognized pricing services and sources.

The private equity portfolio is a diversified mix of derivative instruments, growth equity and partnership interests. Derivative investments are written options that are valued by independent parties using market inputs and valuation models. Growth equity investments are valued at the closing price reported in the active market in which the individual securities are traded.

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Absolute return consists primarily of partnership interests in hedge funds, hedge fund of funds or other private fund vehicles. Corporate debt instruments are valued at either the yields currently available on comparable securities of issuers with similar credit ratings or valued under a discounted cash flow approach that utilizes observable inputs, such as current yields of similar instruments, but includes adjustments for certain risks that may not be observable such as credit and liquidity risk ratings.

Other items to reconcile to fair value of plan assets include the net of insurance receivables for WG Trading Company, interest receivables, amounts due for securities sold, amounts payable for securities purchased and interest payable.

The balances of and changes in the fair values of the U.S. pension plans' and postretirement plans' level 3 assets for the periods ended December 31, 2016 and 2015 were not material.

International Pension Plans Assets

Outside the U.S., pension plan assets are typically managed by decentralized fiduciary committees. The disclosure below of asset categories is presented in aggregate for over 70 defined benefit plans in 26 countries; however, there is significant variation in asset allocation policy from country to country. Local regulations, local funding rules, and local financial and tax considerations are part of the funding and investment allocation process in each country. The Company provides standard funding and investment guidance to all international plans with more focused guidance to the larger plans.

Each plan has its own strategic asset allocation. The asset allocations are reviewed periodically and rebalanced when necessary.

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The fair values of the assets held by the international pension plans by asset class are as follows:

(Millions) Asset Class	Fair Value Measurements Using Inputs Considered as						Fair Value at	
	Level 1		Level 2		Level 3		Dec. 31,	
	2016	2015	2016	2015	2016	2015	2016	2015
Equities								
Growth equities	\$ 605	\$ 718	\$ 214	\$ 195	\$ —	\$ —	\$ 819	\$ 913
Value equities	575	494	28	27	—	—	603	521
Core equities	55	31	583	671	4	4	642	706
Equities, valued at net asset value*							16	17
Total Equities	\$ 1,235	\$ 1,243	\$ 825	\$ 893	\$ 4	\$ 4	\$ 2,080	\$ 2,157
Fixed Income								
Domestic government	\$ 340	\$ 283	\$ 202	\$ 346	\$ 3	\$ 4	\$ 545	\$ 633
Foreign government	142	—	353	206	—	—	495	206
Corporate debt securities	51	30	888	661	9	10	948	701
Fixed income securities, valued at net asset value*							641	770
Total Fixed Income	\$ 533	\$ 313	\$ 1,443	\$ 1,213	\$ 12	\$ 14	\$ 2,629	\$ 2,310
Private Equity								
Real estate	\$ 29	\$ 1	\$ 62	\$ 5	\$ 3	\$ 4	\$ 94	\$ 10
Real estate, valued at net asset value*							34	126
Partnership investments*							63	24
Total Private Equity	\$ 29	\$ 1	\$ 62	\$ 5	\$ 3	\$ 4	\$ 191	\$ 160
Absolute Return								
Derivatives	\$ (4)	\$ (2)	\$ —	\$ 15	\$ —	\$ —	\$ (4)	\$ 13
Insurance	—	—	—	—	455	456	455	456
Other	—	—	—	4	6	3	6	7
Other, valued at net asset value*							—	1
Hedge funds*							174	119
Total Absolute Return	\$ (4)	\$ (2)	\$ —	\$ 19	\$ 461	\$ 459	\$ 631	\$ 596
Cash and Cash Equivalents								
Cash and cash equivalents	\$ 99	\$ 126	\$ 18	\$ 347	\$ —	\$ —	\$ 117	\$ 473
Cash and cash equivalents, valued at net asset value*							4	1
Total Cash and Cash Equivalents	\$ 99	\$ 126	\$ 18	\$ 347	\$ —	\$ —	\$ 121	\$ 474
Total	\$ 1,892	\$ 1,681	\$ 2,348	\$ 2,477	\$ 480	\$ 481	\$ 5,652	\$ 5,697
Other items to reconcile to fair value of plan assets							\$ (35)	\$ (28)
Fair value of plan assets							\$ 5,617	\$ 5,669

*In accordance with ASC 820-10, certain investments that are measured at fair value using the net asset value per share (or its equivalent) as a practical expedient have not been classified in the fair value hierarchy. The NAV is based on the fair value of the underlying assets owned by the fund, minus its liabilities then divided by the number of units outstanding and is determined by the investment manager or custodian of the fund. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the amounts presented in the fair value of plan assets.

Equities consist primarily of mandates in public equity securities managed to various public equity indices. Publicly traded equities are valued at the closing price reported in the active market in which the individual securities are traded.

Fixed Income investments include domestic and foreign government, and corporate, (including mortgage backed and other debt) securities. Governments, corporate bonds and notes and mortgage backed securities are valued at the closing price reported if traded on an active market or at yields currently available on comparable securities of issuers with similar credit ratings or valued under a discounted cash flow approach that utilizes observable inputs, such as current yields of similar instruments, but includes adjustments for certain risks that may not be observable such as credit and liquidity risks.

Private equity funds consist of partnership interests in a variety of funds. Real estate consists of property funds and REITS (Real Estate Investment Trusts). REITS are valued at the closing price reported in the active market in which it is traded.

Absolute return consists of private partnership interests in hedge funds, insurance contracts, derivative instruments, hedge fund of funds, and other alternative investments. Insurance consists of insurance contracts, which are valued using

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cash surrender values which is the amount the plan would receive if the contract was cashed out at year end. Derivative instruments consist of interest rate swaps that are used to help manage risks.

Other items to reconcile to fair value of plan assets include the net of interest receivables, amounts due for securities sold, amounts payable for securities purchased and interest payable.

The balances of and changes in the fair values of the international pension plans' level 3 assets consist primarily of insurance contracts under the absolute return asset class. The aggregate of net purchases and net unrealized gains increased this balance by \$8 million and \$16 million in 2016 and 2015, respectively. Foreign currency exchange impacts decreased this balance by \$9 million and \$36 million in 2016 and 2015, respectively.

NOTE 12. Derivatives

The Company uses interest rate swaps, currency swaps, commodity price swaps, and forward and option contracts to manage risks generally associated with foreign exchange rate, interest rate and commodity price fluctuations. The information that follows explains the various types of derivatives and financial instruments used by 3M, how and why 3M uses such instruments, how such instruments are accounted for, and how such instruments impact 3M's financial position and performance.

Additional information with respect to the impacts on other comprehensive income of nonderivative hedging and derivative instruments is included in Note 6. Additional information with respect to the fair value of derivative instruments is included in Note 13. References to information regarding derivatives and/or hedging instruments associated with the Company's long-term debt are also made in Note 10.

Types of Derivatives/Hedging Instruments and Inclusion in Income/Other Comprehensive Income:

Cash Flow Hedges:

For derivative instruments that are designated and qualify as cash flow hedges, the effective portion of the gain or loss on the derivative is reported as a component of other comprehensive income and reclassified into earnings in the same period during which the hedged transaction affects earnings. Gains and losses on the derivative representing either

hedge ineffectiveness or hedge components excluded from the assessment of effectiveness are recognized in current earnings.

Cash Flow Hedging - Foreign Currency Forward and Option Contracts: The Company enters into foreign exchange forward and option contracts to hedge against the effect of exchange rate fluctuations on cash flows denominated in foreign currencies. These transactions are designated as cash flow hedges. The settlement or extension of these derivatives will result in reclassifications (from accumulated other comprehensive income) to earnings in the period during which the hedged transactions affect earnings. 3M may dedesignate these cash flow hedge relationships in advance of the occurrence of the forecasted transaction. The portion of gains or losses on the derivative instrument previously accumulated in other comprehensive income for dedesignated hedges remains in accumulated other comprehensive income until the forecasted transaction occurs. Changes in the value of derivative instruments after dedesignation are recorded in earnings and are included in the Derivatives Not Designated as Hedging Instruments section below. Beginning in the second quarter of 2014, 3M began extending the maximum length of time over which it hedges its exposure to the variability in future cash flows of the forecasted transactions from a previous term of 12 months to a longer term of 24 months, with certain currencies being extended further to 36 months starting in the first quarter of 2015.

Cash Flow Hedging - Commodity Price Management: The Company manages commodity price risks through negotiated supply contracts, price protection agreements and commodity price swaps. 3M discontinued the use of commodity price swaps as cash flow hedges of forecasted commodity transactions in the first quarter of 2015. The Company used commodity price swaps as cash flow hedges of forecasted commodity transactions to manage price volatility. The related mark-to-market gain or loss on qualifying hedges was included in other comprehensive income to the extent effective, and reclassified into cost of sales in the period during which the hedged transaction affected earnings.

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Cash Flow Hedging — Interest Rate Contracts: In the third and fourth quarters of 2014, the Company entered into forward starting interest rate swaps with notional amounts totaling 500 million Euros as a hedge against interest rate volatility associated with the forecasted issuance of fixed rate debt. 3M terminated these interest rate swaps upon issuance of 750 million Euros aggregate principal amount of twelve-year fixed rate notes in connection with 3M's 1.250 billion Eurobond offering in November 2014. The termination resulted in an \$8 million pre-tax (\$5 million after-tax) loss within accumulated other comprehensive income that will be amortized over the twelve-year life of the notes.

In the first six months of 2016, the Company entered into forward starting interest rate swaps that expired in December 2016 with an aggregate notional amount of \$300 million as a hedge against interest rate volatility associated with a forecasted issuance of fixed rate debt. Upon issuance of medium-term notes in September 2016, 3M terminated these interest rate swaps. The termination resulted in an immaterial loss within accumulated other comprehensive income that will be amortized over the respective lives of the debt.

In the fourth quarter of 2016, the Company entered into forward starting interest rate swaps with a notional amount of \$200 million as a hedge against interest rate volatility associated with a forecasted issuance of fixed rate debt.

The amortization of gains and losses on forward starting interest rate swaps is included in the tables below as part of the gain/(loss) recognized in income on the effective portion of derivatives as a result of reclassification from accumulated other comprehensive income.

As of December 31, 2016, the Company had a balance of \$91 million associated with the after tax net unrealized gain associated with cash flow hedging instruments recorded in accumulated other comprehensive income. This includes a remaining balance of \$6 million (after tax loss) related to forward starting interest rate swaps, which will be amortized over the respective lives of the notes. Based on exchange rates as of December 31, 2016, 3M expects to reclassify approximately \$57 million of the after-tax net unrealized foreign exchange cash flow hedging gains to earnings in 2017, approximately \$26 million of the after-tax net unrealized foreign exchange cash flow hedging gains to earnings in 2018, and approximately \$8 million of the after-tax net unrealized foreign exchange cash flow hedging gains to earnings after 2018 (with the impact offset by earnings/losses from underlying hedged items).

The location in the consolidated statements of income and comprehensive income and amounts of gains and losses related to derivative instruments designated as cash flow hedges are provided in the following table. Reclassifications of amounts from accumulated other comprehensive income into income include accumulated gains (losses) on dedesignated hedges at the time earnings are impacted by the forecasted transaction.

Year Ended December 31, 2016

Derivatives in Cash Flow Hedging Relationships (Millions)	Pretax Gain (Loss) Recognized in				
	Pretax Gain (Loss) Recognized in Comprehensive Income on Effective Portion of Derivative	Location	Pretax Gain (Loss) Recognized in Comprehensive Income on Effective Portion of Derivative as a Result of Reclassification from Accumulated Other Comprehensive Income	Location	Net Ineffective Portion of Gain (Loss) on Derivative and Amount Excluded from Effectiveness Testing Recognized in Income
Foreign currency forward/option contracts	\$ 58	Cost of sales	\$ 110	Cost of sales	\$ —
Interest rate swap contracts	(1)	Interest expense	(1)	Interest expense	—
Total	\$ 57		\$ 109		\$ —

Year Ended December 31, 2015

Derivatives in Cash Flow Hedging Relationships (Millions)	Pretax Gain (Loss) Recognized in				
	Pretax Gain (Loss) Recognized in Comprehensive Income on Effective Portion of Derivative	Location	Pretax Gain (Loss) Recognized in Comprehensive Income on Effective Portion of Derivative as a Result of Reclassification from Accumulated Other Comprehensive Income	Location	Net Ineffective Portion of Gain (Loss) on Derivative and Amount Excluded from Effectiveness Testing Recognized in Income
Foreign currency forward/option contracts	\$ 212	Cost of sales	\$ 178	Cost of sales	\$ —
Commodity price swap contracts	—	Cost of sales	(2)	Cost of sales	—
Interest rate swap contracts	—	Interest expense	(2)	Interest expense	—
Total	\$ 212		\$ 174		\$ —

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Year Ended December 31, 2014

Derivatives in Cash Flow Hedging Relationships (Millions)	Pretax Gain (Loss) Recognized in				
	Pretax Gain (Loss) Recognized in Comprehensive Income on Effective Portion of Derivative	Location	Pretax Gain (Loss) Recognized in Other Comprehensive Income as a Result of Reclassification from Accumulated Other Comprehensive Income	Location	Ineffective Portion of Gain (Loss) on Derivative and Amount Excluded from Effectiveness Testing Recognized in Income
	Amount		Amount		Amount
Foreign currency forward/option contracts	\$ 183	Cost of sales	\$ 3	Cost of sales	\$ —
Commodity price swap contracts	(4)	Cost of sales	2	Cost of sales	—
Interest rate swap contracts	(8)	Interest expense	(1)	Interest expense	—
Total	\$ 171		\$ 4		\$ —

Fair Value Hedges:

For derivative instruments that are designated and qualify as fair value hedges, the gain or loss on the derivatives as well as the offsetting loss or gain on the hedged item attributable to the hedged risk are recognized in current earnings.

Fair Value Hedging - Interest Rate Swaps: The Company manages interest expense using a mix of fixed and floating rate debt. To help manage borrowing costs, the Company may enter into interest rate swaps. Under these arrangements, the Company agrees to exchange, at specified intervals, the difference between fixed and floating interest amounts calculated by reference to an agreed-upon notional principal amount. The mark-to-market of these fair value hedges is recorded as gains or losses in interest expense and is offset by the gain or loss of the underlying debt instrument, which also is recorded in interest expense. These fair value hedges are highly effective and, thus, there is no impact on earnings due to hedge ineffectiveness.

In July 2007, in connection with the issuance of a seven-year Eurobond for an amount of 750 million Euros, the Company completed a fixed-to-floating interest rate swap on a notional amount of 400 million Euros as a fair value hedge of a portion of the fixed interest rate Eurobond obligation. In August 2010, the Company terminated 150 million Euros of the notional amount of this swap. As a result, a gain of 18 million Euros, recorded as part of the balance of the underlying debt, was amortized as an offset to interest expense over this debt's remaining life. Prior to termination of the applicable portion of the interest rate swap, the mark-to-market of the hedge instrument was recorded as gains or losses in interest expense and was offset by the gain or loss on carrying value of the underlying

debt instrument. Consequently, the subsequent amortization of the 18 million Euros recorded as part of the underlying debt balance was not part of gains on hedged items recognized in income in the tables below. The remaining interest rate swap of 250 million Euros (notional amount) matured in July 2014.

In November 2013, 3M issued a Eurobond due in 2021 for a face amount of 600 million Euros. Upon debt issuance, 3M completed a fixed-to-floating interest rate swap on a notional amount of 300 million Euros as a fair value hedge of a portion of the fixed interest rate Eurobond obligation.

In June 2014, 3M issued \$950 million aggregate principal amount of medium-term notes. Upon debt issuance, the Company entered into an interest rate swap to convert \$600 million of a \$625 million note included in this issuance to an interest rate based on a floating three-month LIBOR index as a fair value hedge of a portion of the fixed interest rate medium-term note obligation.

In August 2015, 3M issued \$1.500 billion aggregate principal amount of medium-term notes. Upon debt issuance, the Company entered into two interest rate swaps as fair value hedges of a portion of the fixed interest rate medium-term note obligation. The first converted a \$450 million three-year fixed rate note, and the second converted \$300 million of a five-year fixed rate note included in this issuance to an interest rate based on a floating three-month LIBOR index.

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The location in the consolidated statements of income and amounts of gains and losses related to derivative instruments designated as fair value hedges and similar information relative to the hedged items are as follows:

Year Ended December 31, 2016

Derivatives in Fair Value Hedging Relationships (Millions)	Gain (Loss) on Derivative Recognized in Income		Gain (Loss) on Hedged Item Recognized in Income	
	Location	Amount	Location	Amount
Interest rate swap contracts	Interest expense	\$ (2)	Interest expense	\$ 2
Total		\$ (2)		\$ 2

Year Ended December 31, 2015

Derivatives in Fair Value Hedging Relationships (Millions)	Gain (Loss) on Derivative Recognized in Income		Gain (Loss) on Hedged Item Recognized in Income	
	Location	Amount	Location	Amount
Interest rate swap contracts	Interest expense	\$ (2)	Interest expense	\$ 2
Total		\$ (2)		\$ 2

Year Ended December 31, 2014

Derivatives in Fair Value Hedging Relationships (Millions)	Gain (Loss) on Derivative Recognized in Income		Gain (Loss) on Hedged Item Recognized in Income	
	Location	Amount	Location	Amount
Interest rate swap contracts	Interest expense	\$ 11	Interest expense	\$ (11)
Total		\$ 11		\$ (11)

Net Investment Hedges:

The Company may use non-derivative (foreign currency denominated debt) and derivative (foreign exchange forward contracts) instruments to hedge portions of the Company's investment in foreign subsidiaries and manage foreign exchange risk. For instruments that are designated and qualify as hedges of net investments in foreign operations and that meet the effectiveness requirements, the net gains or losses attributable to changes in spot exchange rates are recorded in cumulative translation within other comprehensive income. The remainder of the change in value of such instruments is recorded in earnings. Recognition in earnings of amounts previously recorded in cumulative translation is limited to circumstances such as complete or substantially complete liquidation of the net investment in the hedged foreign operation. To the extent foreign currency denominated debt is not designated in or is dedesignated from a net investment hedge relationship, changes in value of that portion of foreign currency denominated debt due to exchange rate changes are recorded in earnings through their maturity date.

3M's use of foreign exchange forward contracts designated in hedges of the Company's net investment in foreign subsidiaries can vary by time period depending on when foreign currency denominated debt balances designated in such relationships are dedesignated, matured, or are newly issued and designated. Additionally, variation can occur in connection with the extent of the Company's desired foreign exchange risk coverage.

At December 31, 2016, the total notional amount of foreign exchange forward contracts designated in net investment hedges was approximately 150 million Euros and approximately 248 billion South Korean Won, along with a principal amount of long-term debt instruments designated in net investment hedges totaling 4.4 billion Euros. The maturity dates of these derivative and nonderivative instruments designated in net investment hedges range from 2017 to 2031.

The location in the consolidated statements of income and comprehensive income and amounts of gains and losses related to derivative and nonderivative instruments designated as net investment hedges are as follows. There were no reclassifications of the effective portion of net investment hedges out of accumulated other comprehensive income into income for the periods presented in the table below.

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Year ended December 31, 2016

Derivative and Nonderivative Instruments in Net Investment Hedging Relationships (Millions)	Pretax Gain (Loss) Recognized as Cumulative Translation within Other Ineffective Portion of Gain (Loss) o Comprehensive Income and Amount Excluded on Effective Portion of Effectiveness Testing Instrument Recognized in Income		
	Amount	Location	Amount
Foreign currency denominated debt	\$ 215	N/A	\$ —
Foreign currency forward contracts	(9)	Cost of sales	(3)
Total	\$ 206		\$ (3)

Year ended December 31, 2015

Derivative and Nonderivative Instruments in Net Investment Hedging Relationships (Millions)	Pretax Gain (Loss) Recognized as Cumulative Translation within Other Ineffective Portion of Gain (Loss) o Comprehensive Income and Amount Excluded on Effective Portion of Effectiveness Testing Instrument Recognized in Income		
	Amount	Location	Amount
Foreign currency denominated debt	\$ 63	N/A	\$ —
Foreign currency forward contracts	143	Cost of sales	11
Total	\$ 206		\$ 11

Year ended December 31, 2014

Derivative and Nonderivative Instruments in Net Investment Hedging Relationships (Millions)	Pretax Gain (Loss) Recognized as Cumulative Translation within Other Ineffective Portion of Gain (Loss) o Comprehensive Income and Amount Excluded on Effective Portion of Effectiveness Testing Instrument Recognized in Income		
	Amount	Location	Amount
Foreign currency denominated debt	\$ 152	N/A	\$ —
Foreign currency forward contracts	94	Cost of sales	1

Total	\$ 246	\$ 1
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Derivatives Not Designated as Hedging Instruments:

Derivatives not designated as hedging instruments include dedesignated foreign currency forward and option contracts that formerly were designated in cash flow hedging relationships (as referenced in the Cash Flow Hedges section above). In addition, 3M enters into foreign currency forward contracts to offset, in part, the impacts of certain intercompany activities (primarily associated with intercompany licensing arrangements) and enters into commodity price swaps to offset, in part, fluctuations in costs associated with the use of certain commodities and precious metals. These derivative instruments are not designated in hedging relationships; therefore, fair value gains and losses on these contracts are recorded in earnings. The Company does not hold or issue derivative financial instruments for trading purposes.

The Company revised amounts previously presented in the table below for the gain (loss) on derivatives recognized in income for the year ended December 31, 2015 relative to foreign currency forward contracts. This immaterial correction decreased the previously presented amount of the loss recognized in income in the disclosure table below by \$112 million for the year ended December 31, 2015. This revision had no impact on the Company's consolidated results of operations, financial condition, or cash flows.

The location in the consolidated statements of income and amounts of gains and losses related to derivative instruments not designated as hedging instruments are as follows:

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Derivatives Not Designated as Hedging Instruments (Millions)	Location	Gain (Loss) on Derivative Recognized in Income		
		Year ended December 31, 2016 Amount	Year ended December 31, 2015 Amount	Year ended December 31, 2014 Amount
Foreign currency forward/option contracts	Cost of sales	\$ (14)	\$ 5	\$ 10
Foreign currency forward contracts	Interest expense	9	82	(40)
Commodity price swap contracts	Cost of sales	—	(3)	—
Total		\$ (5)	\$ 84	\$ (30)

Location and Fair Value Amount of Derivative Instruments:

The following tables summarize the fair value of 3M's derivative instruments, excluding nonderivative instruments used as hedging instruments, and their location in the consolidated balance sheet. Notional amounts below are presented at period end foreign exchange rates, except for certain interest rate swaps, which are presented using the inception date's foreign exchange rate. Additional information with respect to the fair value of derivative instruments is included in Note 13.

December 31, 2016 (Millions)	Gross Notional Amount	Assets Location	Fair Value Amount	Liabilities Location	Fair Value Amount
Derivatives designated as hedging instruments					
Foreign currency forward/option contracts	\$ 2,160	Other current assets	\$ 107	Other current liabilities	\$ 9
Foreign currency forward/option contracts	1,459	Other assets	86	Other liabilities	3
Interest rate swap contracts	1,953	Other assets	25	Other current liabilities	1
Total derivatives designated as hedging instruments			\$ 218		\$ 13
Derivatives not designated as hedging instruments					
Foreign currency forward/option contracts	\$ 5,655	Other current assets	\$ 41	Other current liabilities	\$ 82
Total derivatives not designated as hedging instruments			\$ 41		\$ 82

Total derivative instruments			\$ 259		\$ 95
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December 31, 2015 (Millions)	Gross Notional Amount	Assets Location	Fair Value Amount	Liabilities Location	Fair Value Amount
Derivatives designated as hedging instruments					
Foreign currency forward/option contracts	\$ 2,815	Other current assets	\$ 148	Other current liabilities	\$ 14
Foreign currency forward/option contracts	1,240	Other assets	61	Other liabilities	3
Interest rate swap contracts	1,753	Other assets	24	Other liabilities	1
Total derivatives designated as hedging instruments			\$ 233		\$ 18
Derivatives not designated as hedging instruments					
Foreign currency forward/option contracts	\$ 5,359	Other current assets	\$ 63	Other current liabilities	\$ 51
Total derivatives not designated as hedging instruments			\$ 63		\$ 51
Total derivative instruments			\$ 296		\$ 69

Credit Risk and Offsetting of Assets and Liabilities of Derivative Instruments:

The Company is exposed to credit loss in the event of nonperformance by counterparties in interest rate swaps, currency swaps, commodity price swaps, and forward and option contracts. However, the Company's risk is limited to the fair value of the instruments. The Company actively monitors its exposure to credit risk through the use of credit approvals and credit limits, and by selecting major international banks and financial institutions as counterparties. 3M enters into

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master netting arrangements with counterparties when possible to mitigate credit risk in derivative transactions. A master netting arrangement may allow each counterparty to net settle amounts owed between a 3M entity and the counterparty as a result of multiple, separate derivative transactions. As of December 31, 2016, 3M has International Swaps and Derivatives Association (ISDA) agreements with 16 applicable banks and financial institutions which contain netting provisions. In addition to a master agreement with 3M supported by a primary counterparty's parent guarantee, 3M also has associated credit support agreements in place with 15 of its primary derivative counterparties which, among other things, provide the circumstances under which either party is required to post eligible collateral (when the market value of transactions covered by these agreements exceeds specified thresholds or if a counterparty's credit rating has been downgraded to a predetermined rating). The Company does not anticipate nonperformance by any of these counterparties.

3M has elected to present the fair value of derivative assets and liabilities within the Company's consolidated balance sheet on a gross basis even when derivative transactions are subject to master netting arrangements and may otherwise qualify for net presentation. However, the following tables provide information as if the Company had elected to offset the asset and liability balances of derivative instruments, netted in accordance with various criteria in the event of default or termination as stipulated by the terms of netting arrangements with each of the counterparties. For each counterparty, if netted, the Company would offset the asset and liability balances of all derivatives at the end of the reporting period based on the 3M entity that is a party to the transactions. Derivatives not subject to master netting agreements are not eligible for net presentation. As of the applicable dates presented below, no cash collateral had been received or pledged related to these derivative instruments.

Offsetting of Financial Assets under Master Netting Agreements with Derivative Counterparties

December 31, 2016	Gross Amounts not Offset in the Consolidated Balance Sheet that are Subject to Master Netting Agreements			
	Gross Amount of Derivative Assets Presented in the Consolidated Balance Sheet	Gross Amount of Recognized Derivative Liabilities	Cash Collateral Received	Net Amount of Derivative Assets
(Millions)				
Derivatives subject to master netting agreements	\$ 259	\$ 39	\$ —	\$ 220
Derivatives not subject to master netting agreements	—			—
Total	\$ 259			\$ 220

December 31, 2015	Gross Amounts not Offset in the Consolidated Balance Sheet that are Subject to Master Netting Agreements	
	Gross Amount of Derivative Assets	Gross Amount of Derivative Liabilities

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(Millions)	Presented in the Consolidated Balance Sheet	Eligible Offsetting Recognized Derivative Liabilities	Cash Collateral Received	Net Amount of Derivative Assets
Derivatives subject to master netting agreements	\$ 296	\$ 37	\$ —	\$ 259
Derivatives not subject to master netting agreements	—			—
Total	\$ 296			\$ 259

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Offsetting of Financial Liabilities under Master Netting Agreements with Derivative Counterparties

December 31, 2016	Gross Amount of Derivative Liabilities Presented in the Consolidated Balance Sheet	Gross Amounts not Offset in the Consolidated Balance Sheet that are Subject to Master Netting Agreements		
		Gross Amount of Eligible Offsetting Recognized Derivative Assets	Cash Collateral Pledged	Net Amount of Derivative Liabilities
(Millions)				
Derivatives subject to master netting agreements	\$ 93	\$ 39	\$ —	\$ 54
Derivatives not subject to master netting agreements	2			2
Total	\$ 95			\$ 56

December 31, 2015	Gross Amount of Derivative Liabilities Presented in the Consolidated Balance Sheet	Gross Amounts not Offset in the Consolidated Balance Sheet that are Subject to Master Netting Agreements		
		Gross Amount of Eligible Offsetting Recognized Derivative Assets	Cash Collateral Pledged	Net Amount of Derivative Liabilities
(Millions)				
Derivatives subject to master netting agreements	\$ 64	\$ 37	\$ —	\$ 27
Derivatives not subject to master netting agreements	5			5
Total	\$ 69			\$ 32

Foreign Currency Effects

3M estimates that year-on-year foreign currency transaction effects, including hedging impacts, decreased pre-tax income by approximately \$69 million in 2016 and increased pre-tax income by approximately \$180 million in 2015. These estimates include transaction gains and losses, including derivative instruments designed to reduce foreign currency exchange rate risks.

NOTE 13. Fair Value Measurements

3M follows ASC 820, Fair Value Measurements and Disclosures, with respect to assets and liabilities that are measured at fair value on a recurring basis and nonrecurring basis. Under the standard, fair value is defined as the exit price, or the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants as of the measurement date. The standard also establishes a hierarchy for inputs used in measuring fair value that maximizes the use of observable inputs and minimizes the use of unobservable inputs by requiring that the most observable inputs be used when available. Observable inputs are inputs market participants would use in valuing the asset or liability developed based on market data obtained from sources independent of the Company. Unobservable inputs are inputs that reflect the Company's assumptions about the factors market participants would use in valuing the asset or liability developed based upon the best information available in the circumstances. The hierarchy is broken down into three levels. Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities. Level 2 inputs include quoted prices for similar assets or liabilities in active markets, quoted prices for identical or similar assets or liabilities in markets that are not active, and inputs (other than quoted prices) that are observable for the asset or liability, either directly or indirectly. Level 3 inputs are unobservable inputs for the asset or liability. Categorization within the valuation hierarchy is based upon the lowest level of input that is significant to the fair value measurement.

Assets and Liabilities that are Measured at Fair Value on a Recurring Basis:

For 3M, assets and liabilities that are measured at fair value on a recurring basis primarily relate to available-for-sale marketable securities, available-for-sale investments (included as part of investments in the Consolidated Balance Sheet) and certain derivative instruments. Derivatives include cash flow hedges, interest rate swaps and most net investment hedges. The information in the following paragraphs and tables primarily addresses matters relative to these financial assets and liabilities. Separately, there were no material fair value measurements with respect to nonfinancial assets or

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liabilities that are recognized or disclosed at fair value in the Company's financial statements on a recurring basis for 2016 and 2015.

3M uses various valuation techniques, which are primarily based upon the market and income approaches, with respect to financial assets and liabilities. Following is a description of the valuation methodologies used for the respective financial assets and liabilities measured at fair value.

Available-for-sale marketable securities — except certain U.S. municipal securities:

Marketable securities, except certain U.S. municipal securities, are valued utilizing multiple sources. A weighted average price is used for these securities. Market prices are obtained for these securities from a variety of industry standard data providers, security master files from large financial institutions, and other third-party sources. These multiple prices are used as inputs into a distribution-curve-based algorithm to determine the daily fair value to be used. 3M classifies U.S. treasury securities as level 1, while all other marketable securities (excluding certain U.S. municipal securities) are classified as level 2. Marketable securities are discussed further in Note 9.

Available-for-sale marketable securities — certain U.S. municipal securities only:

In both 2016 and 2014, 3M obtained municipal bonds with the City of Nevada, Missouri, which represent 3M's only U.S. municipal securities holding as of December 31, 2016. Due to the nature of this security, the valuation method utilized will include the financial health of the City of Nevada, any recent municipal bond issuances by Nevada, and macroeconomic considerations related to the direction of interest rates and the health of the overall municipal bond market, and as such will be classified as a level 3 security.

Available-for-sale investments:

Investments include equity securities that are traded in an active market. Closing stock prices are readily available from active markets and are used as being representative of fair value. 3M classifies these securities as level 1.

Derivative instruments:

The Company's derivative assets and liabilities within the scope of ASC 815, Derivatives and Hedging, are required to be recorded at fair value. The Company's derivatives that are recorded at fair value include foreign currency forward and option contracts, commodity price swaps, interest rate swaps, and net investment hedges where the hedging instrument is recorded at fair value. Net investment hedges that use foreign currency denominated debt to hedge 3M's net investment are not impacted by the fair value measurement standard under ASC 820, as the debt used as the hedging instrument is marked to a value with respect to changes in spot foreign currency exchange rates and not with respect to other factors that may impact fair value.

3M has determined that foreign currency forwards, commodity price swaps, currency swaps, foreign currency options, interest rate swaps and cross-currency swaps will be considered level 2 measurements. 3M uses inputs other than quoted prices that are observable for the asset. These inputs include foreign currency exchange rates, volatilities, and interest rates. Derivative positions are primarily valued using standard calculations/models that use as their basis readily observable market parameters. Industry standard data providers are 3M's primary source for forward and spot rate information for both interest rates and currency rates, with resulting valuations periodically validated through third-party or counterparty quotes and a net present value stream of cash flows model.

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The following tables provide information by level for assets and liabilities that are measured at fair value on a recurring basis.

Description (Millions)	Fair Value at December 31, 2016	Fair Value Measurements Using Inputs Considered as		
		Level 1	Level 2	Level 3
Assets:				
Available-for-sale:				
Marketable securities:				
Corporate debt securities	\$ 10	\$ —	\$ 10	\$ —
Commercial paper	14	—	14	—
Certificates of deposit/time deposits	197	—	197	—
Asset-backed securities:				
Automobile loan related	31	—	31	—
Credit card related	18	—	18	—
Other	7	—	7	—
U.S. municipal securities	20	—	—	20
Derivative instruments — assets:				
Foreign currency forward/option contracts	234	—	234	—
Interest rate swap contracts	25	—	25	—
Liabilities:				
Derivative instruments — liabilities:				
Foreign currency forward/option contracts	94	—	94	—
Interest rate swap contracts	1	—	1	—

Description (Millions)	Fair Value at December 31, 2015	Fair Value Measurements Using Inputs Considered as		
		Level 1	Level 2	Level 3
Assets:				
Available-for-sale:				
Marketable securities:				
Corporate debt securities	\$ 10	\$ —	\$ 10	\$ —
Foreign government agency securities	10	—	10	—
Commercial paper	12	—	12	—
Certificates of deposit/time deposits	26	—	26	—
Asset-backed securities:				
Automobile loan related	26	—	26	—
Credit card related	10	—	10	—
Other	21	—	21	—
U.S. municipal securities	12	—	—	12
Derivative instruments — assets:				

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Foreign currency forward/option contracts	272	—	272	—
Interest rate swap contracts	24	—	24	—
Liabilities:				
Derivative instruments — liabilities:				
Foreign currency forward/option contracts	68	—	68	—
Interest rate swap contracts	1	—	1	—

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The following table provides a reconciliation of the beginning and ending balances of items measured at fair value on a recurring basis in the table above that used significant unobservable inputs (level 3).

Marketable securities — certain U.S. municipal securities and auction rate securities only (Millions)	2016	2015	2014
Beginning balance	\$ 12	\$ 15	\$ 11
Total gains or losses:			
Included in earnings	—	—	(1)
Included in other comprehensive income	—	—	2
Purchases and issuances	12	—	15
Sales and settlements	(4)	(3)	(12)
Transfers in and/or out of level 3	—	—	—
Ending balance	20	12	15
Change in unrealized gains or losses for the period included in earnings for securities held at the end of the reporting period	—	—	—

In addition, the plan assets of 3M's pension and postretirement benefit plans are measured at fair value on a recurring basis (at least annually). Refer to Note 11.

Assets and Liabilities that are Measured at Fair Value on a Nonrecurring Basis:

Disclosures are required for certain assets and liabilities that are measured at fair value, but are recognized and disclosed at fair value on a nonrecurring basis in periods subsequent to initial recognition. For 3M, such measurements of fair value relate primarily to long-lived asset impairments. There were no material long-lived asset impairments for 2016, 2015 and 2014.

Fair Value of Financial Instruments:

The Company's financial instruments include cash and cash equivalents, marketable securities, accounts receivable, certain investments, accounts payable, borrowings, and derivative contracts. The fair values of cash and cash equivalents, accounts receivable, accounts payable, and short-term borrowings and current portion of long-term debt approximated carrying values because of the short-term nature of these instruments. Available-for-sale marketable securities and investments, in addition to certain derivative instruments, are recorded at fair values as indicated in the preceding disclosures. For its long-term debt, the Company utilized third-party quotes to estimate fair values (classified as level 2). Information with respect to the carrying amounts and estimated fair values of these financial instruments follow:

(Millions)	December 31, 2016		December 31, 2015	
	Carrying Value	Fair Value	Carrying Value	Fair Value
Long-term debt, excluding current portion	\$ 10,678	\$ 11,168	\$ 8,753	\$ 9,101

The fair values reflected above consider the terms of the related debt absent the impacts of derivative/hedging activity. The carrying amount of long-term debt referenced above is impacted by certain fixed-to-floating interest rate swaps that are designated as fair value hedges and by the designation of fixed rate Eurobond securities issued by the Company as hedging instruments of the Company's net investment in its European subsidiaries. Many of 3M's fixed-rate bonds were trading at a premium at December 31, 2016 and 2015 due to the low interest rates and tightening of 3M's credit spreads.

NOTE 14. Commitments and Contingencies

Capital and Operating Leases:

Rental expense under operating leases was \$318 million in 2016, \$316 million in 2015 and \$332 million in 2014. It is 3M's practice to secure renewal rights for leases, thereby giving 3M the right, but not the obligation, to maintain a presence in a leased facility. 3M has three primary capital leases. First, 3M has a capital lease, which became effective in

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April 2003, that involves a building in the United Kingdom (with a lease term of 22 years). During the second quarter of 2003, 3M recorded a capital lease asset and obligation of approximately 33.5 million British Pound (GBP), or approximately \$41 million at December 31, 2016, exchange rates. Second, during the fourth quarter of 2009, 3M recorded a capital lease asset and obligation of approximately \$50 million related to an IT investment with an amortization period of seven years. This capital lease was fully amortized at December 31, 2016. Third, 3M recorded a capital lease asset and obligation of approximately \$12 million in 2016 and \$15 million in 2014, which is discussed in more detail in Note 7.

Minimum lease payments under capital and operating leases with non-cancelable terms in excess of one year as of December 31, 2016, were as follows:

(Millions)	Capital Leases	Operating Leases
2017	\$ 9	\$ 210
2018	7	161
2019	5	119
2020	4	89
2021	4	58
After 2021	30	188
Total	\$ 59	\$ 825
Less: Amounts representing interest	5	
Present value of future minimum lease payments	54	
Less: Current obligations under capital leases	9	
Long-term obligations under capital leases	\$ 45	

Unconditional Purchase Obligations:

Unconditional purchase obligations are defined as an agreement to purchase goods or services that is enforceable and legally binding (non-cancelable, or cancelable only in certain circumstances). The Company estimates its total unconditional purchase obligation commitment (for those contracts with terms in excess of one year) as of December 31, 2016, at \$608 million. Payments by year are estimated as follows: 2017 (\$193 million), 2018 (\$189 million), 2019 (\$123 million), 2020 (\$54 million), 2021 (\$24 million) and after 2021 (\$25 million). Many of these commitments relate to take or pay contracts, in which 3M guarantees payment to ensure availability of products or services that are sold to customers. The Company expects to receive consideration (products or services) for these unconditional purchase obligations. The purchase obligation amounts do not represent the entire anticipated purchases in the future, but represent only those items for which the Company is contractually obligated. The majority of 3M's products and services are purchased as needed, with no unconditional commitment. For this reason, these amounts will not provide an indication of the Company's expected future cash outflows related to purchase obligations.

Warranties/Guarantees:

3M's accrued product warranty liabilities, recorded on the Consolidated Balance Sheet as part of current and long-term liabilities, are estimated at approximately \$47 million at December 31, 2016, and \$28 million at December 31, 2015. 3M does not consider this amount to be material. The fair value of 3M guarantees of loans with third parties and other guarantee arrangements are not material.

Related Party Activity:

3M does not have any material related party activity.

Legal Proceedings:

The Company and some of its subsidiaries are involved in numerous claims and lawsuits, principally in the United States, and regulatory proceedings worldwide. These include various products liability (involving products that the Company now or formerly manufactured and sold), intellectual property, and commercial claims and lawsuits, including

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those brought under the antitrust laws, and environmental proceedings. Unless otherwise stated, the Company is vigorously defending all such litigation.

Process for Disclosure and Recording of Liabilities and Insurance Receivables Related to Legal Proceedings

Many lawsuits and claims involve highly complex issues relating to causation, scientific evidence, and whether there are actual damages and are otherwise subject to substantial uncertainties. Assessments of lawsuits and claims can involve a series of complex judgments about future events and can rely heavily on estimates and assumptions. The Company complies with the requirements of ASC 450, Contingencies, and related guidance, and records liabilities for legal proceedings in those instances where it can reasonably estimate the amount of the loss and where liability is probable. Where the reasonable estimate of the probable loss is a range, the Company records the most likely estimate of the loss, or the low end of the range if there is no one best estimate. The Company either discloses the amount of a possible loss or range of loss in excess of established accruals if estimable, or states that such an estimate cannot be made. The Company discloses significant legal proceedings even where liability is not probable or the amount of the liability is not estimable, or both, if the Company believes there is at least a reasonable possibility that a loss may be incurred.

The Company estimates insurance receivables based on an analysis of its numerous policies, including their exclusions, pertinent case law interpreting comparable policies, its experience with similar claims, and assessment of the nature of the claim and remaining coverage, and records an amount it has concluded is likely to be recovered. For those insured matters where the Company has taken an accrual, the Company also records receivables for the amount of insurance that it expects to recover under the Company's insurance program. For those insured matters where the Company has not taken an accrual because the liability is not probable or the amount of the liability is not estimable, or both, but where the Company has incurred an expense in defending itself, the Company records receivables for the amount of insurance that it expects to recover for the expense incurred.

Because litigation is subject to inherent uncertainties, and unfavorable rulings or developments could occur, there can be no certainty that the Company may not ultimately incur charges in excess of presently recorded liabilities. A future adverse ruling, settlement, or unfavorable development could result in future charges that could have a material adverse effect on the Company's results of operations or cash flows in the period in which they are recorded. Although the Company cannot estimate its exposure to all legal proceedings, it currently believes that such future charges, if any, would not have a material adverse effect on the consolidated financial position of the Company. Based on experience and developments, the Company reexamines its estimates of probable liabilities and associated expenses and receivables each period, and whether it is able to estimate a liability previously determined to be not estimable and/or not probable. Where appropriate, the Company makes additions to or adjustments of its estimated liabilities. As a result, the current estimates of the potential impact on the Company's consolidated financial position, results of operations and cash flows for the legal proceedings and claims pending against the Company could change in the future.

The following sections first describe the significant legal proceedings in which the Company is involved, and then describe the liabilities and associated insurance receivables the Company has accrued relating to its significant legal proceedings.

Respirator Mask/Asbestos Litigation

As of December 31, 2016, the Company is a named defendant, with multiple co-defendants, in numerous lawsuits in various courts that purport to represent approximately 2,660 individual claimants, compared to approximately 2,130 individual claimants with actions pending at December 31, 2015.

The vast majority of the lawsuits and claims resolved by and currently pending against the Company allege use of some of the Company's mask and respirator products and seek damages from the Company and other defendants for alleged personal injury from workplace exposures to asbestos, silica, coal mine dust or other occupational dusts found in products manufactured by other defendants or generally in the workplace. A minority of the lawsuits and claims resolved by and currently pending against the Company generally allege personal injury from occupational exposure to asbestos from products previously manufactured by the Company, which are often unspecified, as well as products manufactured by other defendants, or occasionally at Company premises.

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The Company's current volume of new and pending matters is substantially lower than it experienced at the peak of filings in 2003. The Company expects that filing of claims by unimpaired claimants in the future will continue to be at much lower levels than in the past. Accordingly, the number of claims alleging more serious injuries, including mesothelioma and other malignancies, will represent a greater percentage of total claims than in the past. The Company has prevailed in all eleven cases taken to trial, including nine of the ten cases tried to verdict (such trials occurred in 1999, 2000, 2001, 2003, 2004, 2007, 2015, and 2016—described below), and an appellate reversal in 2005 of the 2001 jury verdict adverse to the Company. The remaining case, tried in 2009, was dismissed by the court at the close of plaintiff's evidence, based on the court's legal finding that the plaintiff had not presented sufficient evidence to support a jury verdict. In August 2016, 3M received a unanimous defense verdict from a jury in state court in Kentucky, in 3M's first respirator trial involving coal mine dust. The estate of the plaintiff alleged that the 3M 8710 respirator is defective and caused his death because it did not protect him from harmful coal mine dust. The jury rejected plaintiff's claim and returned a verdict finding no liability against 3M. The verdict is final as the plaintiff did not file an appeal.

The Company has demonstrated in these past trial proceedings that its respiratory protection products are effective as claimed when used in the intended manner and in the intended circumstances. Consequently the Company believes that claimants are unable to establish that their medical conditions, even if significant, are attributable to the Company's respiratory protection products. Nonetheless the Company's litigation experience indicates that claims of persons with malignant conditions are costlier to resolve than the claims of unimpaired persons, and it therefore believes the average cost of resolving pending and future claims on a per-claim basis will continue to be higher than it experienced in prior periods when the vast majority of claims were asserted by medically unimpaired claimants.

As previously reported, the State of West Virginia, through its Attorney General, filed a complaint in 2003 against the Company and two other manufacturers of respiratory protection products in the Circuit Court of Lincoln County, West Virginia, and amended its complaint in 2005. The amended complaint seeks substantial, but unspecified, compensatory damages primarily for reimbursement of the costs allegedly incurred by the State for worker's compensation and healthcare benefits provided to all workers with occupational pneumoconiosis and unspecified punitive damages. The case was inactive from the fourth quarter of 2007 until late 2013, other than a case management conference in March 2011. In November 2013, the State filed a motion to bifurcate the lawsuit into separate liability and damages proceedings. At the hearing on the motion, the court declined to bifurcate the lawsuit. No liability has been recorded for this matter because the Company believes that liability is not probable and estimable at this time. In addition, the Company is not able to estimate a possible loss or range of loss given the lack of any meaningful discovery responses by the State of West Virginia, the otherwise minimal activity in this case and the fact that the complaint asserts claims against two other manufacturers where a defendant's share of liability may turn on the law of joint and several liability and by the amount of fault, if any, a jury might allocate to each defendant if the case is ultimately tried.

Respirator Mask/Asbestos Liabilities and Insurance Receivables:

The Company annually conducts a comprehensive legal review of its respirator mask/asbestos liabilities in connection with finalizing and reporting its annual results of operations, unless significant changes in trends or new developments warrant an earlier review. The Company reviews recent and historical claims data, including without limitation, (i) the number of pending claims filed against the Company, (ii) the nature and mix of those claims (i.e., the proportion of claims asserting usage of the Company's mask or respirator products and alleging exposure to each of asbestos, silica, coal or other occupational dusts, and claims pleading use of asbestos-containing products allegedly manufactured by the Company), (iii) the costs to defend and resolve pending claims, and (iv) trends in filing rates and in costs to defend and resolve claims, (collectively, the "Claims Data"). As part of its comprehensive legal review, the Company provides the Claims Data to a third party with expertise in determining the impact of Claims Data on future filing trends and costs. The third party assists the Company in estimating the costs to defend and resolve pending and future claims. The Company uses these estimates to develop its best estimate of probable liability.

Developments may occur that could affect the Company's estimate of its liabilities. These developments include, but are not limited to, significant changes in (i) the key assumptions underlying the Company's accrual, including, the number of future claims, the nature and mix of those claims, the average cost of defending and resolving claims, and in

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maintaining trial readiness (ii) trial and appellate outcomes, (iii) the law and procedure applicable to these claims, and (iv) the financial viability of other co-defendants and insurers.

As a result of the Company's regular comprehensive legal review and underlying factors such as the costs of resolving claims of persons who claim more serious injuries, including mesothelioma and other malignancies, the Company recorded an expense in 2016 for respirator mask/asbestos liabilities of \$69 million. In 2016, the Company made payments for legal fees and settlements of \$62 million related to the respirator mask/asbestos litigation. As of December 31, 2016 and 2015, the Company had an accrual for respirator mask/asbestos liabilities (excluding Aearo accruals) of \$595 million and \$588 million, respectively. This accrual represents the Company's best estimate of probable loss and reflects an estimation period for future claims that may be filed against the Company approaching the year 2050. Refer to Note 1 for further detail on the revision of this accrual. The Company cannot estimate the amount or upper end of the range of amounts by which the liability may exceed the accrual the Company has established because of the (i) inherent difficulty in projecting the number of claims that have not yet been asserted or the time period in which future claims may be asserted, (ii) the complaints nearly always assert claims against multiple defendants where the damages alleged are typically not attributed to individual defendants so that a defendant's share of liability may turn on the law of joint and several liability, which can vary by state, (iii) the multiple factors described above that the Company considers in estimating its liabilities, and (iv) the several possible developments described above that may occur that could affect the Company's estimate of liabilities.

As of December 31, 2016, the Company's receivable for insurance recoveries related to the respirator mask/asbestos litigation was \$4 million. As a result of a final arbitration decision in June 2016 regarding insurance coverage under two policies, 3M reversed its receivable for the insurance recoveries related to respirator mask/asbestos litigation by \$35 million. The Company is seeking coverage under the policies of certain insolvent and other insurers. Once those claims for coverage are resolved, the Company will have collected substantially all of its remaining insurance coverage for respirator mask/asbestos claims.

Respirator Mask/Asbestos Litigation — Aearo Technologies

On April 1, 2008, a subsidiary of the Company purchased the stock of Aearo Holding Corp., the parent of Aearo Technologies ("Aearo"). Aearo manufactured and sold various products, including personal protection equipment, such as eye, ear, head, face, fall and certain respiratory protection products.

As of December 31, 2016, Aearo and/or other companies that previously owned and operated Aearo's respirator business (American Optical Corporation, Warner-Lambert LLC, AO Corp. and Cabot Corporation ("Cabot")) are named defendants, with multiple co-defendants, including the Company, in numerous lawsuits in various courts in which plaintiffs allege use of mask and respirator products and seek damages from Aearo and other defendants for alleged personal injury from workplace exposures to asbestos, silica-related, or other occupational dusts found in products manufactured by other defendants or generally in the workplace.

As of December 31, 2016, the Company, through its Aearo subsidiary, had accruals of \$19 million for product liabilities and defense costs related to current and future Aearo-related asbestos and silica-related claims. Responsibility for legal costs, as well as for settlements and judgments, is currently shared in an informal arrangement among Aearo, Cabot, American Optical Corporation and a subsidiary of Warner Lambert and their respective insurers (the "Payor Group"). Liability is allocated among the parties based on the number of years each company sold respiratory products under the "AO Safety" brand and/or owned the AO Safety Division of American Optical Corporation and the alleged years of exposure of the individual plaintiff. Aearo's share of the contingent liability is further limited by an agreement entered into between Aearo and Cabot on July 11, 1995. This agreement provides that, so long as Aearo pays to Cabot a quarterly fee of \$100,000, Cabot will retain responsibility and liability for, and indemnify Aearo against, any product liability claims involving exposure to asbestos, silica, or silica products for respirators sold prior to July 11, 1995. Because of the difficulty in determining how long a particular respirator remains in the stream of commerce after being sold, Aearo and Cabot have applied the agreement to claims arising out of the alleged use of respirators involving exposure to asbestos, silica or silica products prior to January 1, 1997. With these arrangements in place, Aearo's potential liability is limited to exposures alleged to have arisen from the use of respirators involving exposure to asbestos, silica, or silica products on or after January 1, 1997. To date, Aearo has elected to pay the quarterly fee. Aearo

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could potentially be exposed to additional claims for some part of the pre-July 11, 1995 period covered by its agreement with Cabot if Aearo elects to discontinue its participation in this arrangement, or if Cabot is no longer able to meet its obligations in these matters.

In March 2012, Cabot CSC Corporation and Cabot Corporation filed a lawsuit against Aearo in the Superior Court of Suffolk County, Massachusetts seeking declaratory relief as to the scope of Cabot's indemnity obligations under the July 11, 1995 agreement, including whether Cabot has retained liability for coal workers' pneumoconiosis claims, and seeking damages for breach of contract. In 2014, the court granted Aearo's motion for summary judgment on two claims, but declined to rule on two issues: the specific liability for certain known coal mine dust lawsuits; and Cabot's claim for allocation of liability between injuries allegedly caused by exposure to coal mine dust and injuries allegedly caused by exposure to silica dust. Following additional discovery, the parties filed new motions for summary judgment. In February 2016, the court ruled in favor of Aearo on these two remaining issues, and ordered that Cabot, and not Aearo, is solely responsible for all liability for the coal mine dust lawsuits under the 1995 agreement. Cabot has appealed with a decision expected in 2017.

Developments may occur that could affect the estimate of Aearo's liabilities. These developments include, but are not limited to: (i) significant changes in the number of future claims, (ii) significant changes in the average cost of resolving claims, (iii) significant changes in the legal costs of defending these claims, (iv) significant changes in the mix and nature of claims received, (v) trial and appellate outcomes, (vi) significant changes in the law and procedure applicable to these claims, (vii) significant changes in the liability allocation among the co-defendants, (viii) the financial viability of members of the Payor Group including exhaustion of available insurance coverage limits, and/or (ix) a determination that the interpretation of the contractual obligations on which Aearo has estimated its share of liability is inaccurate. The Company cannot determine the impact of these potential developments on its current estimate of Aearo's share of liability for these existing and future claims. If any of the developments described above were to occur, the actual amount of these liabilities for existing and future claims could be significantly larger than the amount accrued.

Because of the inherent difficulty in projecting the number of claims that have not yet been asserted, the complexity of allocating responsibility for future claims among the Payor Group, and the several possible developments that may occur that could affect the estimate of Aearo's liabilities, the Company cannot estimate the amount or range of amounts by which Aearo's liability may exceed the accrual the Company has established.

Environmental Matters and Litigation

The Company's operations are subject to environmental laws and regulations including those pertaining to air emissions, wastewater discharges, toxic substances, and the handling and disposal of solid and hazardous wastes enforceable by national, state, and local authorities around the world, and private parties in the United States and abroad. These laws and regulations provide, under certain circumstances, a basis for the remediation of contamination, for restoration of or compensation for damages to natural resources, and for personal injury and property damage

claims. The Company has incurred, and will continue to incur, costs and capital expenditures in complying with these laws and regulations, defending personal injury and property damage claims, and modifying its business operations in light of its environmental responsibilities. In its effort to satisfy its environmental responsibilities and comply with environmental laws and regulations, the Company has established, and periodically updates, policies relating to environmental standards of performance for its operations worldwide.

Under certain environmental laws, including the United States Comprehensive Environmental Response, Compensation and Liability Act of 1980 and similar state laws, the Company may be jointly and severally liable, typically with other companies, for the costs of remediation of environmental contamination at current or former facilities and at off-site locations. The Company has identified numerous locations, most of which are in the United States, at which it may have some liability. Please refer to the section entitled “Environmental Liabilities and Insurance Receivables” that follows for information on the amount of the accrual.

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Environmental Matters

As previously reported, the Company has been voluntarily cooperating with ongoing reviews by local, state, federal (primarily the U.S. Environmental Protection Agency (EPA)), and international agencies of possible environmental and health effects of various perfluorinated compounds, including perfluorooctanyl compounds such as perfluorooctanoate (“PFOA”), perfluorooctane sulfonate (“PFOS”), or similar compounds (“PFCs”). As a result of its phase-out decision in May 2000, the Company no longer manufactures perfluorooctanyl compounds. The company ceased manufacturing and using the vast majority of these compounds within approximately two years of the phase-out announcement, and ceased all manufacturing and the last significant use of this chemistry by the end of 2008. Through its ongoing life cycle management and its raw material composition identification processes associated with the Company’s policies covering the use of all persistent and bio-accumulative materials, the Company continues to control or eliminate the presence of certain PFCs in purchased materials or as byproducts in some of 3M’s fluorochemical manufacturing processes, products, and waste streams.

Regulatory activities concerning PFOA and/or PFOS continue in the United States, Europe and elsewhere, and before certain international bodies. These activities include gathering of exposure and use information, risk assessment, and consideration of regulatory approaches. In October 2016, the European Commission notified the World Trade Organization of a draft regulation to restrict PFOA and its related substances under the EU’s REACH Regulation (Registration, Evaluation, Authorization, and Restriction of Chemicals). If adopted, the regulation would restrict PFOA and its related substances to concentrations no greater than 25 parts per billion in constituents of other substances, in mixtures, and in articles. As the database of studies of both chemicals has expanded, the EPA has developed human health effects documents summarizing the available data from these studies. In February 2014, the EPA initiated external peer review of its draft human health effects documents for PFOA and PFOS. The peer review panel met in August 2014. In May 2016, the EPA announced lifetime health advisory levels for PFOA and PFOS at 70 parts per trillion (superseding the provisional levels established by the EPA in 2009 of 400 parts per trillion for PFOA and 200 parts per trillion for PFOS). Where PFOA and PFOS are found together, EPA recommends that the concentrations be added together, and the lifetime health advisory for PFOA and PFOS combined is also 70 parts per trillion. Lifetime health advisories, while not enforceable, serve as guidance and are benchmarks for determining if concentrations of chemicals in tap water from public utilities are safe for public consumption. In an effort to collect exposure information under the Safe Drinking Water Act, the EPA published on May 2, 2012 a list of unregulated substances, including six PFCs, required to be monitored during the period 2013-2015 by public water system suppliers to determine the extent of their occurrence. Through July 2016, the EPA reported results for 4,909 public water supplies nationwide. Based on the 2016 lifetime health advisory, 13 public water supplies exceed the level for PFOA and 46 exceed the level for PFOS. A technical advisory issued by EPA in September 2016 on laboratory analysis of drinking water samples stated that 65 public water supplies had exceeded the combined level for PFOA and PFOS. These results are based on one or more samples collected during the period 2012-2015 and do not necessarily reflect current conditions of these public water supplies. EPA reporting does not identify the sources of the PFOA and PFOS in the public water supplies.

The Company is continuing to make progress in its work, under the supervision of state regulators, to address its historic disposal of PFC-containing waste associated with manufacturing operations at the Decatur, Alabama, Cottage Grove, Minnesota, and Cordova, Illinois plants.

As previously reported, the Company entered into a voluntary remedial action agreement with the Alabama Department of Environmental Management (ADEM) to address the presence of PFCs in the soil at the Company's manufacturing facility in Decatur, Alabama. Pursuant to a permit issued by ADEM, for approximately twenty years, the Company incorporated its wastewater treatment plant sludge containing PFCs in fields at its Decatur facility. After a review of the available options to address the presence of PFCs in the soil, ADEM agreed that the preferred remediation option is to use a multilayer cap over the former sludge incorporation areas on the manufacturing site with subsequent groundwater migration controls and treatment. Implementation of that plan continues and is expected to be completed in 2018.

The Company continues to work with the Minnesota Pollution Control Agency (MPCA) pursuant to the terms of the previously disclosed May 2007 Settlement Agreement and Consent Order to address the presence of certain PFCs in the soil and groundwater at former disposal sites in Washington County, Minnesota (Oakdale and Woodbury) and at the Company's manufacturing facility at Cottage Grove, Minnesota. Under this agreement, the Company's principal

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obligations include (i) evaluating releases of certain PFCs from these sites and proposing response actions; (ii) providing treatment or alternative drinking water upon identifying any level exceeding a Health Based Value (“HBV”) or Health Risk Limit (“HRL”) (i.e., the amount of a chemical in drinking water determined by the Minnesota Department of Health (MDH) to be safe for human consumption over a lifetime) for certain PFCs for which a HBV and/or HRL exists as a result of contamination from these sites; (iii) remediating identified sources of other PFCs at these sites that are not controlled by actions to remediate PFOA and PFOS; and (iv) sharing information with the MPCA about certain perfluorinated compounds. During 2008, the MPCA issued formal decisions adopting remedial options for the former disposal sites in Washington County, Minnesota (Oakdale and Woodbury). In August 2009, the MPCA issued a formal decision adopting remedial options for the Company’s Cottage Grove manufacturing facility. During the spring and summer of 2010, 3M began implementing the agreed upon remedial options at the Cottage Grove and Woodbury sites. 3M commenced the remedial option at the Oakdale site in late 2010. At each location the remedial options were recommended by the Company and approved by the MPCA. Remediation work has been completed at the Oakdale and Woodbury sites, and they are in an operational maintenance mode. Remediation will continue at the Cottage Grove site during 2017.

In August 2014, the Illinois EPA approved a request by the Company to establish a groundwater management zone at its manufacturing facility in Cordova, Illinois, which includes ongoing pumping of impacted site groundwater, groundwater monitoring and routine reporting of results.

The Company cannot predict what additional regulatory actions arising from the foregoing proceedings and activities, if any, may be taken regarding such compounds or the consequences of any such actions.

Environmental Litigation

As previously reported, a former employee filed a purported class action lawsuit in 2002 in the Circuit Court of Morgan County, Alabama (the St. John case), seeking unstated damages and alleging that the plaintiffs suffered fear, increased risk, subclinical injuries, and property damage from exposure to certain perfluorochemicals at or near the Company’s Decatur, Alabama, manufacturing facility. The court in 2005 granted the Company’s motion to dismiss the named plaintiff’s personal injury-related claims on the basis that such claims are barred by the exclusivity provisions of the state’s Workers Compensation Act. The plaintiffs’ counsel filed an amended complaint in November 2006, limiting the case to property damage claims on behalf of a purported class of residents and property owners in the vicinity of the Decatur plant. In June 2015, the plaintiffs filed an amended complaint adding additional defendants, including BFI Waste Management Systems of Alabama, LLC; BFI Waste Management of North America, LLC; the City of Decatur, Alabama; Morgan County, Alabama; Municipal Utilities Board of Decatur; and Morgan County, Alabama, d/b/a Decatur Utilities.

In 2005, the judge in a second purported class action lawsuit filed by three residents of Morgan County, Alabama, seeking unstated compensatory and punitive damages involving alleged damage to their property from emissions of certain perfluorochemical compounds from the Company’s Decatur, Alabama, manufacturing facility that formerly

manufactured those compounds (the Chandler case) granted the Company's motion to abate the case, effectively putting the case on hold pending the resolution of class certification issues in the St. John case. Despite the stay, plaintiffs filed an amended complaint seeking damages for alleged personal injuries and property damage on behalf of the named plaintiffs and the members of a purported class. No further action in the case is expected unless and until the stay is lifted.

In February 2009, a resident of Franklin County, Alabama, filed a purported class action lawsuit in the Circuit Court of Franklin County (the Stover case) seeking compensatory damages and injunctive relief based on the application by the Decatur utility's wastewater treatment plant of wastewater treatment sludge to farmland and grasslands in the state that allegedly contain PFOA, PFOS and other perfluorochemicals. The named plaintiff seeks to represent a class of all persons within the State of Alabama who have had PFOA, PFOS, and other perfluorochemicals released or deposited on their property. In March 2010, the Alabama Supreme Court ordered the case transferred from Franklin County to Morgan County. In May 2010, consistent with its handling of the other matters, the Morgan County Circuit Court abated this case, putting it on hold pending the resolution of the class certification issues in the St. John case.

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In October 2015, West Morgan-East Lawrence Water & Sewer Authority (Water Authority) filed an individual complaint against 3M Company, Dyneon, L.L.C, and Daikin America, Inc., in the U.S. District Court for the Northern District of Alabama. The complaint also includes representative plaintiffs who brought the complaint on behalf of themselves, and a class of all owners and possessors of property who use water provided by the Water Authority and five local water works to which the Water Authority supplies water (collectively, the “Water Utilities”). The complaint seeks compensatory and punitive damages and injunctive relief based on allegations that the defendants’ chemicals, including PFOA and PFOS from their manufacturing processes in Decatur, have contaminated the water in the Tennessee River at the water intake, and that the chemicals cannot be removed by the water treatment processes utilized by the Water Authority. In September 2016, the court granted 3M’s motion to dismiss plaintiffs’ trespass claims with prejudice, negligence claims for personal injuries, and private nuisance claims, and denied the motion to dismiss the plaintiffs’ negligence claims for property damage, public nuisance, abatement of nuisance, battery and wantonness.

In June 2016, the Tennessee Riverkeeper, Inc. (Riverkeeper), a non-profit corporation, filed a lawsuit in the U.S. District Court for the Northern District of Alabama against 3M; BFI Waste Systems of Alabama; the City of Decatur, Alabama; and the Municipal Utilities Board of Decatur, Morgan County, Alabama. The complaint alleges that the defendants violated the Resource Conservation and Recovery Act in connection with the disposal of certain PFCs through their ownership and operation of their respective sites. The complaint further alleges such practices may present an imminent and substantial endangerment to health and/or the environment and that Riverkeeper has suffered and will continue to suffer irreparable harm caused by defendants’ failure to abate the endangerment unless the court grants the requested relief, including declaratory and injunctive relief. The Company believes that the complaint lacks merit.

In July 2016, the City of Lake Elmo filed a lawsuit in the U.S. District Court for the District of Minnesota against 3M alleging that the City suffered damages from drinking water supplies contaminated with PFCs, including costs to construct alternative sources of drinking water.

As of December 31, 2016, seven purported class actions were filed against 3M and other defendants in U.S. District Court - three in the District of Colorado and four in the Eastern District of Pennsylvania. The complaints seek unstated damages and other remedies, such as medical monitoring, and allege that the plaintiffs suffered personal injury and property damage from drinking water supplies contaminated with certain PFCs used in Aqueous Film Forming Foam (AFFF) at current or former airports and air force military bases located in Colorado and Pennsylvania.

In September 2016, the Water Works and Sewer Board of the City of Gadsden, Alabama filed a lawsuit in the Circuit Court of Etowah County Alabama against 3M and various carpet manufacturers. The complaint alleges that PFCs from the defendants’ facilities contaminated the Coosa River as its raw water source for drinking water and seeks unstated damages for the installation and operation of a filtration system, expenses to monitor PFC levels, and lost profits and sales.

In November 2016, the Town of Barnstable, Massachusetts filed an individual action in the U.S. District Court for the District of Massachusetts seeking unstated compensatory and punitive damages and other relief against 3M and other suppliers of AFFF for alleged contamination of the aquifer supplying drinking water to the Hyannis water system. The town seeks to recover costs associated with the investigation, treatment, remediation, and monitoring of drinking water supplies allegedly contaminated with certain PFCs used in AFFF. In January 2017, the County of Barnstable, Massachusetts, filed an individual action in the U.S. District Court for the District of Massachusetts seeking unstated compensatory and punitive damages and other relief (including indemnification and contribution in connection with claims asserted against the County by the Town of Barnstable) against 3M and other suppliers of AFFF for alleged contamination of the aquifer supplying drinking water to the Hyannis water system.

In December 2010, the State of Minnesota, by its Attorney General Lori Swanson, acting in its capacity as trustee of the natural resources of the State of Minnesota, filed a lawsuit in Hennepin County District Court against 3M to recover damages (including unspecified assessment costs and reasonable attorney's fees) for alleged injury to, destruction of, and loss of use of certain of the State's natural resources under the Minnesota Environmental Response and Liability Act (MERLA) and the Minnesota Water Pollution Control Act (MWPCA), as well as statutory nuisance and common law claims of trespass, nuisance, and negligence with respect to the presence of PFCs in the groundwater, surface water, fish or other aquatic life, and sediments (the "NRD Lawsuit"). The State also seeks declarations under MERLA that 3M is

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responsible for all damages the State may suffer in the future for injuries to natural resources from releases of PFCs into the environment, and under MWPCA that 3M is responsible for compensation for future loss or destruction of fish, aquatic life, and other damages.

In November 2011, the Metropolitan Council filed a motion to intervene and a complaint in the NRD Lawsuit seeking compensatory damages and other legal, declaratory and equitable relief, including reasonable attorneys' fees, for costs and fees that the Metropolitan Council alleges it will be required to assess at some time in the future if the MPCA imposes restrictions on Metropolitan Council's PFOS discharges to the Mississippi River, including the installation and maintenance of a water treatment system. The Metropolitan Council's intervention motion was based on several theories, including common law negligence, and statutory claims under MERLA for response costs, and under the Minnesota Environmental Rights Act (MERA) for declaratory and equitable relief against 3M for PFOS and other PFC pollution of the waters and sediments of the Mississippi River. 3M did not object to the motion to intervene. In January 2012, 3M answered the Metropolitan Council's complaint and filed a counterclaim alleging that the Metropolitan Council discharges PFCs to the Mississippi River and discharges PFC-containing sludge and bio solids from one or more of its wastewater treatment plants onto agricultural lands and local area landfills. Accordingly, 3M's complaint against the Metropolitan Council asks that if the court finds that the State is entitled to any of the damages it seeks, 3M be awarded contribution and apportionment from the Metropolitan Council, including attorneys' fees, under MERLA, and contribution from and liability for the Metropolitan Council's proportional share of damages awarded to the State under the MWPCA, as well as under statutory nuisance and common law theories of trespass, nuisance, and negligence. 3M also seeks declaratory relief under MERA.

In April 2012, 3M filed a motion to disqualify the State of Minnesota's counsel, Covington & Burling, LLP (Covington). In October 2012, the court granted 3M's motion to disqualify Covington as counsel to the State and the State and Covington appealed the court's disqualification to the Minnesota Court of Appeals. In July 2013, the Minnesota Court of Appeals affirmed the district court's disqualification order. In October 2013, the Minnesota Supreme Court granted both the State's and Covington's petition for review of the decision of the Minnesota Court of Appeals. In April 2014, the Minnesota Supreme Court affirmed in part, reversed in part, and remanded the case to the district court for further proceedings. The district court took evidence on the disqualification issues at a hearing in October 2015. In February 2016, the district court ruled that Covington violated the professional ethics rule against representing a client (here the State of Minnesota) in the same or substantially related matter where that person's interests are materially adverse to the interests of a former client (3M). The district court, however, denied 3M's motion to disqualify Covington because it further found that 3M impliedly waived by delaying to assert the conflict. Other activity in the case, which had been stayed pending the outcome of the disqualification issue, has resumed. A trial date has not yet been set. In a separate but related action, the Company filed suit in the Ramsey County District Court against Covington for breach of its fiduciary duties to the Company and for breach of contract arising out of Covington's representation of the State of Minnesota in the NRD Lawsuit. In September 2016, the court granted 3M's motion for leave to amend the complaint to plead punitive damages.

For environmental litigation matters described in this section for which a liability, if any, has been recorded, the Company believes the amount recorded, as well as the possible loss or range of loss in excess of the established accrual is not material to the Company's consolidated results of operations or financial condition. For those matters for which a liability has not been recorded, the Company believes any such liability is not probable and estimable and the Company is not able to estimate a possible loss or range of loss at this time.

Environmental Liabilities and Insurance Receivables

As of December 31, 2016, the Company had recorded liabilities of \$38 million for estimated “environmental remediation” costs based upon an evaluation of currently available facts with respect to each individual site and also recorded related insurance receivables of \$11 million. The Company records liabilities for remediation costs on an undiscounted basis when they are probable and reasonably estimable, generally no later than the completion of feasibility studies or the Company’s commitment to a plan of action. Liabilities for estimated costs of environmental remediation, depending on the site, are based primarily upon internal or third-party environmental studies, and estimates as to the number, participation level and financial viability of any other potentially responsible parties, the extent of the contamination and the nature of required remedial actions. The Company adjusts recorded liabilities as further

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information develops or circumstances change. The Company expects that it will pay the amounts recorded over the periods of remediation for the applicable sites, currently ranging up to 20 years.

As of December 31, 2016, the Company had recorded liabilities of \$29 million for “other environmental liabilities” based upon an evaluation of currently available facts to implement the Settlement Agreement and Consent Order with the MPCA, the remedial action agreement with ADEM, and to address trace amounts of perfluorinated compounds in drinking water sources in the City of Oakdale, Minnesota, as well as presence in the soil and groundwater at the Company’s manufacturing facilities in Decatur, Alabama, and Cottage Grove, Minnesota, and at two former disposal sites in Washington County, Minnesota (Oakdale and Woodbury). The Company expects that most of the spending will occur over the next four years. As of December 31, 2016, the Company’s receivable for insurance recoveries related to “other environmental liabilities” was \$15 million.

It is difficult to estimate the cost of environmental compliance and remediation given the uncertainties regarding the interpretation and enforcement of applicable environmental laws and regulations, the extent of environmental contamination and the existence of alternative cleanup methods. Developments may occur that could affect the Company’s current assessment, including, but not limited to: (i) changes in the information available regarding the environmental impact of the Company’s operations and products; (ii) changes in environmental regulations, changes in permissible levels of specific compounds in drinking water sources, or changes in enforcement theories and policies, including efforts to recover natural resource damages; (iii) new and evolving analytical and remediation techniques; (iv) success in allocating liability to other potentially responsible parties; and (v) the financial viability of other potentially responsible parties and third-party indemnitors. For sites included in both “environmental remediation liabilities” and “other environmental liabilities,” at which remediation activity is largely complete and remaining activity relates primarily to operation and maintenance of the remedy, including required post-remediation monitoring, the Company believes the exposure to loss in excess of the amount accrued would not be material to the Company’s consolidated results of operations or financial condition. However, for locations at which remediation activity is largely ongoing, the Company cannot estimate a possible loss or range of loss in excess of the associated established accruals for the reasons described above.

Other Matters

Commercial Litigation

3M sued TransWeb Corporation in Minnesota in 2010 for infringement of several 3M patents covering fluorination and hydrocharging of filter media used in 3M’s respirators and furnace filters. TransWeb filed a declaratory judgment action in and successfully moved the litigation to the U.S. District Court for the District of New Jersey, seeking a declaration of invalidity and non-infringement of 3M’s patents, and further alleging that 3M waited too long to enforce its rights. TransWeb also alleged 3M obtained the patents through inequitable conduct and that 3M’s attempt to enforce the patents constituted a violation of the antitrust laws. In November 2012, a jury returned a verdict in favor of TransWeb on all but one count, including findings that 3M’s patents were invalid and not infringed, and that 3M had

committed an antitrust violation by seeking to enforce a patent it had obtained fraudulently. The jury also recommended that the court find 3M had committed inequitable conduct in obtaining the patents, and that the patents were therefore unenforceable. Since the vast majority of TransWeb's claim for treble antitrust damages was in the form of its attorneys' fees and expenses in connection with the defense of the patent case, the parties agreed that the measure of damages would not go to the jury, but rather would be submitted to a special master after the trial. In April, 2014, the court issued an order denying 3M's motions to set aside the jury's verdict. In addition, the court found two 3M patents unenforceable due to inequitable conduct. The court accepted the special master's recommendation as to the amount of attorneys' fees to be awarded as damages, and entered judgment against 3M. In July 2014, 3M filed a notice of appeal of the judgment to the U.S. Court of Appeals for the Federal Circuit. In February 2016, the U.S. Court of Appeals for the Federal Circuit issued its decision affirming the lower court's judgment. In March 2016, 3M paid TransWeb \$27 million in full satisfaction of the judgment.

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Andover Healthcare filed an infringement suit against 3M in May 2013 in the U.S. District Court for the District of Delaware. Andover also filed a related infringement action against 3M and 3M Deutschland GmbH in December 2013 in Mannheim, Germany. In both cases, Andover alleged that certain of 3M's self-adherent wraps, including Coban™ Latex Free and Nexcare™ No Hurt Latex Free wraps, infringed Andover's U.S. and German patents. 3M denied that it infringed Andover's patents, asserted that the patents are invalid, and claimed that Andover should be precluded from recovery of its alleged damages, in part because of its long delay in bringing the actions. 3M and Andover each filed motions for summary judgment, and in October 2016, the court denied all pending summary judgment motions filed by both parties. Trial in the U.S. matter was scheduled for November 2016. A hearing in the German infringement case occurred in September 2014. In November 2014, the German trial court issued a decision ordering the appointment of an expert to assist with analysis of whether 3M's products infringe Andover's German patent. Separately, 3M filed a nullity action in Germany, challenging the validity of Andover's German patent. At a hearing in July 2015, the German patent court revoked Andover's German patents. Andover appealed that decision and, in April 2016, the German trial court stayed the infringement proceedings during the pendency of Andover's appeal. In November 2016, the parties resolved all pending litigation in the United States and Germany for an amount that is not material to the Company's consolidated results of operations or financial condition.

Product Liability Litigation

Électricité de France (EDF) filed a lawsuit against 3M France in the French courts in 2006 claiming commercial loss and property damage after experiencing electrical network failures which EDF claims were caused by allegedly defective 3M transition splices. The French Court of Appeals at Versailles affirmed the commercial trial court's decision that the transition splices conformed to contract specifications and that EDF thoroughly analyzed and tested the splices before purchase and installation. The Court of Appeals, however, ordered a court-appointed expert to study the problem and issue a technical opinion on the cause of the network failures. The court-appointed expert submitted his report to the commercial court in May 2014. The expert found potential defects in 3M's product and found that EDF incurred damages in excess of 100 million euros. The expert's opinion was not dispositive of liability or damages and subject to numerous factual and legal challenges that could be raised with the court. In June 2016, the parties reached an agreement to resolve this dispute; the agreement includes confidential terms that, when taking into account 3M's insurance coverage, were not material to the Company's consolidated results of operations or financial condition.

One customer obtained an order in the French courts against 3M Purification SAS (a French subsidiary) in October 2011 appointing an expert to determine the amount of commercial loss and property damage allegedly caused by allegedly defective 3M filters used in the customer's manufacturing process. An Austrian subsidiary of this same customer also filed a claim against 3M Austria GmbH (an Austrian subsidiary) and 3M Purification SAS in the Austrian courts in September 2012 seeking damages for the same issue. Those two cases are still pending. Another customer filed a lawsuit against 3M Deutschland GmbH (a German subsidiary) in the German courts in March 2012 seeking commercial loss and property damage allegedly caused by the same 3M filters used in that customer's manufacturing process; the Company has resolved the claims in the German litigation. The Company has also settled without litigation the claims of two other customers arising out of the same issue. The amounts paid are not material to the Company's consolidated results of operations or financial condition.

As of December 31, 2016, the Company is a named defendant in approximately 1,260 lawsuits (compared to approximately 122 lawsuits at December 31, 2015), most of which are pending in federal or state court in Minnesota, in which the plaintiffs claim they underwent various joint arthroplasty, cardiovascular, and other surgeries and later developed surgical site infections due to the use of the Bair Hugger™ patient warming system. The complaints seek damages and other relief based on theories of strict liability, negligence, breach of express and implied warranties, failure to warn, design and manufacturing defect, fraudulent and/or negligent misrepresentation/concealment, unjust enrichment, and violations of various state consumer fraud, deceptive or unlawful trade practices and/or false advertising acts. One case, from the U.S. District Court for the Western District of Tennessee is a putative nationwide class action. The U.S. Judicial Panel on Multidistrict Litigation (MDL) granted the plaintiffs' motion to transfer and consolidate all cases pending in federal courts to the U.S. District Court for the District of Minnesota to be managed in a multi-district proceeding during the pre-trial phase of the litigation. In June 2016, the Company was served with a putative class action filed in the Ontario Superior Court of Justice for all Canadian residents who underwent various joint arthroplasty, cardiovascular, and other surgeries and later developed surgical site infections due to the use of the Bair Hugger™

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patient warming system. The representative plaintiff seeks relief (including punitive damages) under Canadian law based on theories similar to those asserted in the MDL. The Bair Hugger™ product line was acquired by 3M as part of the 2010 acquisition of Arizant, Inc., a leading manufacturer of patient warming solutions designed to prevent hypothermia and maintain normal body temperature in surgical settings. No liability has been recorded for this matter because the Company believes that any such liability is not probable and estimable at this time.

In September 2011, 3M Oral Care launched Lava Ultimate CAD/CAM dental restorative material. The product was originally indicated for inlay, onlay, veneer, and crown applications. In June 2015, 3M Oral Care voluntarily removed crown applications from the product's instructions for use, following reports from dentists of patients' crowns debonding, requiring additional treatment. The product remains on the market for other applications. 3M communicated with the U.S. Food and Drug Administration, as well as regulators outside the United States. 3M also informed customers and distributors of its action, offered to accept return of unused materials and provide refunds. As of December 31, 2016, there are three lawsuits pending that were brought by dentists and dental practices against 3M. The complaints allege 3M marketed and sold defective Lava Ultimate material used for dental crowns to dentists and, under various theories, seek monetary damages (replacement costs and business reputation loss), punitive damages, disgorgement of profits, injunction from marketing and selling Lava Ultimate for use in dental crowns, statutory penalties, and attorneys' fees and costs. One lawsuit, pending in the U.S. District Court for the District of Minnesota, names 39 plaintiffs and seeks certification of a class action of dentists in the United States and its territories, and alternatively seeks subclasses in 13 states. The other two lawsuits are individual complaints against 3M – one in Madison County, Illinois and the other in the U.S. District Court for the Northern District of New York.

For product liability litigation matters described in this section for which a liability has been recorded, the Company believes the amount recorded is not material to the Company's consolidated results of operations or financial condition. In addition, the Company is not able to estimate a possible loss or range of loss in excess of the established accruals at this time.

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NOTE 15. Stock-Based Compensation

The 3M 2008 Long-Term Incentive Plan (LTIP) provides for the issuance or delivery of up to 100 million shares of 3M common stock (including additional shareholder approvals subsequent to 2008) pursuant to awards granted under the plan. In May 2016, shareholders approved the 2016 LTIP, providing an additional 23,965,000 shares, increasing the number of approved shares to 123,965,000 shares. The 2016 LTIP succeeds the 3M 2008 LTIP. Awards may be issued in the form of incentive stock options, nonqualified stock options, progressive stock options, stock appreciation rights, restricted stock, restricted stock units, other stock awards, and performance units and performance shares. Awards denominated in shares of common stock other than options and stock appreciation rights, count against the 123,965,000 share limit as 3.38 shares for every one share covered by such award (for full value awards with grant dates prior to May 11, 2010), as 2.87 shares for every one share covered by such award (for full value awards with grant dates on or after May 11, 2010, and prior to May 8, 2012), as 3.50 shares for every one share covered by such award (for full value awards with grant dates of May 8, 2012 and prior to May 10, 2016), or as 2.50 shares for every one share covered by such award (for full value awards with grant dates of May 10, 2016 or later). The remaining total shares available for grant under the LTIP Program are 36,865,814 as of December 31, 2016. There were approximately 7,600 participants with outstanding options, restricted stock, or restricted stock units at December 31, 2016.

The Company's annual stock option and restricted stock unit grant is made in February to provide a strong and immediate link between the performance of individuals during the preceding year and the size of their annual stock compensation grants. The grant to eligible employees uses the closing stock price on the grant date. Accounting rules require recognition of expense under a non-substantive vesting period approach, requiring compensation expense recognition when an employee is eligible to retire. Employees are considered eligible to retire at age 55 and after having completed ten years of service. This retiree-eligible population represents 35 percent of the 2016 annual stock-based compensation award expense dollars; therefore, higher stock-based compensation expense is recognized in the first quarter.

In addition to the annual grants, the Company makes other minor grants of stock options, restricted stock units and other stock-based grants. The Company issues cash settled restricted stock units and stock appreciation rights in certain countries. These grants do not result in the issuance of common stock and are considered immaterial for disclosure purposes by the Company.

During the first quarter of 2016, the Company adopted ASU No. 2016-09, Improvements to Employee Share-Based Payment Accounting. The adoption is required to be implemented prospectively and resulted in income tax benefits of \$184 million for 2016. See Note 1 for additional information regarding ASU No. 2016-09.

Amounts recognized in the financial statements with respect to stock-based compensation programs, which include stock options, restricted stock, restricted stock units, performance shares, and the General Employees' Stock Purchase Plan (GESPP), are provided in the following table. Capitalized stock-based compensation amounts were not material.

Stock-Based Compensation Expense

(Millions)	Years ended December 31		
	2016	2015	2014
Cost of sales	\$ 47	\$ 46	\$ 47
Selling, general and administrative expenses	206	185	192
Research, development and related expenses	45	45	41
Stock-based compensation expenses	\$ 298	\$ 276	\$ 280
Income tax benefits	\$ (272)	\$ (87)	\$ (79)
Stock-based compensation expenses (benefits), net of tax	\$ 26	\$ 189	\$ 201

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Stock Option Program

The following table summarizes stock option activity for the years ended December 31:

	2016		2015		2014	
	Number of Options	Weighted Average Exercise Price	Number of Options	Weighted Average Exercise Price	Number of Options	Weighted Average Exercise Price
Under option —						
January 1	38,552,445	\$ 102.01	39,235,557	\$ 90.38	43,938,778	\$ 83.84
Granted:						
Annual	5,591,727	147.99	5,529,544	165.91	5,736,183	126.77
Exercised	(7,716,141)	86.76	(5,978,382)	83.74	(10,219,261)	82.37
Canceled	(231,799)	148.43	(234,274)	128.99	(220,143)	105.11
December 31	36,196,232	\$ 112.07	38,552,445	\$ 102.01	39,235,557	\$ 90.38
Options exercisable						
December 31	25,240,759	\$ 95.65	27,262,062	\$ 85.97	27,502,208	\$ 81.42

Stock options vest over a period from one to three years with the expiration date at 10 years from date of grant. As of December 31, 2016, there was \$69 million of compensation expense that has yet to be recognized related to non-vested stock option based awards. This expense is expected to be recognized over the remaining weighted-average vesting period of 20 months. For options outstanding at December 31, 2016, the weighted-average remaining contractual life was 69 months and the aggregate intrinsic value was \$2.407 billion. For options exercisable at December 31, 2016, the weighted-average remaining contractual life was 56 months and the aggregate intrinsic value was \$2.093 billion.

The total intrinsic values of stock options exercised during 2016, 2015 and 2014 was \$608 million, \$465 million and \$615 million, respectively. Cash received from options exercised during 2016, 2015 and 2014 was \$665 million, \$501 million and \$842 million, respectively. The Company's actual tax benefits realized for the tax deductions related to the exercise of employee stock options for 2016, 2015 and 2014 was \$224 million, \$172 million and \$226 million, respectively.

The Company does not have a specific policy to repurchase common shares to mitigate the dilutive impact of options; however, the Company has historically made adequate discretionary purchases, based on cash availability, market trends, and other factors, to satisfy stock option exercise activity.

For annual options, the weighted average fair value at the date of grant was calculated using the Black-Scholes option-pricing model and the assumptions that follow.

Stock Option Assumptions

	Annual					
	2016		2015		2014	
Exercise price	\$	147.87	\$	165.94	\$	126.72
Risk-free interest rate		1.5 %		1.5 %		1.9 %
Dividend yield		2.5 %		2.5 %		2.6 %
Expected volatility		20.8 %		20.1 %		20.8 %
Expected life (months)		77		76		75
Black-Scholes fair value	\$	22.47	\$	23.98	\$	19.63

Expected volatility is a statistical measure of the amount by which a stock price is expected to fluctuate during a period. For the 2016 annual grant date, the Company estimated the expected volatility based upon the average of the most recent one year volatility, the median of the term of the expected life rolling volatility, the median of the most recent term of the expected life volatility of 3M stock, and the implied volatility on the grant date. The expected term assumption is based on the weighted average of historical grants.

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Restricted Stock and Restricted Stock Units

The following table summarizes restricted stock and restricted stock unit activity for the years ended December 31:

	2016		2015		2014	
	Number of Awards	Weighted Average Grant Date Fair Value	Number of Awards	Weighted Average Grant Date Fair Value	Number of Awards	Weighted Average Grant Date Fair Value
Nonvested balance —						
As of January 1	2,441,088	\$ 127.47	2,817,786	\$ 104.41	3,105,361	\$ 92.31
Granted						
Annual	749,068	148.20	671,204	165.86	798,615	126.79
Other	8,115	169.00	26,886	156.94	78,252	152.74
Vested	(960,345)	101.64	(1,010,612)	89.99	(1,100,675)	90.37
Forfeited	(52,880)	145.95	(64,176)	118.99	(63,767)	97.23
As of December 31	2,185,046	\$ 145.64	2,441,088	\$ 127.47	2,817,786	\$ 104.41

As of December 31, 2016, there was \$81 million of compensation expense that has yet to be recognized related to non-vested restricted stock and restricted stock units. This expense is expected to be recognized over the remaining weighted-average vesting period of 22 months. The total fair value of restricted stock and restricted stock units that vested during 2016, 2015 and 2014 was \$149 million, \$166 million and \$145 million, respectively. The Company's actual tax benefits realized for the tax deductions related to the vesting of restricted stock and restricted stock units for 2016, 2015 and 2014 was \$56 million, \$62 million and \$54 million, respectively.

Restricted stock units granted generally vest three years following the grant date assuming continued employment. Dividend equivalents equal to the dividends payable on the same number of shares of 3M common stock accrue on these restricted stock units during the vesting period, although no dividend equivalents are paid on any of these restricted stock units that are forfeited prior to the vesting date. Dividends are paid out in cash at the vest date on restricted stock units, except for performance shares which do not earn dividends. Since the rights to dividends are forfeitable, there is no impact on basic earnings per share calculations. Weighted average restricted stock unit shares outstanding are included in the computation of diluted earnings per share.

Performance Shares

Instead of restricted stock units, the Company makes annual grants of performance shares to members of its executive management. The 2016 performance criteria for these performance shares (organic volume growth, return on invested

capital, free cash flow conversion, and earnings per share growth) were selected because the Company believes that they are important drivers of long-term stockholder value. The number of shares of 3M common stock that could actually be delivered at the end of the three-year performance period may be anywhere from 0% to 200% of each performance share granted, depending on the performance of the Company during such performance period. Non-substantive vesting requires that expense for the performance shares be recognized over one or three years depending on when each individual became a 3M executive. Prior to the 2016 performance share grant, performance shares did not accrue dividends during the performance period. Therefore, the grant date fair value was determined by reducing the closing stock price on the date of grant by the net present value of dividends during the performance period. The 2016 performance share grant accrues dividends, therefore the grant date fair value is equal to the closing stock price on the date of grant. Since the rights to dividends are forfeitable, there is no impact on basic earnings per share calculations. Weighted average performance shares whose performance period is complete are included in computation of diluted earnings per share.

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The following table summarizes performance share activity for the years ended December 31:

	2016	Weighted Average Grant Date Fair Value	2015	Weighted Average Grant Date Fair Value	2014	Weighted Average Grant Date Fair Value
	Number of Awards		Number of Awards		Number of Awards	
Undistributed balance —						
As of January 1	871,192	\$ 120.89	1,099,752	\$ 102.65	895,635	\$ 88.12
Granted	219,431	160.17	227,798	158.88	305,225	124.89
Distributed	(367,428)	99.06	(323,938)	83.08	(277,358)	84.74
Performance change	(37,534)	155.98	(106,760)	127.70	212,461	109.74
Forfeited	(29,383)	149.08	(25,660)	125.33	(36,212)	109.44
As of December 31	656,278	\$ 142.98	871,192	\$ 120.89	1,099,752	\$ 102.65

As of December 31, 2016, there was \$16 million of compensation expense that has yet to be recognized related to performance shares. This expense is expected to be recognized over the remaining weighted-average earnings period of 11 months. During 2016, 2015 and 2014, the total fair value of performance shares that were distributed were \$54 million, \$54 million and \$35 million, respectively. The Company's actual tax benefits realized for the tax deductions related to the distribution of performance shares for 2016, 2015 and 2014 was \$15 million, \$15 million and \$11 million, respectively.

General Employees' Stock Purchase Plan (GESPP):

As of December 31, 2016, shareholders have approved 60 million shares for issuance under the Company's GESPP. Substantially all employees are eligible to participate in the plan. Participants are granted options at 85% of market value at the date of grant. There are no GESPP shares under option at the beginning or end of each year because options are granted on the first business day and exercised on the last business day of the same month.

General Employees' Stock Purchase Plan

	2016	Weighted Average Exercise Price	2015	Weighted Average Exercise Price	2014	Weighted Average Exercise Price
	Shares		Shares		Shares	

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Options granted	987,478	\$ 140.06	1,007,669	\$ 133.52	1,073,956	\$ 118.73
Options exercised	(987,478)	140.06	(1,007,669)	133.52	(1,073,956)	118.73
Shares available for grant - December 31	27,116,857		28,104,335		29,112,004	

The weighted-average fair value per option granted during 2016, 2015 and 2014 was \$24.72, \$23.56 and \$20.95, respectively. The fair value of GESPP options was based on the 15% purchase price discount. The Company recognized compensation expense for GESPP options of \$24 million in 2016, \$24 million in 2015 and \$22 million in 2014.

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NOTE 16. Business Segments

3M's businesses are organized, managed and internally grouped into segments based on differences in markets, products, technologies and services. 3M manages its operations in five business segments: Industrial; Safety and Graphics; Health Care; Electronics and Energy; and Consumer. 3M's five business segments bring together common or related 3M technologies, enhancing the development of innovative products and services and providing for efficient sharing of business resources. Transactions among reportable segments are recorded at cost. 3M is an integrated enterprise characterized by substantial intersegment cooperation, cost allocations and inventory transfers. Therefore, management does not represent that these segments, if operated independently, would report the operating income information shown. The difference between operating income and pre-tax income relates to interest income and interest expense, which are not allocated to business segments.

Effective in the first quarter of 2016, 3M made a product line reporting change involving two of its business segments in its continuing effort to improve the alignment of its businesses around markets and customers.

The change between business segments was as follows:

- Elements of the electronic bonding product lines were previously separately reflected in the Electronics Materials Solutions Division (Electronics and Energy business segment) and the Industrial Adhesives and Tapes Division (Industrial business segment). Effective in the first quarter of 2016, certain sales and operating income results for these electronic bonding product lines in aggregate were equally divided between the Electronics and Energy business segment and Industrial business segment. This change resulted in a decrease in net sales and operating income for total year 2015 of \$33 million and \$7 million, respectively, in the Industrial business segment offset by a corresponding increase in the Electronics and Energy business segment. In addition, certain assets were moved from the Industrial business segment to the Electronics and Energy business segment as a result of this change.

The financial information presented herein reflects the impact of the preceding product line reporting change between business segments for all periods presented.

Business Segment Products

Business Segment	Major Products
Industrial	Tapes, coated, nonwoven and bonded abrasives, adhesives, advanced ceramics, sealants, specialty materials, filtration products, closure systems for personal hygiene products, acoustic systems products, automotive components, abrasion-resistant films, structural adhesives and paint finishing and detailing products

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Safety and Graphics	Personal protection products, traffic safety and security products, commercial graphics systems, commercial cleaning and protection products, floor matting, roofing granules for asphalt shingles, and fall protection products
Health Care	Medical and surgical supplies, skin health and infection prevention products, drug delivery systems, dental and orthodontic products, health information systems and food safety products
Electronics and Energy	Optical films solutions for electronic displays, packaging and interconnection devices, insulating and splicing solutions for the electronics, telecommunications and electrical industries, touch screens and touch monitors, renewable energy component solutions, and infrastructure protection products
Consumer	Sponges, scouring pads, high-performance cloths, consumer and office tapes, repositionable notes, indexing systems, home improvement products, home care products, protective material products, and consumer and office tapes and adhesives

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Business Segment Information

(Millions)	Net Sales			Operating Income		
	2016	2015	2014	2016	2015	2014
Industrial	\$ 10,313	\$ 10,295	\$ 10,985	\$ 2,376	\$ 2,256	\$ 2,381
Safety and Graphics	5,660	5,515	5,732	1,390	1,305	1,296
Health Care	5,527	5,420	5,572	1,754	1,724	1,724
Electronics and Energy	4,826	5,253	5,608	1,075	1,109	1,122
Consumer	4,482	4,422	4,523	1,064	1,046	995
Corporate and Unallocated	9	1	5	(280)	(355)	(250)
Elimination of Dual Credit	(708)	(632)	(604)	(156)	(139)	(133)
Total Company	\$ 30,109	\$ 30,274	\$ 31,821	\$ 7,223	\$ 6,946	\$ 7,135

(Millions)	Assets			Depreciation & Amortization			Capital Expenditures		
	2016	2015	2014	2016	2015	2014	2016	2015	2014
Industrial	\$ 9,158	\$ 9,230	\$ 8,536	\$ 407	\$ 374	\$ 383	\$ 360	\$ 317	\$ 395
Safety and Graphics	7,479	7,564	4,939	264	245	234	215	199	221
Health Care	4,303	4,403	4,344	175	179	181	136	168	169
Electronics and Energy	4,556	4,788	5,088	241	291	271	210	211	232
Consumer	2,504	2,393	2,434	114	108	108	109	124	111
Corporate and Unallocated	4,906	4,505	6,033	273	238	231	390	442	365
Total Company	\$ 32,906	\$ 32,883	\$ 31,374	\$ 1,474	\$ 1,435	\$ 1,408	\$ 1,420	\$ 1,461	\$ 1,493

Corporate and unallocated operating income includes a variety of miscellaneous items, such as corporate investment gains and losses, certain derivative gains and losses, certain insurance-related gains and losses, certain litigation and environmental expenses, corporate restructuring charges and certain under- or over-absorbed costs (e.g. pension, stock-based compensation) that the Company may choose not to allocate directly to its business segments. Because this category includes a variety of miscellaneous items, it is subject to fluctuation on a quarterly and annual basis.

3M business segment reporting measures include dual credit to business segments for certain U.S. sales and related operating income. Management evaluates each of its five business segments based on net sales and operating income performance, including dual credit U.S. reporting to further incentivize U.S. sales growth. As a result, 3M provides additional (“dual”) credit to those business segments selling products in the U.S. to an external customer when that segment is not the primary seller of the product. For example, certain respirators are primarily sold by the Personal

Safety Division within the Safety and Graphics business segment; however, the Industrial business segment also sells this product to certain customers in its U.S. markets. In this example, the non-primary selling segment (Industrial) would also receive credit for the associated net sales it initiated and the related approximate operating income. The assigned operating income related to dual credit activity may differ from operating income that would result from actual costs associated with such sales. The offset to the dual credit business segment reporting is reflected as a reconciling item entitled "Elimination of Dual Credit," such that sales and operating income for the U.S. in total are unchanged.

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NOTE 17. Geographic Areas

Geographic area information is used by the Company as a secondary performance measure to manage its businesses. Export sales and certain income and expense items are generally reported within the geographic area where the final sales to 3M customers are made.

(Millions)	Net Sales			Operating Income			Property, Plant and Equipment - net	
	2016	2015	2014	2016	2015	2014	2016	2015
United States	\$ 12,188	\$ 12,049	\$ 11,714	\$ 2,948	\$ 2,647	\$ 2,540	\$ 4,914	\$ 4,838
Asia Pacific	8,847	9,041	9,418	2,560	2,580	2,487	1,573	1,647
Europe, Middle East and Africa	6,163	6,228	7,198	1,046	1,017	1,234	1,512	1,531
Latin America and Canada	2,901	2,982	3,504	705	706	867	517	499
Other Unallocated	10	(26)	(13)	(36)	(4)	7	—	—
Total Company	\$ 30,109	\$ 30,274	\$ 31,821	\$ 7,223	\$ 6,946	\$ 7,135	\$ 8,516	\$ 8,515

Asia Pacific included China/Hong Kong net sales to customers of \$2.799 billion in 2016, which approached 10 percent of consolidated worldwide sales. China/Hong Kong net property, plant and equipment (PP&E) was \$520 million at December 31, 2016.

NOTE 18. Quarterly Data (Unaudited)

(Millions, except per-share amounts)	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Year 2016
2016					
Net sales	\$ 7,409	\$ 7,662	\$ 7,709	\$ 7,329	\$ 30,109
Cost of sales	3,678	3,799	3,847	3,716	15,040
Net income including noncontrolling interest	1,278	1,293	1,331	1,156	5,058
Net income attributable to 3M	1,275	1,291	1,329	1,155	5,050
Earnings per share attributable to 3M common shareholders - basic	2.10	2.13	2.20	1.93	8.35
Earnings per share attributable to 3M common shareholders - diluted	2.05	2.08	2.15	1.88	8.16

(Millions, except per-share amounts) 2015	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Year 2015
Net sales	\$ 7,578	\$ 7,686	\$ 7,712	\$ 7,298	\$ 30,274
Cost of sales	3,821	3,858	3,877	3,827	15,383
Net income including noncontrolling interest	1,201	1,303	1,298	1,039	4,841
Net income attributable to 3M	1,199	1,300	1,296	1,038	4,833
Earnings per share attributable to 3M common shareholders - basic	1.88	2.06	2.09	1.69	7.72
Earnings per share attributable to 3M common shareholders - diluted	1.85	2.02	2.05	1.66	7.58

Gross profit is calculated as net sales minus cost of sales.

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

None.

Item 9A. Controls and Procedures.

a. The Company carried out an evaluation, under the supervision and with the participation of its management, including the Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of the Company's "disclosure controls and procedures" (as defined in the Exchange Act Rule 13a-15(e)) as of the end of the period covered by this report. Based upon that evaluation, the Chief Executive Officer and Chief Financial Officer concluded that the Company's disclosure controls and procedures are effective.

b. The Company's management is responsible for establishing and maintaining an adequate system of internal control over financial reporting, as defined in the Exchange Act Rule 13a-15(f). Management conducted an assessment of the Company's internal control over financial reporting based on the framework established by the Committee of Sponsoring Organizations of the Treadway Commission in Internal Control — Integrated Framework (2013). Based on the assessment, management concluded that, as of December 31, 2016, the Company's internal control over financial reporting is effective. The Company's internal control over financial reporting as of December 31, 2016 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report which is included herein, which expresses an unqualified opinion on the effectiveness of the Company's internal control over financial reporting as of December 31, 2016.

c. There was no change in the Company's internal control over financial reporting that occurred during the Company's most recently completed fiscal quarter that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting.

The Company is implementing an enterprise resource planning ("ERP") system on a worldwide basis, which is expected to improve the efficiency of certain financial and related transaction processes. The gradual implementation is expected to occur in phases over the next several years. The implementation of a worldwide ERP system will likely affect the processes that constitute our internal control over financial reporting and will require testing for effectiveness.

The Company completed implementation with respect to elements of certain processes/sub-processes in limited subsidiaries/locations and will continue to roll-out the ERP system over the next several years. As with any new information technology application we implement, this application, along with the internal controls over financial

reporting included in this process, was appropriately considered within the testing for effectiveness with respect to the implementation in these instances. We concluded, as part of our evaluation described in the above paragraphs, that the implementation of ERP in these circumstances has not materially affected our internal control over financial reporting.

Item 9B. Other Information.

None.

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PART III

Documents Incorporated by Reference

In response to Part III, Items 10, 11, 12, 13 and 14, parts of the Company's definitive proxy statement (to be filed pursuant to Regulation 14A within 120 days after Registrant's fiscal year-end of December 31, 2016) for its annual meeting to be held on May 9, 2017, are incorporated by reference in this Form 10-K.

Item 10. Directors, Executive Officers and Corporate Governance.

The information relating to directors and nominees of 3M is set forth under the caption "Proposal No. 1" in 3M's proxy statement for its annual meeting of stockholders to be held on May 9, 2017 ("3M Proxy Statement") and is incorporated by reference herein. Information about executive officers is included in Item 1 of this Annual Report on Form 10-K. The information required by Items 405, 407(c)(3), (d)(4) and (d)(5) of Regulation S-K is contained under the captions "Section 16(a) Beneficial Ownership Reporting Compliance," "Corporate Governance At 3M — Identification, Evaluation, and Selection of Nominees,," "—Nominees Proposed By Stockholders," "—Stockholder Nominations", "—Proxy Access Nominations" and "—Role of the Nominating and Governance Committee" and "Corporate Governance At 3M -- Board Committees – Audit Committee" of the 3M Proxy Statement and such information is incorporated by reference herein.

Code of Ethics. All of our employees, including our Chief Executive Officer, Chief Financial Officer and Chief Accounting Officer and Controller, are required to abide by 3M's long-standing business conduct policies to ensure that our business is conducted in a consistently legal and ethical manner. 3M has posted the text of such code of ethics on its website (<http://www.3M.com/businessconduct>). At the same website, any future amendments to the code of ethics will also be posted. Any person may request a copy of the code of ethics, at no cost, by writing to us at the following address:

3M Company
3M Center, Building 220-11W-09
St. Paul, MN 55144-1000
Attention: Vice President, Compliance and Business Conduct

Item 11. Executive Compensation.

The information required by Item 402 of Regulation S-K is contained under the captions “Executive Compensation” (excluding the information under the caption “— Compensation Committee Report”) and “Director Compensation and Stock Ownership Guidelines” of the 3M Proxy Statement. Such information is incorporated by reference.

The information required by Items 407(e)(4) and (e)(5) of Regulation S-K is contained in the “Executive Compensation” section under the captions “Compensation Committee Report” and “Compensation Committee Interlocks and Insider Participation” of the 3M Proxy Statement. Such information (other than the Compensation Committee Report, which shall not be deemed to be “filed”) is incorporated by reference.

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

The information relating to security ownership of certain beneficial owners and management is set forth under the designation “Security Ownership of Management” and “Security Ownership of Certain Beneficial Owners” in the 3M Proxy Statement and such information is incorporated by reference herein.

Equity compensation plans information as of December 31, 2016 follows:

Equity Compensation Plans Information (1)

Plan Category	A Number of securities to be issued upon exercise of outstanding options, warrants and rights	B Weighted-average exercise price of outstanding options, warrants and rights	C Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (A))
Equity compensation plans approved by security holders			
Stock options	36,196,232	\$ 112.07	—
Restricted stock units	2,185,046		—
Performance shares	656,278		—
Non-employee director deferred stock units	242,779		—
Total	39,280,335		36,865,814
Employee stock purchase plan	—		27,116,857
Subtotal	39,280,335		63,982,671
Total	39,280,335		63,982,671

(1) In column B, the weighted-average exercise price is only applicable to stock options. In column C, the number of securities remaining available for future issuance for stock options, restricted stock units, and stock awards for non-employee directors is approved in total and not individually with respect to these items.

Item 13. Certain Relationships and Related Transactions, and Director Independence.

With respect to certain relationships and related transactions as set forth in Item 404 of Regulation S-K, no matters require disclosure with respect to transactions with related persons. The information required by Item 404(b) and Item 407(a) of Regulation S-K is contained under the section “Corporate Governance at 3M” under the captions “Director Independence” and “Related Person Transaction Policy and Procedures” of the 3M Proxy Statement and such information is incorporated by reference herein.

Item 14. Principal Accounting Fees and Services.

The information relating to principal accounting fees and services is set forth in the section entitled “Audit Committee Matters” under the designation “Audit Committee Policy on Pre-Approval of Audit and Permissible Non-Audit Services of the Independent Accounting Firm” and “Fees of the Independent Accounting Firm” in the 3M Proxy Statement and such information is incorporated by reference herein.

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PART IV

Item 15. Exhibits, Financial Statement Schedules.

(a) (1) Financial Statements. The consolidated financial statements filed as part of this report are listed in the index to financial statements at the beginning of this document.

(a) (2) Financial Statement Schedules. Financial statement schedules are omitted because of the absence of the conditions under which they are required or because the required information is included in the Consolidated Financial Statements or the notes thereto. The financial statements of unconsolidated subsidiaries are omitted because, considered in the aggregate, they would not constitute a significant subsidiary.

(a) (3) Exhibits. The exhibits are either filed with this report or incorporated by reference into this report. Exhibit numbers 10.1 through 10.31 are management contracts or compensatory plans or arrangements. See

(b) Exhibits, which follow.

(b) Exhibits.

(3)Articles of Incorporation and bylaws

(3.1) Certificate of incorporation, as amended as of May 11, 2007, is incorporated by reference from our Form 8-K dated May 14, 2007.

(3.2) Amended and Restated Bylaws, as adopted as of November 10, 2015, are incorporated by reference from our Form 8-K dated November 10, 2015.

(4)Instruments defining the rights of security holders, including indentures:

(4.1) Indenture, dated as of November 17, 2000, between 3M and The Bank of New York Mellon Trust Company, N.A., as successor trustee, with respect to 3M's senior debt securities, is incorporated by reference from our Form 8-K dated December 7, 2000.

(4.2) First Supplemental Indenture, dated as of July 29, 2011, to Indenture dated as of November 17, 2000, between 3M and The Bank of New York Mellon Trust Company, N.A., as successor trustee, with respect to 3M's senior debt securities, is incorporated by reference from our Form 10-Q for the quarter ended June 30, 2011.

(10) Material contracts and management compensation plans and arrangements:

- (10.1) 3M Company 2016 Long-Term Incentive Plan is incorporated by reference from our Form 8-K dated May 12, 2016.
- (10.2) Form of Stock Option Award Agreement under 3M Company 2016 Long-Term Incentive Plan is incorporated by reference from our Form 8-K dated May 12, 2016.
- (10.3) Form of Stock Appreciation Right Award Agreement under 3M Company 2016 Long-Term Incentive Plan is incorporated by reference from our Form 8-K dated May 12, 2016.
- (10.4) Form of Restricted Stock Unit Award Agreement under 3M Company 2016 Long-Term Incentive Plan is incorporated by reference from our Form 8-K dated May 12, 2016.
- (10.5) Form of Performance Share Award Agreement under 3M Company 2016 Long-Term Incentive Plan is incorporated by reference from our Form 8-K dated May 12, 2016.
- (10.6) 3M 2008 Long-Term Incentive Plan (including amendments through February 2, 2016) is incorporated by reference from our Form 10-K for the year ended December 31, 2015.
- (10.7) Form of Agreement for Stock Option Grants to Executive Officers under 3M 2008 Long-Term Incentive Plan is incorporated by reference from our Form 8-K dated May 13, 2008.
- (10.8) Form of Stock Option Agreement for options granted to Executive Officers under the 3M 2008 Long-Term Incentive Plan, commencing February 9, 2010, is incorporated by reference from our Form 10-K for the year ended December 31, 2009.

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- Form of Restricted Stock Unit Agreement for restricted stock units granted to Executive Officers under the
- (10.9) 3M Long-Term Incentive Plan, effective February 9, 2010, is incorporated by reference from our Form 10-K for the year ended December 31, 2009.
- (10.10) Form of 3M 2010 Performance Share Award under the 3M 2008 Long-Term Incentive Plan is incorporated by reference from our Form 8-K dated March 4, 2010.
- (10.11) Form of Stock Option Agreement for U.S. Employees under 3M 2008 Long-Term Incentive Plan is incorporated by reference from our Form 10-K for the year ended December 31, 2008.
- (10.12) Form of Restricted Stock Unit Agreement for U.S. Employees under 3M 2008 Long-Term Incentive Plan is incorporated by reference from our Form 10-K for the year ended December 31, 2008.
- (10.13) 3M 2005 Management Stock Ownership Program (including amendments through February 2, 2016) is incorporated by reference from our Form 10-K for the year ended December 31, 2015.
- (10.14) Form of award agreement for non-qualified stock options granted under the 2005 Management Stock Ownership Program, is incorporated by reference from our Form 8-K dated May 16, 2005.
- (10.15) Amended and Restated 3M VIP Excess Plan is filed herewith.
- (10.16) Amended and Restated 3M VIP (Voluntary Investment Plan) Plus Plan is filed herewith.
- (10.17) 3M Deferred Compensation Plan, as amended through February 2008, is incorporated by reference from our Form 8-K dated February 14, 2008.
- (10.18) Amendment of 3M Deferred Compensation Plan is incorporated by reference from our Form 8-K dated November 14, 2008.
- (10.19) 3M Deferred Compensation Excess Plan is incorporated by reference from our Form 10-K for the year ended December 31, 2009.
- (10.20) 3M Performance Awards Deferred Compensation Plan is incorporated by reference from our Form 10-K for the year ended December 31, 2009.
- (10.21) 3M Executive Annual Incentive Plan is incorporated by reference from our Form 8-K dated May 14, 2007.
- (10.22) Description of changes to 3M Compensation Plan for Non-Employee Directors is incorporated by reference from our Form 8-K dated August 8, 2005.
- (10.23) 3M Compensation Plan for Non-Employee Directors, as amended, through November 8, 2004, is incorporated by reference from our Form 10-K for the year ended December 31, 2004.
- (10.24) Amendment of 3M Compensation Plan for Non-Employee Directors is incorporated by reference from our Form 8-K dated November 14, 2008.
- (10.25) Amendment of 3M Compensation Plan for Non-Employee Directors as of August 12, 2013, is incorporated by reference from our Form 10-Q for the quarter ended September 30, 2013.
- (10.26) 3M Executive Life Insurance Plan, as amended, is incorporated by reference from our Form 10-K for the year ended December 31, 2003.
- (10.27) Summary of Personal Financial Planning Services for 3M Executives is incorporated by reference from our Form 10-K for the year ended December 31, 2003.
- (10.28) 3M policy on reimbursement of incentive payments is incorporated by reference from our Form 10-K for the year ended December 31, 2006.
- (10.29) Amended and Restated 3M Nonqualified Pension Plan I is filed herewith.
- (10.30) Amended and Restated 3M Nonqualified Pension Plan II is filed herewith.
- (10.31) Amended and Restated 3M Nonqualified Pension Plan III is filed herewith.
- 3 Policy on Reimbursement of Incentive Compensation (effective May 11, 2010) is incorporated by reference from our Form 10-Q dated August 4, 2010.
- (10.32) Amended and restated five-year credit agreement as of March 9, 2016, is incorporated by reference from our Form 8-K dated March 11, 2016.
- (10.33) Registration Rights Agreement as of August 4, 2009, between 3M Company and State Street Bank and Trust Company as Independent Fiduciary of the 3M Employee Retirement Income Plan, is incorporated by reference from our Form 8-K dated August 5, 2009.

Filed herewith, in addition to items, if any, specifically identified above:

- (12) Calculation of ratio of earnings to fixed charges.
- (21) Subsidiaries of the Registrant.
- (23) Consent of independent registered public accounting firm.
- (24) Power of attorney.
- (31.1) Certification of the Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002, 18 U.S.C. Section 1350.

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- Certification of the Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002, 18 (31.2) U.S.C. Section 1350.
- (32.1) Certification of the Chief Executive Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, 18 U.S.C. Section 1350.
- (32.2) Certification of the Chief Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, 18 U.S.C. Section 1350.
- (95) Mine Safety Disclosures.
- (101) The following financial information from 3M Company's Annual Report on Form 10-K for the period ended December 31, 2016, filed with the SEC on February 9, 2017, formatted in Extensible Business Reporting Language (XBRL): (i) the Consolidated Statement of Income for the years ended December 31, 2016, 2015 and 2014, (ii) the Consolidated Statement of Comprehensive Income for the years ended December 31, 2016, 2015 and 2014, (iii) the Consolidated Balance Sheet at December 31, 2016 and 2015, (iv) the Consolidated Statement of Changes in Equity for the years ended December 31, 2016, 2015 and 2014, (v) the Consolidated Statement of Cash Flows for the years ended December 31, 2016, 2015 and 2014, and (vi) Notes to Consolidated Financial Statements.

Item 16. Form 10-K Summary.

A Form 10-K summary is provided at the beginning of this document, with hyperlinked cross-references. This allows users to easily locate the corresponding items in Form 10-K, where the disclosure is fully presented. The summary does not include certain Part III information that is incorporated by reference from a future proxy statement filing.

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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.

3M COMPANY

By /s/ Nicholas C. Gangestad
Nicholas C. Gangestad,
Senior Vice President and Chief
Financial Officer
(Principal Financial Officer)
February 9, 2017

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 indicated on February 9, 2017.

Signature	Title
Inge G. Thulin	Chairman of the Board, President and Chief Executive Officer (Principal Executive Officer and Director)
Eric D. Hammes	Vice President, Controller and Chief Accounting Officer (Principal Accounting Officer)
Sondra L. Barbour	Director
Thomas K. Brown	Director
Vance D. Coffman	Director
David B. Dillon	Director
Michael L. Eskew	Director
Herbert L. Henkel	Director
Muhtar Kent	Director
Edward M. Liddy	Director
Gregory R. Page	Director
Robert J. Ulrich	Director
Patricia A. Woertz	Director

Nicholas C. Gangestad, by signing his name hereto, does hereby sign this document pursuant to powers of attorney duly executed by the other persons named, filed with the Securities and Exchange Commission on behalf of such other persons, all in the capacities and on the date stated, such persons constituting a majority of the directors of the

Company.

By /s/ Nicholas C. Gangestad
Nicholas C. Gangestad,
Attorney-in-Fact

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