PPG INDUSTRIES INC
Form 10-K
February 19, 2015
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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, 2014	Commission File Number 1-1687

PPG INDUSTRIES, INC.
(Exact name of registrant as specified in its charter)

Pennsylvania	25-0730780
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
One PPG Place, Pittsburgh, Pennsylvania	15272
(Address of principal executive offices)	(Zip code)
Registrant's telephone number, including area code:	412-434-3131

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 $1.66^2/_3$	New York Stock 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 x 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 x
Indicate by check mark whether the Registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months, and (2) has been subject to such filing requirements for the past 90 days. YES x NO ¨
Indicate by checkmark whether the registrant has submitted electronically and posted on its corporate web site, if any, every Interactive Date File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). YES x 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. x
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. (Check one):

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

(Do not check if a smaller
reporting company)

Indicate by check mark whether the Registrant is a shell company (as defined by Rule 12b-2 of the Act). YES o NO ý

The aggregate market value of common stock held by non-affiliates as of June 30, 2014, was $28,854 million.

As of January 31, 2015, 136,050,193 shares of the Registrant's common stock, with a par value of 1.66^{2}/_{3}$ per share, were outstanding. As of that date, the aggregate market value of common stock held by non-affiliates was $30,204 million.

DOCUMENTS INCORPORATED BY REFERENCE

Document	Incorporated By Reference In Part No.
Portions of PPG Industries, Inc. Proxy Statement for its 2015 Annual Meeting of Shareholders	III

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PPG INDUSTRIES, INC.
AND CONSOLIDATED SUBSIDIARIES

As used in this report, the terms “PPG,” “Company,” “Registrant,” “we,” “us” and “our” refer to PPG Industries, Inc., and its subsidiaries, taken as a whole, unless the context indicates otherwise.

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Note on Incorporation by Reference
Throughout this report, various information and data are incorporated by reference from the Company’s 2014 Annual Report (hereinafter referred to as “the Annual Report”). Any reference in this report to disclosures in the Annual Report shall constitute incorporation by reference only of that specific information and data into this Form 10-K.

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Part I

Item 1. Business

PPG Industries, Inc., manufactures and distributes a broad range of coatings, specialty materials and glass products. The Company, incorporated in Pennsylvania in 1883, is comprised of three reportable business segments: Performance Coatings, Industrial Coatings and Glass. Each of the business segments in which PPG operates is highly competitive. The Company's diversification of product lines and worldwide markets served tends to minimize the impact on PPG's total net sales and income from continuing operations from changes in demand either for a particular product line or in a particular geographic area.

In November 2014, PPG finalized the acquisition of Consorcio Comex, S.A. de C.V. ("Comex"), an architectural coatings company headquartered in Mexico City, Mexico. The acquisition further expands PPG's global coatings business and adds a leading architectural coatings business in Mexico and Central America. Refer to Note 2, "Acquisitions and Dispositions" under Item 8 of this Form 10-K for further information regarding this acquisition.

In March 2014, PPG completed the sale of its 51% ownership interest in its Transitions Optical joint venture and 100% of its optical sunlens business to Essilor International (Compagnie Generale D'Optique) SA ("Essilor"). Refer to Note 2, "Acquisitions and Dispositions" under Item 8 of this Form 10-K for further information relating to this transaction.

In conjunction with the Company's continued strategic focus on its coatings businesses, including the growth of the Company's global architectural coatings business, as well as the divestiture of its interest in its Transitions Optical joint venture and sunlens business, the Company realigned its segment reporting structure in the quarter ended March 31, 2014. Under the new segment reporting structure, the Company's reportable business segments changed from the five segments of Performance Coatings, Industrial Coatings, Architectural Coatings-Europe, Middle East and Africa ("EMEA"), Optical and Specialty Materials and Glass to the three reportable segments noted above. Refer to Note 19, "Reportable Business Segment Information" under Item 8 of this Form 10-K for financial information relating to our reportable business segments.

Performance Coatings and Industrial Coatings

PPG is a major global supplier of coatings. The Performance Coatings and Industrial Coatings reportable segments supply coatings and specialty materials for customers in a wide array of end-use markets, including industrial equipment, appliances and packaging; factory-finished aluminum extrusions and steel and aluminum coils; marine and aircraft equipment; automotive original equipment; and other industrial and consumer products. In addition to supplying coatings to the automotive original equipment market ("OEM"), PPG supplies refinishes to the automotive aftermarket. PPG also serves commercial and residential new build and maintenance markets by supplying coatings to painting and maintenance contractors and directly to consumers for decoration and maintenance. The coatings industry is highly competitive and consists of several large

firms with global presence and many smaller firms serving local or regional markets. PPG competes in its primary markets with the world's largest coatings companies, most of which have global operations, and many smaller regional coatings companies. Product development, innovation, distribution, quality and technical and customer service have been stressed by PPG and have been significant factors in developing an important supplier position by PPG's coatings businesses comprising the Performance Coatings and Industrial Coatings reportable segments.

Performance Coatings

The Performance Coatings reportable segment is comprised of the refinish, aerospace, protective and marine, architectural – Americas and Asia Pacific and architectural – EMEA coatings businesses.

Price, product performance, technology, quality, distribution, brand recognition and technical and customer service are major competitive factors in the performance coatings businesses.

The refinish coatings business supplies coatings products for automotive and commercial transport/fleet repair and refurbishing, light industrial coatings and specialty coatings for signs. These products are sold primarily through

independent distributors.

The aerospace coatings business supplies sealants, coatings, maintenance cleaners and transparencies for commercial, military, regional jet and general aviation aircraft and transparent armor for specialty applications and also provides chemical management services for the aerospace industry. PPG supplies products to aircraft manufacturers and maintenance and aftermarket customers around the world both on a direct basis and through a company-owned distribution network.

The protective and marine coatings business supplies coatings and finishes for the protection of metals and structures to metal fabricators, heavy duty maintenance contractors and manufacturers of ships, bridges and rail cars. These products are sold through company-owned architectural coatings stores, independent distributors and directly to customers.

The architectural coatings-Americas and Asia Pacific business primarily produces coatings used by painting and maintenance contractors and by consumers for decoration and maintenance of residential and commercial building structures. These coatings are sold under a number of brands, including PPG®, GLIDDEN®, COMEX®, OLYMPIC®, DULUX® (in Canada), SIKKENS®, PPG PITTSBURGH PAINTS®, MULCO®, FLOOD®, LIQUID NAILS®, SICO®, CIL®, RENNER®, TAUBMANS®, WHITE KNIGHT®, and BRISTOL®. Architectural coatings – Americas and Asia Pacific products are also sold through a combination of company-owned stores, home centers and other regional or national consumer retail outlets, paint dealers, concessionaires and independent distributors and directly to customers. At the end of 2014, the architectural coatings-Americas and Asia Pacific business operated about 900 company-owned stores in

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North America. As a result of the Comex acquisition, PPG has expanded its presence in Mexico and Central America and now sells coatings and related products through more than 3,700 stores that are independently owned and operated by more than 700 concessionaires. The architectural coatings-Americas and Asia Pacific business also operates about 40 company-owned stores in Australia.

The Architectural Coatings – EMEA business supplies a variety of coatings and purchased sundries to painting contractors and consumers in Europe, the Middle East and Africa. The coatings are sold under a number of brands, including SIGMA®, HISTOR®, SEIGNEURIE®, GUITTET®, PEINTURES GAUTHIER®, RIPOLIN®, JOHNSTONE'S®, LEYLAND®, PRIMALEX®, DEKORAL®, TRILAK®, PROMINENT PAINTS®, GORI®, and BONDEX®. Architectural Coatings – EMEA products are sold through a combination of about 675 company-owned stores, regional home centers, paint dealers, and independent distributors and directly to customers.

The major global competitors of the Performance Coatings reportable segment are Akzo Nobel N.V., Axalta Coating Systems Ltd., BASF Corporation, Hempel A/S, the Jotun Group, Masco Corporation, the Sherwin-Williams Company, Valspar Corporation, Benjamin Moore, Materis Paints and RPM International Inc. The average number of persons employed by the Performance Coatings reportable segment during 2014 was about 26,400.

Industrial Coatings

The Industrial Coatings reportable segment is comprised of the automotive OEM, industrial coatings, packaging coatings, and specialty coatings and materials businesses. Industrial, automotive OEM, packaging coatings, and specialty coatings and materials products are formulated specifically for the customers' needs and application methods. Price, product performance, technology, cost effectiveness, quality and technical and customer service are major competitive factors in the industrial, automotive OEM and packaging coatings businesses.

The industrial and automotive OEM coatings businesses sell directly to a variety of manufacturing companies. PPG also supplies adhesives and sealants for the automotive industry and metal pretreatments and related chemicals for industrial and automotive applications. PPG has established alliances with Kansai Paints and Asian Paints Ltd. to serve certain automotive original equipment manufacturers and aftermarket customers in various regions of the world. PPG owns a 60% interest in PPG Kansai Automotive Finishes to serve Japanese-based automotive OEM customers in North America and Europe. In 2014, PPG acquired the ownership interest of Helios Group, the minority partner in the former PPG-Helios joint venture which serves Russian-based automotive OEM customers in Russia and the Ukraine. The packaging coatings business supplies coatings to the manufacturers of aerosol, food, and metal beverage containers.

The primary specialty coatings and materials products are amorphous precipitated silicas for tire, battery separator and other end-use markets; TESLIN® substrate used in such applications as radio frequency identification (RFID) tags and labels, e-passports, drivers' licenses and identification cards; Organic Light Emitting Diode (OLED) materials for use in displays and lighting; optical lens materials and photochromic dyes for optical lenses and color-change products. Product quality and performance, distribution and technical service are the most critical competitive factors to the specialty coatings and materials business.

The major global competitors of the Industrial Coatings reportable segment are Akzo Nobel N.V., Axalta Coating Systems Ltd., BASF Corporation, Valspar Corporation, and Nippon Paint. The average number of persons employed by the Industrial Coatings reportable segment during 2014 was about 10,900.

Glass

The Glass reportable business segment is comprised of the flat glass and fiber glass businesses. PPG is a producer of flat glass in North America and a producer of fiber glass in North America and Europe, as well as Asia through our partnership with Nan Ya Plastics Corp to serve the electronics industries. PPG's major markets are commercial and residential construction and the wind energy, energy infrastructure, transportation and electronics industries. Most glass products are sold directly to manufacturing companies. PPG manufactures flat glass by the float process and fiber glass by the continuous-strand process.

Price, quality, technology and customer service are the key competitive factors in the glass businesses. The Company competes with several major producers of flat glass, including Asahi Glass Company, Cardinal Glass Industries, Guardian Industries and NSG Pilkington, and many major producers of fiber glass throughout the world, including

Owens Corning, Jushi Group, Johns Manville Corporation, CPIC Fiberglass, AGY, NEG, 3B and Taishan Fiberglass. The average number of persons employed by the Glass reportable segment during 2014 was about 3,100.

Raw Materials and Energy

The effective management of raw materials and energy is important to PPG's continued success. The Company's most significant raw materials are epoxy and other resins, titanium dioxide and other pigments, and solvents in the coatings segments; sand and soda ash for the specialty coatings and materials business; and sand, clay and soda ash in the Glass segment. Coatings raw materials, which include both organic, primarily petroleum based, materials and inorganic materials, including titanium dioxide, generally comprise between 70% and 80% of cost of goods sold, excluding depreciation and amortization, in most coatings formulations and represent PPG's single largest production cost component.

Energy is a significant production cost in the Glass segment, and our primary energy source is natural gas. With the separation of the commodity chemicals business in 2013, PPG's consumption of natural gas decreased significantly. Natural gas is expected to remain a competitive fuel source when compared to alternatives, especially on a global basis. We will continue to use competitive sourcing and consumption reduction initiatives to manage natural gas costs.

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Most of the raw materials and energy used in production are purchased from outside sources, and the Company has made, and plans to continue to make, supply arrangements to meet the planned operating requirements for the future. Supply of critical raw materials and energy is managed by establishing contracts, multiple sources, and identifying alternative materials or technology whenever possible. Our products use both petroleum-derived and bio-based materials as part of a product renewal strategy. While prices for these raw materials typically fluctuate with energy prices, such fluctuations are impacted by the fact that our raw materials are downstream from crude oil and natural gas.

The Company is continuing its aggressive sourcing initiatives to broaden our supply of high quality raw materials. These initiatives include qualifying multiple and local sources of supply, including suppliers from Asia and other lower cost regions of the world and a reduction in the amount of titanium dioxide used in our product formulations. Our global efforts to reduce titanium dioxide consumption have been successful to date and are expected to continue. Titanium dioxide is a raw material widely used in the paint and coatings industry as a pigment to provide hiding, durability and whiteness characteristics. PPG purchases both sulfate-grade and chloride-grade titanium dioxide from suppliers for use in coatings formulations. The Company has undertaken a strategic initiative to secure and enhance PPG’s supply of titanium dioxide, as well as to add to the global supply of this raw material. PPG possesses intellectual property and expertise in the production and finishing of titanium dioxide pigment and has and intends to continue to leverage this and engage potential parties to develop innovative supply solutions through technical collaborations, joint ventures, licensing or other commercial initiatives.

PPG signed a license agreement with Henan Billions Chemicals Co., Ltd. ("Billions"), under which PPG has licensed certain chloride-based titanium dioxide technologies to Billions for use at Billions’ titanium dioxide refinement facilities in China. In addition, PPG has signed a long-term purchase agreement for titanium dioxide with Billions. In 2014, construction of Billions' titanium dioxide manufacturing and research facility was completed in the Henan Province of China. The facility is scheduled to begin production in the first half of 2015. PPG intends to use the chloride-based titanium dioxide manufactured by Billions for various end-use paint and coatings applications. Billions is also able to sell its chloride-based titanium dioxide to third parties.

In 2013, PPG signed a purchase and supply agreement as well as a research services agreement with Argex Titanium Inc. ("Argex") whereby PPG is providing technical support to Argex in connection with their efforts to develop a unique and low cost process to manufacture pigment grade titanium dioxide.

We are subject to existing and evolving standards relating to the registration of chemicals which could potentially impact the availability and viability of some of the raw materials we use in our production processes. Our ongoing global product

stewardship efforts are directed at maintaining our compliance with these standards.

Changes to chemical registration regulations have been proposed or implemented in the EU and many other countries, including China, Canada, the United States, and Korea. Because implementation of many of these programs has not been finalized, the financial impact cannot be estimated at this time. We anticipate that the number of chemical registration regulations will continue to increase globally, and we have implemented programs to track and comply with these regulations.

Given the volatility of certain energy-based input costs at the end of 2014, the Company is negotiating with suppliers on pricing for various raw materials. Initial discussions have resulted in a slight downward bias on the price of certain oil-derived materials, which account for a portion of the Company’s overall raw material spend. The Company is also experiencing moderate inflation in certain other raw materials and other expense categories, including employee-related wage and benefit costs. Given the recent volatility in certain energy-based input costs, the Company is not able to predict with certainty the 2015 full year impact of related changes in raw material pricing.

Research and Development

Technology innovation has been a hallmark of PPG’s success throughout its history. Research and development costs, including depreciation of research facilities, were $509 million, $479 million and $444 million during 2014, 2013 and 2012, respectively. These costs totaled approximately 3% of annual sales in 2014, 2013 and 2012, respectively. We have obtained government funding of a small portion of the Company's research efforts, and we will continue to

pursue government funding where appropriate.

PPG owns and operates several facilities to conduct research and development relating to new and improved products and processes. In addition to the Company's centralized principal research and development centers (See Item 2 of this Form 10-K), operating segments manage their development regionally through centers of excellence. As part of our ongoing efforts to manage our formulations and raw material costs effectively, we operate a global competitive sourcing laboratory in China. Because of the Company’s broad array of products and customers, PPG is not materially dependent upon any single technology platform.

The Company seeks to optimize its investment in research and development to create new products to drive profitable growth. We align our product development with the macro trends in the end-use markets we serve and leverage core technology platforms to develop products for unmet market needs. Our history of successful technology introductions is based on a commitment to an efficient and effective innovation process and disciplined portfolio management.

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Patents

PPG considers patent protection to be important; however, the Company's reportable business segments are not materially dependent upon any single patent or group of related patents. PPG earned $50 million in 2014, $48 million in 2013 and $51 million in 2012 from royalties and the sale of technical know-how.

Backlog

In general, PPG does not manufacture its products against a backlog of orders. Production and inventory levels are geared primarily to projections of future demand and the level of incoming orders.

Global Operations

PPG has a significant investment in non-U.S. operations. This broad geographic footprint serves to lessen the significance of economic impacts occurring in any one region. As a result of our expansion outside the U.S., we are subject to certain inherent risks, including economic and political conditions in international markets and fluctuations in foreign currency exchange rates.

Our net sales in the developed and emerging regions of the world for the years ended December 31st are summarized below:

($ in millions)	Net Sales		
	2014	2013	2012
United States, Canada, Western Europe	$11,139	$10,311	$8,767
Latin America, Central and Eastern Europe, Middle East, Africa, Asia Pacific	4,221	3,954	3,919
Total	$15,360	$14,265	$12,686

Refer to Note 19 "Reportable Business Segment Information" under Item 8 of this Form 10-K for geographic information related to PPG's property, plant and equipment, and for additional geographic information pertaining to sales.

Seasonality

PPG's income from continuing operations have typically been greater in the second and third quarters and cash flow from operations has been greatest in the fourth quarter due to end-use market seasonality, primarily in PPG's architectural coatings businesses. Demand for PPG's architectural coatings products is typically strongest in the second and third quarters due to higher home improvement, maintenance and construction activity during the spring and summer months in the U.S., Canada and Europe. The Latin America paint season is strongest in the fourth quarter. These higher activity levels result in higher outstanding receivables that are collected in the fourth quarter generating higher fourth quarter cash flow.

Employee Relations

The average number of persons employed worldwide by PPG during 2014 was about 44,400. The Company has numerous collective bargaining agreements throughout the world. We observe local customs, legislation and practice in labor relations when negotiating collective bargaining agreements. There were no significant work stoppages in 2014. While we have experienced occasional work stoppages as a result of the collective bargaining process and may experience some work stoppages in the future, we believe we will be able to negotiate all labor agreements on satisfactory terms. To date, these work stoppages have not had a significant impact on PPG's operating results. Overall, the Company believes it has good relationships with its employees.

Environmental Matters

PPG is subject to existing and evolving standards relating to protection of the environment. PPG is negotiating with various government agencies concerning 126 current and former manufacturing sites and offsite waste disposal locations, including 24 sites on the National Priority List. While PPG is not generally a major contributor of wastes to these offsite waste disposal locations, each potentially responsible party may face governmental agency assertions of joint and several liability. Generally, however, a final allocation of costs is made based on relative contributions of wastes to the site. There is a wide range of cost estimates for cleanup of these sites, due largely to uncertainties as to the nature and extent of their condition and the methods that may have to be employed for their remediation. The Company has established reserves for onsite and offsite remediation of those sites where it is probable that a liability

has been incurred and the amount can be reasonably estimated.

The Company's experience to date regarding environmental matters leads it to believe that it will have continuing expenditures for compliance with provisions regulating the protection of the environment and for present and future remediation efforts at waste and plant sites. Management anticipates that such expenditures will occur over an extended period of time.

In addition to the $317 million currently reserved for environmental remediation efforts, we may be subject to loss contingencies related to environmental matters estimated to be approximately $75 million to $200 million. These reasonably possible unreserved losses relate to environmental matters at a number of sites. The loss contingencies related to these sites include significant unresolved issues such as the nature and extent of contamination at these sites and the methods that may have to be employed to remediate them.

Capital expenditures for environmental control projects were $14 million, $22 million and $12 million in 2014, 2013 and 2012, respectively. It is expected that expenditures for such projects in 2015 will be in the range of $30 million to $40 million. Although future capital expenditures are difficult to estimate accurately because of constantly changing regulatory standards and policies, it can be

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anticipated that environmental control standards will become increasingly stringent and the cost of compliance will increase.

In management's opinion, the Company operates in an environmentally sound manner, is well positioned, relative to environmental matters, within the industries in which it operates and the outcome of these environmental contingencies will not have a material adverse effect on PPG's financial position or liquidity; however, any such outcome may be material to the results of operations of any particular period in which costs, if any, are recognized. See Note 13, "Commitments and Contingent Liabilities," under Item 8 of this Form 10-K for additional information related to environmental matters and our accrued liability for estimated environmental remediation costs.

Public and governmental concerns related to climate change continue to grow, leading to efforts to limit the greenhouse gas ("GHG") emissions believed to be responsible. While PPG has operations in many countries, a substantial portion of PPG's GHG emissions are generated by locations in the U.S., where considerable legislative and regulatory activity has been taking place. PPG has, and will continue to, annually report our global GHG emissions to the voluntary Carbon Disclosure project.

Energy prices and availability of supply continue to be a concern for major energy users. Since PPG's GHG emissions arise principally from combustion of fossil fuels, PPG has for some time recognized the desirability of reducing energy consumption and GHG generation. From 2012 to 2013, energy consumption was reduced by 36% and GHG emission generation was reduced by 33%. PPG's total annual energy consumption and GHG emissions were significantly reduced as a result of the separation of its commodity chemicals business in January 2013. From 2013 to 2014, energy consumption was reduced by 8% and GHG emission generation was reduced by 10%.

PPG participates in both the U.S. Department of Energy ("DOE"), BETTER BUILDINGS®, BETTER PLANTS® program, formerly the Saving Energy Now Leadership program, and the Environmental Protection Agency (EPA) Energy Star Industrial Partnership program, both reinforcing the company's voluntary efforts to significantly reduce its industrial energy intensity. These programs include developing and implementing energy management processes and setting energy savings targets while providing a suite of educational, training, and technical resources to help meet those targets. Recognizing the continuing importance of this matter, PPG has a senior management group with a mandate to guide the Company's progress in this area.

PPG's public disclosure on energy security and climate change can be viewed in our Sustainability Report at www.ppg.com/sustainability or at the Carbon Disclosure Project www.cdproject.net.

Available Information

The Company's website address is www.ppg.com. The Company posts, and shareholders may access without charge, the Company's recent filings and any amendments thereto of its annual reports on Form 10-K, quarterly reports on Form 10-Q and its proxy statements as soon as reasonably practicable after such reports are filed with the Securities and Exchange Commission ("SEC"). The Company also posts all financial press releases, including earnings releases, to its website. All other reports filed or furnished to the SEC, including reports on Form 8-K, are available via direct link on PPG's website to the SEC's website, www.sec.gov. Reference to the Company's and SEC's websites herein does not incorporate by reference any information contained on those websites and such information should not be considered part of this Form 10-K.

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Item 1A. Risk Factors

As a global manufacturer of coatings, specialty materials and glass products, we operate in a business environment that includes risks. These risks are not unlike the risks we have faced in the recent past nor are they unlike risks faced by our competitors. Each of the risks described in this section could adversely affect our operating results, financial position and liquidity. While the factors listed here are considered to be the more significant factors, no such list should be considered to be a complete statement of all potential risks and uncertainties. Unlisted factors may present significant additional obstacles which may adversely affect our businesses and our results of operations.

Increases in prices and declines in the availability of raw materials could negatively impact our financial results.

Our financial results are significantly affected by the cost of raw materials. Coatings raw materials, which include both organic, primarily petroleum based, materials and inorganic materials, including titanium dioxide, generally comprise between 70% and 80% of cost of goods, exclusive of depreciation and amortization, sold in most coatings formulations and represent PPG's single largest production cost component.

While not our customary practice, we also import raw materials and intermediates, particularly for use at our manufacturing facilities in the emerging regions of the world. In most cases, those imports are priced in the currency of the supplier and, therefore, if that currency strengthens against the currency of our manufacturing facility, our margins may be lower.

Most of our raw materials are purchased from outside sources, and the Company has made, and plans to continue to make, supply arrangements to meet the planned operating requirements for the future. Adequate supply of critical raw materials is managed by establishing contracts, procuring from multiple sources, and identifying alternative materials or technology whenever possible. The Company is continuing its aggressive sourcing initiatives to effectively broaden our supply of high quality raw materials. These initiatives include qualifying multiple and local sources of supply, including suppliers from Asia and other lower cost regions of the world and a reduction in the amount of titanium dioxide used in our product formulations. Our products use both petroleum-derived and bio-based materials as part of a product renewal strategy.

An inability to obtain critical raw materials would adversely impact our ability to produce products. Increases in the cost of raw materials may have an adverse effect on our income from continuing operations or cash flow in the event we are unable to offset these higher costs in a timely manner.

The pace of economic growth and level of uncertainty could have a negative impact on our results of operations and cash flows.

During 2014, overall economic conditions remained mixed among the major global economies. Demand was also varied

by major coatings end-use markets, however, we realized global growth in nearly all end-use categories.

We anticipate growth will remain the strongest in the U.S. and Canadian economies, including a further strengthening of growth that started in 2014 in non-residential construction. We also expect increased global demand in the automotive OEM and aerospace industries. Emerging regions growth is expected to remain mixed, but we expect PPG to post solid aggregate growth based on the specific end use-markets we supply. Our base case assumption is that European growth will remain mixed by country but subdued overall, but European economies may benefit from lower global energy prices.

PPG provides products and services to a variety of end-use markets in many geographies. This broad end-use market exposure and expanded geographic presence lessens the significance of any individual decrease in activity levels; nonetheless, lower demand levels may result in lower sales, which would result in reduced income from continuing operations and cash flows.

We are subject to existing and evolving standards relating to the protection of the environment.

Environmental laws and regulations control, among other things, the discharge of pollutants into the air and water, the handling, use, treatment, storage and clean-up of hazardous and non-hazardous waste, the investigation and remediation of soil and groundwater affected by hazardous substances, and regulate various health and safety matters. The environmental laws and regulations we are subject to impose liability for the costs of, and damages resulting

from, cleaning up current sites, past spills, disposals and other releases of hazardous substances. Violations of these laws and regulations can also result in fines and penalties. Future environmental laws and regulations may require substantial capital expenditures or may require or cause us to modify or curtail our operations, which may have a material adverse impact on our business, financial condition and results of operations.

As described in Note 13, “Commitments and Contingent Liabilities,” under Item 8 of this Form 10-K, we are currently undertaking environmental remediation activities at a number of our current and former facilities and properties, the cost of which is substantial. In addition to the amounts currently reserved, we may be subject to loss contingencies related to environmental matters estimated to be as much as $75 million to $200 million. Such unreserved losses are reasonably possible but are not currently considered to be probable of occurrence.

We are involved in a number of lawsuits and claims, and we may be involved in future lawsuits and claims, in which substantial monetary damages are sought.

PPG is involved in a number of lawsuits and claims, both actual and potential in which substantial monetary damages are sought. Those lawsuits and claims relate to contract, patent, environmental, product liability, antitrust and other matters arising out of the conduct of PPG’s current and past business activities. Any such claims, whether with or without merit, could be time consuming, expensive to defend and

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could divert management's attention and resources. We maintain insurance against some, but not all, of these potential claims, and the levels of insurance we do maintain may not be adequate to fully cover any and all losses. We believe that, in the aggregate, the outcome of all current lawsuits and claims involving PPG, including asbestos-related claims in the event the settlement described in Note 13, "Commitments and Contingent Liabilities" under Item 8 of this Form 10-K does not become effective, will not have a material effect on PPG's consolidated financial position or liquidity; however, such outcome may be material to the results of operations of any particular period in which costs, if any, are recognized. Nonetheless, the results of any future litigation or claims are inherently unpredictable, but such outcomes could have a material adverse effect on our results of operations, cash flow or financial condition.

Fluctuations in foreign currency exchange rates could affect our financial results.

We earn revenues, pay expenses, own assets and incur liabilities in countries using currencies other than the U.S. dollar. Because our consolidated financial statements are presented in U.S. dollars, we must translate revenues and expenses into U.S. dollars at the average exchange rate during each reporting period, as well as assets and liabilities into U.S. dollars at exchange rates in effect at the end of each reporting period. Therefore, increases or decreases in the value of the U.S. dollar against other major currencies will affect our net revenues, operating income and the value of balance sheet items denominated in foreign currencies. We use derivative financial instruments to reduce our net exposure to currency exchange rate fluctuations related to foreign currency transactions. However, fluctuations in foreign currency exchange rates, particularly the strengthening of the U.S. dollar against major currencies, could materially affect our financial results expressed in U.S. dollars.

For over 30 years, we have been a defendant in lawsuits involving claims alleging personal injury from exposure to asbestos.

Most of our potential exposure relates to allegations by plaintiffs that PPG should be liable for injuries involving asbestos containing thermal insulation products manufactured by Pittsburgh Corning Corporation ("PC"). PPG is a 50% shareholder of PC. Although we have entered into a settlement arrangement with several parties concerning these asbestos claims as discussed in Note 13, "Commitments and Contingent Liabilities," under Item 8 of this Form 10-K, the arrangement remains subject to court proceedings and, if not approved, the outcome could be material to the results of operations of any particular period.

We are subject to a variety of complex U.S. and non-U.S. laws and regulations which could increase our compliance costs.

We are subject to a wide variety of complex U.S. and non-U.S. laws and regulations, and legal compliance risks, including securities laws, tax laws, environmental laws, employment and pension-related laws, competition laws, U.S. and foreign export and trading laws, and laws governing improper business practices, including bribery. We are affected by new laws and regulations and changes to existing laws and

regulations, including interpretations by courts and regulators. These laws and regulations effectively expand our compliance obligations and potential enforcement actions by governmental authorities or litigation related to them. New laws and regulations or changes in existing laws or regulations or their interpretation could increase our compliance costs. For example, regulations concerning the composition, use and transport of chemical products continue to evolve. Developments concerning these regulations could potentially impact the availability or viability of some of the raw materials we use in our product formulations and/or our ability to supply certain products to some customers or markets. Import/export regulations also continue to evolve and could result in increased compliance costs, slower product movements or additional complexity in our supply chains.

Our international operations expose us to additional risks and uncertainties that could affect our financial results.

PPG has a significant investment in global operations. This broad geographic footprint serves to lessen the significance of economic impacts occurring in any one region. Notwithstanding the benefits of geographic diversification, our ability to achieve and maintain profitable growth in international markets is subject to risks related to the differing legal, political, social and regulatory requirements and economic conditions of many countries. As a result of our expansion outside the U.S., we are subject to certain inherent risks, including political and economic uncertainty, inflation rates, exchange rates, trade protection measures, local labor conditions and laws, restrictions on foreign investments and repatriation of earnings, and weak intellectual property protection. Our percentage of sales

generated in 2014 by products sold outside the U.S. was approximately 59%.

Business disruptions could have a negative impact on our results of operations and financial condition.

Unexpected events, including supply disruptions, temporary plant and/or power outages, work stoppages, natural disasters and severe weather events, computer system disruptions, fires, war or terrorist activities, could increase the cost of doing business or otherwise harm the operations of PPG, our customers and our suppliers. It is not possible for us to predict the occurrence or consequence of any such events. However, such events could reduce demand for our products or make it difficult or impossible for us to receive raw materials from suppliers or to deliver products to customers.

Failure to successfully integrate acquired businesses into our existing operations could adversely affect our financial results.

Part of the Company's strategy is growth through acquisitions, and we will likely acquire additional businesses and enter into additional joint ventures in the future. Growth through acquisitions and the formation of joint ventures involve risks, including:

- difficulties in assimilating acquired companies and products into our existing business;
- delays in realizing the benefits from the acquired companies or products;
- diversion of our management’s time and attention from other business concerns;

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- difficulties due to lack of or limited prior experience in any new markets we may enter;
- unforeseen claims and liabilities, including unexpected environmental exposures or product liability;
- unexpected losses of customers or suppliers of the acquired or existing business;
- difficulty in conforming the acquired business' standards, processes, procedures and controls to those of our operations; and
- difficulties in retaining key employees of the acquired businesses.

Our failure to address these risks or other problems encountered in connection with our past or future acquisitions and joint ventures could cause us to fail to realize the anticipated benefits of such acquisitions or joint ventures and could adversely affect our results of operations, cash flow or financial condition.

Our ability to understand our customers' specific preferences and requirements, and to innovate, develop, produce and market products that meet customer demand is critical to our business results.

Our business relies on continued global demand for our brands and products. To achieve business goals, we must develop and sell products that appeal to customers. This is dependent on a number of factors, including our ability to produce products that meet the quality, performance and price expectations of our customers and our ability to develop effective sales, advertising and marketing programs. Future growth will depend on our ability to continue to innovate our existing products and to develop and introduce new products. If we fail to keep pace with product innovation on a competitive basis or to predict market demands for our products, our business, financial condition and results of operations could be adversely affected.

The industries in which we operate are highly competitive.

With each of our businesses, an increase in competition may cause us to lose market share, lose a large regional or global customer, or compel us to reduce prices to remain competitive, which could result in reduced margins for our products. Competitive pressures may not only reduce our margins but may also impact our revenues and our growth which could adversely affect our results of operations.

The security of our information technology systems could be compromised, which could adversely affect our ability to operate.

Increased global information technology security requirements, threats and sophisticated and targeted computer crime pose a risk to the security of our systems, networks and the confidentiality, availability and integrity of our data. Despite our efforts to protect sensitive information and confidential and personal data, our facilities and systems may be vulnerable to security breaches. This could lead to negative publicity, theft, modification or destruction of proprietary information or key information, manufacture of defective products, production downtimes and operational disruptions, which could adversely affect our reputation, competitiveness and results of operations.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

The Company's corporate headquarters is located in Pittsburgh, Pa. The Company's manufacturing facilities, sales offices, research and development centers and distribution centers are located throughout the world. As of February 19, 2015, the Company operated 141 manufacturing facilities in 44 countries, and the principal manufacturing and distribution facilities were as follows:

Performance Coatings:	Amsterdam, Netherlands; Birstall, United Kingdom; Budapest, Hungary; Carrollton, Texas; Clayton, Australia; Delaware, Ohio; Duerne, Belgium; Dover, Del.; Huntsville, Ala.; Huron, Ohio; Irvine, Calif.; Kunshan, China; Little Rock, Ark.; Milan, Italy; Mojave, Calif.; Moreuil, France; Sylmar, Calif.; Soborg, Denmark; Stowmarket, United Kingdom; Tepexpan, Mexico; Ulsan, Korea; Wroclaw, Poland; about 900 company-owned stores in North America; about 675 company-owned stores in the EMEA region, including 212 stores in France and 189 stores in the United Kingdom; and

	about 40 company-owned stores in Australia.
Industrial Coatings:	Barberton, Ohio; Busan, South Korea; Cieszyn, Poland; Cleveland, Ohio; Lake Charles, La.; Oak Creek, Wis.; Quattordio, Italy; San Juan del Rio, Mexico; Sumaré, Brazil; Tianjin, China, and Zhangjiagang, China
Glass:	Carlisle, Pa.; Hoogezand, Netherlands; Lexington, N.C.; Shelby, N.C.; Fresno, Ca. and Wichita Falls, Texas

Including the principal manufacturing facilities noted above, the Company has manufacturing facilities in the following geographic areas:

United States:	38 manufacturing facilities in 20 states.
Other Americas:	21 manufacturing facilities in 5 countries.
EMEA:	58 manufacturing facilities in 29 countries.
Asia:	24 manufacturing facilities in 9 countries.

The Company’s principal research and development centers are located in Allison Park, Pa.; Harmarville, Pa.; Monroeville, Pa.; Shelby, Nc.; Burbank, Ca. and Tepexpan, Mexico.

The Company’s headquarters, certain distribution centers and substantially all company-owned paint stores are located in facilities that are leased while the Company’s other facilities are generally owned. Our facilities are considered to be suitable and adequate for the purposes for which they are intended and overall have sufficient capacity to conduct business in the upcoming year.

Item 3. Legal Proceedings

PPG is involved in a number of lawsuits and claims, both actual and potential, including some that it has asserted against others, in which substantial monetary damages are sought. These lawsuits and claims, the most significant of which are described below, relate to contract, patent, environmental, product liability, antitrust and other matters arising out of the conduct of PPG’s current and past business activities. To the extent that these lawsuits and claims involve personal injury and property damage, PPG believes it has adequate insurance; however, certain of PPG’s insurers are contesting coverage

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with respect to some of these claims, and other insurers, as they had prior to the asbestos settlement described below, may contest coverage with respect to some of the asbestos claims if the settlement is not implemented. PPG's lawsuits and claims against others include claims against insurers and other third parties with respect to actual and contingent losses related to environmental, asbestos and other matters.

The results of any future litigation and claims are inherently unpredictable. However, management believes that, in the aggregate, the outcome of all lawsuits and claims involving PPG, including asbestos-related claims in the event the settlement does not become effective, will not have a material effect on PPG's consolidated financial position or liquidity; however, such outcome may be material to the results of operations of any particular period in which costs, if any, are recognized.

For over 30 years, PPG has been a defendant in lawsuits involving claims alleging personal injury from exposure to asbestos. For a description of asbestos litigation affecting the Company and the terms and status of the proposed asbestos settlement arrangement, see Note 13, "Commitments and Contingent Liabilities" under Item 8 of this Form 10-K.

In the past, the Company and others have been named as defendants in several cases in various jurisdictions claiming damages related to exposure to lead and remediation of lead-based coatings applications. PPG has been dismissed as a defendant from most of these lawsuits and has never been found liable in any of these cases.

Executive Officers of the Company

Set forth below is information related to the Company's executive officers as of February 19, 2015.

Name	Age	Title
Charles E. Bunch	65	Chairman and Chief Executive Officer since July 2005
Michael H. McGarry [(a)]	56	Chief Operating Officer since August 2014
Viktoras R. Sekmakas [(b)]	54	Executive Vice President since September 2012
Frank S. Sklarsky [(c)]	58	Executive Vice President and Chief Financial Officer since August 2013
Glenn E. Bost II [(d)]	63	Senior Vice President and General Counsel since July 2010
David B. Navikas [(e)]	64	Senior Vice President, Strategic Planning and Corporate Development since August 2013
Cynthia A. Niekamp [(f)]	55	Senior Vice President, Automotive Coatings since August 2010

(a) McGarry has executive oversight responsibility for all of PPG's strategic business units and operating regions and for the global Information Technology (IT), Environment, Health and Safety, and Purchasing and Logistics functions. From February 2013 until August 2014, Mr. McGarry was responsible for leading the Architectural Coatings-EMEA (Europe, Middle East and Africa) segment, the architectural coatings Americas and Asia Pacific businesses, the flat glass business and the EMEA region. His responsibilities also included the global Information Technology, Environmental Health and Safety and Corporate Quality functions. From September 2012 until February 2013, he was responsible for the global aerospace and automotive refinish businesses. Mr. McGarry led the Commodity Chemicals segment from July 2008 until the separation of that business on January 28, 2013. He held the positions of Executive Vice President from September 2012 through July 2014 and Senior Vice President, Commodity Chemicals from July 2008 until August 2012.

(b) Mr. Sekmakas is responsible for leading the industrial coatings, packaging coatings, flat glass, fiber glass and specialty coatings and

materials businesses, the Asia Pacific region and has managerial responsibility for the Purchasing and Logistics function. From September 2012 until February 2013, he was responsible for the industrial coatings, packaging coatings and protective and marine coatings businesses and the EMEA region. Previously, he held the following leadership positions: Senior Vice President, industrial coatings and President, Europe from September 2011 until August 2012; Senior Vice President, industrial coatings and President, Asia Pacific coatings from August 2010 until September 2011; Vice President industrial coatings and President, Asia Pacific coatings from March 2010 until August 2010; and President PPG Asia Pacific from July 2008 until March 2010.

(c)

Mr. Sklarsky was appointed Executive Vice President, Finance, in April 2013 when he joined PPG. Prior to joining PPG, Mr. Sklarsky was Executive Vice President and Chief Financial Officer of Tyco International, Ltd. from December 2010 until September 2012, and was Executive Vice President and Chief Financial Officer of Eastman Kodak Company from November 2006 until December 2010.

(d) Mr. Bost held the position of Vice President and Associate General Counsel from July 2006 through June 2010.

(e) Mr. Navikas held the position of Senior Vice President, Finance and Chief Financial Officer from June 2011 until August 2013. From March 2000 until June 2011, he held the position of Vice President and Controller. Mr. Navikas has announced his intention to retire effective March 1, 2015.

(f) Ms. Niekamp is responsible for the automotive OEM coatings business and the Latin America regions. Ms. Niekamp was appointed Vice President, Automotive Coatings in January 2009 when she joined PPG from BorgWarner, Inc.

Item 4. Mine Safety Disclosures

Not Applicable.

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Part II

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

The information required by Item 5 regarding market information, including stock exchange listings and quarterly stock market prices, dividends and holders of common stock is included in Exhibit 13.1 filed with this Form 10-K and is incorporated herein by reference. This information is also included in the PPG Shareholder Information on page 5 of the Annual Report to shareholders.

Directors who are not also officers of the Company receive common stock equivalents pursuant to the PPG Industries, Inc., Deferred Compensation Plan for Directors (“PPG Deferred Compensation Plan for Directors”). Common stock equivalents are hypothetical shares of common stock having a value on any given date equal to the value of a share of common stock. Common stock equivalents earn dividend equivalents that are converted into additional common stock equivalents but carry no voting rights or other rights afforded to a holder of common stock. The common stock equivalents credited to directors under this plan are exempt from registration under Section 4(2) of the Securities Act of 1933 as private offerings made only to directors of the Company in accordance with the provisions of the plan. Under the PPG Deferred Compensation Plan for Directors, each director may elect to defer the receipt of all or any portion of the compensation paid to such director for serving as a PPG director. All deferred payments are held in the form of common stock equivalents. Payments out of the deferred accounts are made in the form of common stock of the Company (and cash as to any fractional common stock equivalent). The directors, as a group, were credited with 12,862; 16,770; and 30,491 common stock equivalents in 2014, 2013 and 2012, respectively, under this plan. The values of the common stock equivalents, when credited, ranged from $191.17 to $219.82 in 2014, $138.55 to $183.92 in 2013 and $85.12 to $124.55 in 2012.

Issuer Purchases of Equity Securities

Month	Total Number of Shares Purchased	Avg. Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Programs [1]	Max. Number of Shares That May Yet Be Purchased Under the Programs
October 2014				
Repurchase program	364,049	$189.59	364,049	6,714,246
November 2014				
Repurchase program	413,084	$209.57	413,084	6,301,162
December 2014				
Repurchase program	642,876	$225.11	642,876	5,658,286
Total quarter ended December 31, 2014				
Repurchase program	1,420,009	$211.48	1,420,009	5,658,286

[1] In April 2014, PPG's board of directors authorized a $2 billion repurchase program. The remaining shares that may yet to be purchased under the $2 billion repurchase program have been calculated based upon PPG's closing stock price on the last business day of the respective month. These repurchase programs have no expiration date.

No shares were withheld or certified in satisfaction of the exercise price and/or tax withholding obligation by holders of employee stock options who exercised options granted under the Company's equity compensation plans in the fourth quarter of 2014.

Item 6. Selected Financial Data

The information required by Item 6 regarding the selected financial data for the five years ended December 31, 2014 is included in Exhibit 13.2 filed with this Form 10-K and is incorporated herein by reference. This information is also reported in the Five-Year Digest on page 86 of the Annual Report to shareholders.

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

Strategic Transformation

During 2014 and 2013, PPG has completed several steps in its strategic transformation into a more focused coatings and specialty materials company.

In November 2014, PPG completed the acquisition of Comex, an architectural coatings company headquartered in Mexico City, Mexico. Comex manufactures coatings and related products in Mexico and sells them in Mexico and Central America principally through approximately 3,700 stores that are independently owned and operated by more than 700 concessionaires.

In March 2014, PPG completed the sale of its 51% ownership interest in its Transitions Optical joint venture and 100% of its optical sunlens business to Essilor.

In April 2013, PPG completed the acquisition of the North American architectural coatings business of Akzo Nobel N.V. The acquisition included the purchase of a number of leading brands and 526 paint stores, net of redundant store closures, in the U.S., Canada and the Caribbean.

In January 2013, PPG completed the separation of its commodity chemicals business and the merger of the subsidiary holding the PPG commodity chemicals business with a subsidiary of Georgia Gulf Corporation ("Georgia Gulf").

Refer to Note 2, "Acquisitions and Dispositions" under Item 8 of this Form 10-K for financial information relating to these transactions.

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Performance in 2014 compared with 2013

Performance Overview

Net sales increased $1.1 billion, or 8%, from the prior year to $15,360 million primarily due to sales from acquired businesses (4%), higher sales volumes (3%) and higher selling prices (1%). Acquired businesses added about $600 million of sales in 2014, primarily due to the first quarter 2014 sales of the acquired Akzo Nobel North American architectural coatings business which closed in April 2013, as well as two months of sales of the acquired Comex business which closed in early November 2014. Additionally, the Company completed several other smaller acquisitions in 2014 and 2013, for which partial year impacts are included in the 2014 results. Year-over-year sales volumes, excluding acquisition-related impacts, were fairly consistent across all regions advancing 3.5% overall. The sales growth was led by a 4.3% improvement in the U.S. and Canada, with growth rates generally uniform each quarter of the year. Asia-Pacific sales also grew 3.9%, and Latin America sales grew 3.5% year-over-year. Sales for the Europe, Middle-East and Africa region grew 2.4%, with growth primarily occurring in the first half of the year. Pricing advanced slightly in aggregate, with a focus on offsetting cost inflation.

Cost of sales, exclusive of depreciation and amortization, increased $477 million, or 6%, from the prior year to $8,791 million primarily due to higher sales volumes and the inclusion of cost of sales from acquired businesses partially offset by lower manufacturing costs and the impact of foreign currency translation. Cost of sales as a percentage of sales improved 1% to 57% in 2014 compared to 58% in 2013.

Selling, general and administrative expenses increased $272 million, or 8%, from the prior year to $3,758 million, primarily due to the inclusion of acquired businesses and overhead cost inflation. Selling, general and administrative expenses as a percentage of sales was 24.5% in 2014 and 24.4% in 2013.

In 2013, the Company recorded a pre-tax restructuring charge of $98 million related to a restructuring plan focused on achieving cost synergies through improved productivity and efficiencies. The restructuring plan primarily related to the acquired Akzo Nobel North American architectural coatings business, but also included smaller targeted actions for PPG's legacy architectural business, as well as other businesses where market conditions remain very challenging, most notably protective and marine coatings and certain European businesses such as architectural coatings and fiber glass.

In the fourth quarter 2014, the Company recorded a pre-tax charge of $317 million representing costs related to a debt refinancing undertaken to lower the Company's future interest costs. The charge consists of an aggregate make-whole cash premium of $179 million for the redemption of public notes, an aggregate cash premium of $43 million for debt redeemed through a tender offer, a realization of net unamortized losses of $89 million on interest rate swaps and forward starting swaps, and a balance of unamortized fees and discounts of $6 million related to the debt redeemed. Refer to Note 8, "Borrowings and Lines of Credit" in Item 8 of this Form 10-K for additional information.

Other charges increased $32 million from the prior year to $221 million primarily due to higher legacy environmental remediation charges. The Company recorded pre-tax

environmental charges for the environmental remediation at a former chromium manufacturing plant and associated sites in New Jersey of $136 million and $89 million in 2014 and 2013, respectively.

Other income increased $133 million from the prior year to $260 million due primarily to gains realized on the sales of assets by an equity affiliate and our flat glass business.

The effective tax rate on income before income taxes was 18.3% and 20.6% in 2014 and 2013, respectively. The Company's adjusted effective tax rate on income before income taxes, excluding certain nonrecurring charges was 23.9% in 2014 and 23.1% in 2013. See the Regulation G reconciliation below for details of PPG's adjusted effective tax rate from continuing operations.

Diluted earnings-per-share for the year ended December 31, 2014 were $15.03, comprised of net income from continuing operations of $8.10 and discontinued operations, net of tax of $6.93. These diluted earnings per share from continuing operations compare to $6.55 in the year ended December 31, 2013. Operationally, each reporting segment delivered earnings growth of at least 15%. The Company benefited from the 5.7 million shares of stock repurchased in 2013 as well as the 3.8 million shares of stock repurchased during 2014. The diluted earnings per share from discontinued operations relates to the Transitions Optical joint venture and sunlens business which were sold in March

of 2014.

Regulation G Reconciliation - Results from Operations

PPG Industries believes investors' understanding of the Company's operating performance is enhanced by the disclosure of income before income taxes, PPG's effective tax rate, tax expense, net income from continuing operations and earnings per diluted share adjusted for nonrecurring charges. PPG's management considers this information useful in providing insight into the company's ongoing operating performance because it excludes the impact of items that cannot reasonably be expected to recur on an ongoing basis. Income before income taxes, the effective tax rate, tax expense, net income from continuing operations and earnings per diluted share adjusted for these items are not recognized financial measures determined in accordance with U.S. generally accepted accounting principles ("GAAP") and should not be considered a substitute for income before income taxes, the effective tax rate, tax expense, net income from continuing operations or earnings per diluted share or other financial measures as computed in accordance with U.S. GAAP. In addition, adjusted income before income taxes, adjusted effective tax rate, adjusted tax expense, adjusted net income from continuing operations and adjusted earnings per diluted share from continuing operations may not be comparable to similarly titled measures as reported by other companies.

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Income before income taxes is reconciled to adjusted income before income taxes below:

	Years-ended December 31	
($ in millions, except per share amounts)	2014	2013
Income before income taxes	$1,416	$1,226
Income before income taxes includes:		
Charges related to business restructuring	—	98
Charge related to debt refinancing	317	—
Charges related to environmental remediation	138	101
Charges related to transaction-related costs	62	36
Gain on asset dispositions	(116)	—
Pension settlement costs	7	18
Adjusted income before income taxes	$1,824	$1,479

The effective tax rate from continuing operations is reconciled to the adjusted effective tax rate from continuing operations below:

Year-ended December 31, 2014

($ in millions, except per share amounts)	Income Before Income Taxes	Tax Expense	Effective Tax Rate	
Effective tax rate, continuing operations	$1,416	$259	18.3	%
Includes:				
Charge related to debt refinancing	317	117	36.9	%
Charges related to environmental remediation	138	52	37.7	%
Charges related to transaction-related costs	62	20	32.3	%
Gain on asset dispositions	(116)	(43)	37.1	%
Pension settlement costs	7	2	28.6	%
Favorable foreign tax ruling	—	29		
Adjusted effective tax rate, continuing operations, excluding certain charges	$1,824	$436	23.9	%

Year-ended December 31, 2013

($ in millions, except per share amounts)	Income Before Income Taxes	Tax Expense	Effective Tax Rate	
Effective tax rate, continuing operations	$1,226	$253	20.6	%
Includes:				
Charges related to business restructuring	98	25	25.5	%
Charges related to environmental remediation	101	37	36.6	%
Charges related to transaction-related costs	36	12	33.3	%
Legacy pension settlement costs	18	5	27.8	%
U.S. tax law change enacted in 2013	—	10		
Adjusted effective tax rate, continuing operations, excluding certain charges	$1,479	$342	23.1	%

Net income (attributable to PPG) and earnings per share – assuming dilution (attributable to PPG) are reconciled to adjusted net income (attributable to PPG) and adjusted earnings per share – assuming dilution below:

Year-ended December 31, 2014

($ in millions, except per share amounts)	$	EPS
Net income from continuing operations (attributable to PPG)	$1,133	$8.10
Net income from continuing operations (attributable to PPG) includes:		
Charge related to debt refinancing	200	1.44
Charges related to environmental remediation	86	0.61

Charges related to transaction-related costs	42	0.30
Gain on asset dispositions	(73)	(0.52)
Pension settlement costs	5	0.03
Favorable foreign tax ruling	(29)	(0.21)
Adjusted net income from continuing operations (attributable to PPG)	$1,364	$9.75

Year-ended December 31, 2013		
($ in millions, except per share amounts)	$	EPS
Net income from continuing operations (attributable to PPG)	$950	$6.55
Net income from continuing operations (attributable to PPG) includes:		
Charges related to business restructuring	73	0.50
Charges related to environmental remediation	64	0.44
Charges related to transaction-related costs	24	0.16
Legacy pension settlement costs	13	0.09
U.S. tax law change enacted in 2013	(10)	(0.07)
Adjusted net income from continuing operations (attributable to PPG)	$1,114	$7.67

Results of Reportable Business Segments

	Net sales		Segment income	
($ in millions)	2014	2013	2014	2013
Performance Coatings	$8,698	$7,934	$1,205	$1,043
Industrial Coatings	5,552	5,264	951	824
Glass	1,110	1,067	81	56

Performance of Reportable Business Segments

Performance Coatings

Performance Coatings net sales increased $764 million, or approximately 10% from 2013, to $8,698 million primarily due to net sales from acquisitions, including the Akzo Nobel North American architectural coatings acquisition and Comex, partially offset by unfavorable currency translation. Acquisitions contributed an 8% increase in net sales for the year. Prices increased modestly, and segment volumes, excluding acquisitions, advanced nearly 2% across all major regions.

Architectural coatings-EMEA sales volumes improved by low-single digit percentages year-over-year aided by partial demand recovery in some regions and in comparison to strengthening prior year levels. Sales volume improvement occurred early in the year, aided by favorable weather conditions,

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which was partially offset by lower year-over-year sales volumes late in the year.

The protective and marine coatings business experienced modest sales improvement, driven primarily by sales volume increases in the North American and European protective markets. Marine new-build sales volumes were negative early in the year, but positive late in the year.

The aerospace and automotive refinish businesses both delivered slightly higher sales volumes year-over-year in each major region. Demand trends in the overall aerospace industry continued to remain favorable globally. Refinish growth was supported by higher emerging region activity and solid growth in the developed regions, including benefits from the expansion of the vehicle parc in Asia, higher North American demand and a partial demand recovery in Europe. Excluding the impacts of acquisitions and currency, architectural coatings, America and Asia Pacific, net sales were up modestly year over year.

Segment income increased $162 million, or 16% from the prior year, to $1,205 million primarily due to the increase in net sales and acquisitions, including the further realization of cost synergies, partially offset by cost inflation.

In the first quarter of 2015, moderate North American architectural coatings market demand growth is expected to continue, including growth in both residential and non-residential end use-markets. The company will be making growth-related investments during 2015 in certain architectural coatings distribution channels in the region. This includes additional sales and marketing efforts and the addition of new company-owned store locations. The protective and marine business is expected to deliver year-over-year sales volume growth in the first quarter of 2015 due to improving Asian marine new build end-use market demand.

Looking forward for the segment, the Comex acquisition is expected to add between $180 to $200 million of sales in the first quarter 2015. Additionally, based on current exchange rates, we expect foreign currency translation to be unfavorable in sequential and year-over-year sales and earnings comparisons.

Industrial Coatings

Industrial Coatings segment net sales increased $288 million, or 6% from the prior year, to $5,552 million primarily due to sales volume growth of 6%. PPG’s global automotive OEM business grew net sales by high single-digit percentages year-over-year, and continued a multi-quarter trend of outperforming global industry growth. PPG continues to benefit from the adoption of new technologies and ongoing focus on customer service and customer process improvement initiatives. Growth accelerated in the industrial coatings business, aided by continued North American and emerging region strength, and European demand remained positive year-over-year. Packaging coatings year-over-year net sales were lower, reflecting continued weakness in Europe. Specialty coatings and materials net sales grew year-over-year aided by higher sales volumes in OLED materials, optical materials, precipitated silicas and Teslin®.

Segment income increased $127 million, or 15% from the year ended December 31, 2013, to $951 million primarily due to the benefit from sales volume growth and improved manufacturing

costs as a result of our continued focus on increased productivity and efficiency.

The Industrial Coatings segment is our most geographically diverse segment and currency translation is expected to negatively impact year-over-year financial results in the first quarter of 2015. On a sequential quarter basis, we expect that higher sales seasonally will be partly offset by unfavorable currency translation as current rates are below fourth quarter average conversion rates for many currencies. Recent global industrial production trends are expected to continue, resulting in generally consistent demand growth for PPG products.

Glass

Glass net sales increased $43 million, or 4% compared to the prior year, to $1,110 million primarily due to higher pricing and sales volumes in flat glass and higher sales volumes in fiber glass. Sales volumes in flat glass reflect improvements in residential and non-residential end-use market demand, partly offset by unfavorable currency translation, primarily the Canadian dollar.

Segment income increased $25 million from 2013, to $81 million as the benefit of manufacturing cost improvements and the impact of improved sales were partially offset by higher costs stemming from scheduled maintenance projects. Higher natural gas-based energy costs early in the year were also a negative factor although this impact declined later in the year.

Looking ahead, overall demand growth is expected to continue in flat glass, as is the favorable value-added product mix. Mixed global fiber glass demand trends are expected to continue. Unfavorable currency translation is also expected sequentially and year-over-year, although the majority of the segment sales are U.S. dollar denominated. The segment will incur higher pension and other post-employment benefits ("OPEB") expense in 2015 versus 2014 stemming from revised mortality assumptions and a lower year-end discount rate. However, year-over-year earnings comparisons will benefit from the absence of first quarter 2014 costs associated with significant plant maintenance projects.

Review and Outlook

During 2014, overall economic conditions remained mixed among the major global economies, with the pace of economic activity in each region fairly constant throughout the year. Demand was also varied by major coatings end-use market; however, we realized global growth in nearly all end-use categories. These economic trends were an important element in PPG’s aggregate sales volume growth of 3.5% compared to the previous year. PPG achieved sales volume growth of greater than 2% in each major region for the year, and sales volume growth improved in every major region versus 2013 growth levels.

Year-over-year sales volumes grew about 4% in the U.S. and Canada in 2014, with sales volume growth adding to strong prior year gains and broad-based growth across many PPG businesses. The U.S. and Canada remained PPG’s largest region representing 47% of 2014 sales. During 2014, industrial activity continued to improve in the region aided by low regional energy costs, continued demand and production increases in several industries, including automotive OEM and aerospace.

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Construction spending in the region continued to recover in a measured manner. U.S. housing starts grew moderately during the year and were supplemented by continued, modest improvement in the residential remodeling market. Non-residential construction demand remained suppressed early in the year but exhibited stronger but inconsistent growth in the latter portion of the year. Although smaller in size, demand growth in the Canadian construction market was also modest. Growth in the region and various end-use markets was also aided somewhat by lower U.S. unemployment rates which improved throughout the year. Falling energy and gasoline prices late in the year are expected to result in improved consumer spending and additional regional growth prospects for PPG entering 2015.
The pace of European economic activity remained subdued in 2014, with the region continuing to face limited employment growth. Industrial production and gross domestic product growth was mixed by country and generally weak across the region. Regional demand was strongest early in the year aided somewhat by modest winter weather conditions, with PPG year-over-year sales volumes advancing by about 5% in the first quarter. Demand trends were more muted for the remainder of the year, with full year regional sales volume growth of 2%. However, the level of demand was not consistent across the various countries in the region, as certain Eastern European countries and the U.K. experienced solid demand growth, while other large countries in the region, including France, remained challenged from a demand perspective. Europe remains a very large region for PPG, representing just under one-third of PPG's 2014 sales. Overall Company sales volumes in the region are still down nearly 20% in comparison to 2008 pre-recession levels, reflecting economic weakness in prior years without any substantive or broad recovery. From a currency perspective, late in the year the Euro weakened considerably against the U.S. dollar. While the regional economy remains muted, a lower Euro may aid exports in 2015. Additionally, global oil prices rapidly descended late in 2014, and the European economies stand to benefit considerably if prices remain at low levels in 2015 given the large level of oil imported in the region and no significant detriment to lower oil pricing given the minimal amount of oil production regionally.
In the aggregate, emerging region economies continued to expand during 2014; however, growth rates varied considerably by country, and overall emerging region economic growth was lower than previous years. The emerging market regions of Asia and Latin America represented 22% of PPG's sales 2014 sales, with Asia the largest emerging region having sales of about $2.5 billion. Company sales volumes increased in Asia overall by about 4%, with China sales volume growth considerably higher. China remained PPG's second largest individual country from a sales perspective in 2014. As a result of the Comex acquisition, PPG has notably expanded our sales in emerging regions. In 2015, Mexico may overtake China as PPG's second largest individual country from a sales perspective. The largest gains in Asia were in the Industrial Coatings segment, including the benefit of just below 10% industry growth in Chinese automotive production. Offsetting these improvements was muted demand in a few end-use markets, including consumer electronics and certain heavy-duty equipment subsectors. Also,

marine new-build activity was lower early in the year, but began to grow later in the year. Demand in the Latin American economies remained erratic due to a variety of economic factors, including high inflation rates and weakening currencies in comparison to the U.S. dollar. PPG's Latin American sales volumes were up 3.5% for the year, with differences by end-use market and country. Heading into 2015, PPG anticipates consistent overall Company sales volume growth in emerging regions supported by more moderate growth in China, and less negative or improving demand in certain other emerging countries.
Looking ahead to 2015, we anticipate growth rates will remain mixed by region, with North American and Asian economies continuing to grow at rates generally consistent with 2014. We anticipate growth will remain the strongest in the U.S. economy, including a further strengthening of initial growth that started in 2014 in non-residential construction. Increased global demand is expected in the automotive OEM and aerospace industries. We expect emerging regions growth to remain mixed, but we expect PPG to post solid aggregate growth based on the specific end-use markets the Company supplies. Our base case assumption is that European growth will remain mixed by country but subdued overall, but that exports may benefit from a weaker Euro versus other currencies and lower global energy pricing.
In April 2013, PPG completed the acquisition of Akzo Nobel's North American architectural coatings business. The Company targeted $200 million in annual savings relating to business synergies stemming from the acquisition.

Throughout 2014 and 2013, PPG executed actions relating to capturing these synergies, and substantially all of the actions were completed by the end of 2014, achieving the targeted annual run-rate savings one year ahead of schedule. We will realize incremental annual saving of about $20 million in 2015, related to synergy capture actions completed during 2014 that will not reach their anniversary until 2015.

During 2014, PPG also finalized substantially all of the actions related to previously announced Company restructuring programs, except for a few remaining actions related to the 2013 restructuring plan which are expected to be completed during the first half of 2015. PPG remains aggressive with respect to cost management, and will continually monitor the company’s cost structure relative to projected regional and end use-market demand levels. The Company will proactively make adjustments to its cost structure as appropriate.

Raw materials are a significant input cost in the manufacture of coatings. PPG typically experiences fluctuating prices for energy and raw materials driven by various factors, including supply and demand imbalances, global industrial activity levels and changes in supplier feedstock costs and inventories. Given the recent volatility in certain energy-based input costs, the Company is not able to predict with certainty the 2015 full year impact of related changes in raw material pricing. Also, given the distribution nature of many of our businesses, logistics and distribution costs are sizable costs, as are wages and benefits but to a lesser degree. For 2014, in aggregate, these cost components were similar year-over-year with certain categories

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increasing, such as logistics costs and wages in certain regions, while others were flat or declined modestly.
Pension and postretirement benefit costs, excluding curtailments and special termination benefits, were $123 million in 2014, down $54 million from $177 million in 2013. In 2015, we expect pension and other postretirement benefit costs to increase by approximately $60 to $65 million due to revised mortality assumptions and a lower liability discount rate as measured at year-end 2014. During 2014, PPG's cash contributions to defined benefit pension plans totaled $41 million. Total cash contributions to global defined benefit pension plans were $174 million and $80 million in 2013 and 2012, respectively. We expect to make mandatory contributions to our non-U.S. plans in the range of $10 million to $20 million in 2015.
In an effort to offset the adverse impact of cost inflation on income from continuing operations, in 2014 the Company implemented modestly higher selling prices, with overall pricing up one-half of one percent for the year. Selective pricing actions are currently planned in 2015, with actions expected to differ by business and region.
A variety of foreign currencies began to weaken in the second half of 2014 versus the U.S. dollar. Based on mid-January 2015 exchange rates, the Company expects year-over-year currency translation will unfavorably impact 2015 sales by $650 million to $750 million, and 2015 earnings by about $65 million to $75 million. Since mid-January, certain foreign currencies have continued to weaken versus the U.S. dollar, thus the unfavorable currency translation impact to 2015 sales and earnings could be larger than the mid-January 2015 ranges stated above. The company generally purchases raw materials, incurs manufacturing cost and sells finished products in the same currency, so it typically incurs more modest transactional-related currency impacts to earnings.
The company expects $55 million of lower net interest expense for 2015 due to a debt refinancing completed in the fourth quarter of 2014, partially offset by lower interest income from lower aggregate cash and short-term investment balances in 2015. The net interest savings will vary by quarter. Year-over-year net interest expense is expected to be approximately $20 million lower in the first quarter, and range from $10 million to $15 million lower in the second, third and fourth quarters.
We expect our ongoing effective tax rate from continuing operations to be in the range of 24.0% to 25.0% in 2015. This rate is slightly higher than the 2014 rate primarily due to the impact of earnings from the acquired business of Comex, which are primarily earned in Mexico, where the statutory tax rate is higher than the Company’s effective global tax rate. Because of the differences in the tax rates in the countries in which we operate, a shift in the geographic mix of earnings will impact our overall ongoing tax rate.
Over the past five years, the Company used $3.3 billion of cash to repurchase about 28 million shares of stock, and the Company ended the year with approximately $1.7 billion remaining under the current authorization from the Board of Directors. PPG announced in January 2014, its intention to

deploy between $3.0 billion and $4.0 billion of incremental cash over an 18 to 24 month period. During 2014, the Company deployed approximately $3.2 billion of cash for acquisitions, including repayment of acquired debt, and share repurchases. In January 2015, the Company announced a new cash deployment target for acquisitions and share repurchases of between $1.5 billion and $2.5 billion for years 2015 and 2016 combined. The Company expects continued strong free cash flow in 2015.
Accounting Standards Adopted in 2014
Note 1, “Summary of Significant Accounting Policies,” under Item 8 describes the Company’s recently adopted accounting pronouncements.
Accounting Standards to be Adopted in Future Years
Note 1, “Summary of Significant Accounting Policies,” under Item 8 describes accounting pronouncements that have been promulgated prior to December 31, 2014 but are not effective until a future date.
Performance in 2013 compared with 2012
Performance Overview
Net sales increased $1,579 million, or 12% from the prior year, to $14,265 million primarily due to sales of acquired businesses, which increased net sales by approximately 10%. The Akzo Nobel North American architectural coatings business acquired in April 2013 contributed approximately $1,165 million in net sales while the acquisitions of Deft, an aerospace coatings business acquired in May 2013, and the Spraylat coatings business acquired in December 2012,

contributed approximately $166 million combined.

Overall sales volumes, excluding acquisitions, were level with the prior year as sales volume growth in the Industrial Coatings and Glass segments as well as the aerospace business was offset by a volume declines in the other businesses in the Performance Coatings segment. Sales volumes were inconsistent by region. The U.S. and Canada and the Latin America regions' sales volumes were up nearly 3% year over year. Growth occurred in many end-use markets in Asia Pacific, although total sales volumes for the region were nearly level year over year due to declines stemming from lower marine new-build end-use market demand. Sales volumes in Europe were down 3% year over year due to weak demand that occurred in the first half of the year. The 2013 volume decline in Europe continued the trend experienced since the recession began in 2009. Higher selling prices added just over 1% to net sales which included the carryover impact from 2012 price increases to offset current year inflation in certain cost components, including increases in transportation, energy and labor costs. The impact of foreign currency translation on net sales was flat for the year, although results were mixed by currency.

Cost of sales, exclusive of depreciation and amortization, increased $715 million, or 9% from the prior year, to $8,314 million primarily due to the inclusion of cost of sales from acquired businesses partially offset by lower manufacturing costs. Cost of sales as a percentage of sales in 2013 was 58.3% compared to 59.9% in 2012. This decrease is largely due to shifts in sales margin mix related to the businesses acquired.

Selling, general and administrative expenses increased by $499 million, or 17% from the prior year, to $3,486 million

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principally related to the inclusion of acquired businesses and overhead cost inflation partly offset by the impact of our continued focus on cost management, including savings from restructuring actions initiated in 2012. As a percent of sales, selling, general and administrative expenses increased slightly to 24.4% in 2013 from 23.5% in 2012 primarily due to the addition of acquired businesses which have higher distribution related costs.

Depreciation expense increased $41 million, or 14% from the prior year, to $333 million primarily due to the depreciation of the acquired businesses.

The pre-tax restructuring charge of $98 million relates to a restructuring plan approved in the third quarter of 2013 focused on achieving cost synergies, through improved productivity and efficiency, related to the acquired North American architectural coatings business, but also includes smaller targeted actions for PPG's legacy architectural business, as well as other businesses where market conditions remain very challenging, most notably protective and marine coatings and certain European businesses such as architectural coatings and fiber glass.

Other charges decreased $34 million, or 15% from the prior year, to $189 million primarily due to lower legacy environmental remediation charges in 2013. In 2013, the largest charge included in other charges relates to a pre-tax charge of $89 million for the environmental remediation at a former chromium manufacturing plant and associated sites in New Jersey and a pre-tax charge of $12 million related to environmental remediation at a legacy chemical manufacturing site. The 2012 other charges included a pre-tax charge of $159 million, related primarily to the environmental remediation at the former chromium manufacturing plant and associated sites in New Jersey.

Other income decreased $11 million, or 8% from the prior year, to $127 million primarily due to lower equity earnings, primarily from our Asian fiber glass joint ventures as a result of a decline in demand in the personal computer market and lower licensing earnings in the Glass segment.

The effective tax rate on income before income taxes was 20.6% and 17.9% in 2013 and 2012, respectively. The Company's adjusted effective tax rate on income before income taxes, excluding certain charges was 23.1% in 2013 and 21.4% in 2012. See the Regulation G reconciliation below for details of PPG's adjusted effective tax rate from continuing operations.

Diluted earnings-per-share for 2013 were $22.27 per-share, comprised of net income from continuing operations of $6.55 per-share and discontinued operations, net of tax of $15.72 per-share. The increase in diluted earnings-per-share resulted from higher net income and a reduction in the number of shares outstanding as a result of the 10.8 million PPG shares tendered to the Company in the exchange offer in connection with the separation and merger of the Company's former commodity chemicals business as well as the approximately 5.7 million shares repurchased during 2013. For more information about the separation and merger of the Company's former commodity chemicals business, see Note 2, “Acquisitions and Dispositions ,” under Item 8 of this Form 10-K.

Regulation G Reconciliation - Results from Operations

PPG Industries believes investors’ understanding of the Company’s operating performance is enhanced by the disclosure of income before income taxes, PPG's effective tax rate, tax expense, net income from continuing operations and earnings per diluted share adjusted for nonrecurring charges. PPG’s management considers this information useful in providing insight into the company’s ongoing operating performance because it excludes the impact of items that cannot reasonably be expected to recur on an ongoing basis. Income before income taxes, the effective tax rate, tax expense, net income from continuing operations and earnings per diluted share adjusted for these items are not recognized financial measures determined in accordance with U.S. generally accepted accounting principles ("GAAP") and should not be considered a substitute for income before income taxes, the effective tax rate, tax expense, net income from continuing operations or earnings per diluted share or other financial measures as computed in accordance with U.S. GAAP. In addition, adjusted income before income taxes, adjusted effective tax rate, adjusted tax expense, adjusted net income from continuing operations and adjusted earnings per diluted share from continuing operations may not be comparable to similarly titled measures as reported by other companies.

Income before income taxes is reconciled to adjusted income before income taxes below:

Years-ended December 31 ($ in millions, except per share amounts)	2013	2012
Income before income taxes	$1,226	$828

Income before income taxes includes:		
Charges related to business restructuring	98	176
Charges related to environmental remediation	101	159
Charges related to transaction-related costs	36	11
Legacy pension settlement costs	18	—
Adjusted income before income taxes	$1,479	$1,174

The effective tax rate from continuing operations is reconciled to the adjusted effective tax rate from continuing operations below:

Year-ended December 31, 2013

($ in millions, except per share amounts)	Income Before Income Taxes	Tax Expense	Effective Tax Rate	
Effective tax rate, continuing operations	$1,226	$253	20.6	%
Includes:				
Charges related to business restructuring	98	25	25.5	%
Charges related to environmental remediation	101	37	36.6	%
Charges related to transaction-related costs	36	12	33.3	%
Legacy pension settlement costs	18	5	27.8	%
U.S. tax law change enacted in 2013		10		
Adjusted effective tax rate, continuing operations, excluding certain charges	$1,479	$342	23.1	%

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Year-ended December 31, 2012

($ in millions, except per share amounts)	Income Before Income Taxes	Tax Expense	Effective Tax Rate	
Effective tax rate, continuing operations	$828	$148	17.9	%
Includes:				
Charges related to business restructuring	176	39	22.2	%
Charges related to environmental remediation	159	60	37.7	%
Charges related to transaction-related costs	11	4	36.4	%
Adjusted effective tax rate, continuing operations, excluding certain charges	$1,174	$251	21.4	%

Net income from continuing operations (attributable to PPG) and earnings per share from continuing operations – assuming dilution (attributable to PPG) are reconciled to adjusted net income from continuing operations (attributable to PPG) and adjusted earnings per share from continuing operations – assuming dilution below:

Year-ended December 31, 2013	Net Income	
($ in millions, except per share amounts)	$	EPS
Net income from continuing operations (attributable to PPG)	$950	$6.55
Net income from continuing operations (attributable to PPG) includes:		
Charges related to business restructuring	73	0.50
Charges related to environmental remediation	64	0.44
Charges related to transaction-related costs	24	0.16
Legacy pension settlement costs	13	0.09
U.S. tax law change enacted in 2013	(10)	(0.07)
Adjusted net income from continuing operations (attributable to PPG)	$1,114	$7.67

Year-ended December 31, 2012	Net Income	
($ in millions, except per share amounts)	$	EPS
Net income from continuing operations (attributable to PPG)	$663	$4.27
Net income from continuing operations (attributable to PPG) includes:		
Charges related to business restructuring	137	0.89
Charges related to environmental remediation	99	0.64
Charges related to transaction-related costs	7	0.05
Adjusted net income from continuing operations (attributable to PPG)	$906	$5.85

Results of Reportable Business Segments

	Net sales		Segment income	
($ in millions)	2013	2012	2013	2012
Performance Coatings	$7,934	$6,899	$1,043	$889
Industrial Coatings	5,264	4,755	824	677
Glass	1,067	1,032	56	63

Performance Coatings

Performance Coatings net sales increased $1,035 million, or 15% from the prior year, to $7,934 million primarily due to net sales from businesses acquired (18%) and modestly higher pricing partially offset by lower sales volumes (5%). Sales volumes remained varied by region and business. Sales volume growth continued in the aerospace coatings business where

industry demand remains strong. Automotive refinish sales volumes were level with the prior year as growth in the Asia Pacific and Latin American regions offset sales volume declines in Europe, while the North American refinish sales volumes were consistent with 2012. Offsetting the segment sales volume gains was a decline in sales volume in the protective and marine coatings business due to further, notable weakness in the Asian marine new-build market reflecting lower global demand. U.S. and Canada architectural coatings sales volume declined by low-single-digit percentages with mid-to-high single digit percentage same store growth in company-owned stores, lower sales in

national retail accounts and lower sales in the independent dealer channel. The lower sales volume in the national account channel was due to a previously disclosed change in products sold to a large retail customer. EMEA architectural coatings sales declined vs. prior year primarily due to lower sales volumes (down mid-single-digit percentages) as economic conditions worsened in most European countries. However, market demand improved somewhat in the second half of the year but remained negative overall and mixed across the region. Poor weather conditions in the first half of 2013 were also a contributor to the decline in EMEA architectural coatings sales volumes. The decline in EMEA architectural coatings sales volumes was partially offset by the impacts of favorable pricing and foreign currency translation. Segment income was $1,043 million for 2013, an increase of $154 million, or 17%, compared to the prior year primarily due to the income from acquired businesses, lower overhead and manufacturing costs stemming from prior restructuring actions and ongoing cost management, offset partially by the negative impact on segment income from the lower sales volumes.

Industrial Coatings

Industrial Coatings net sales increased $509 million, or 11% from the prior year, to $5,264 million primarily due to sales volume growth (6%) and net sales from acquired businesses (4%). In 2013, PPG's global automotive OEM coatings sales volumes grew 10%, outpacing global industry auto production growth of about 3% year-over-year. The industrial coatings business experienced varied sales volume results by region compared with the prior year, as strong improvements across emerging regions and modestly higher sales volumes in North America were offset by weak demand in Europe. Packaging coatings sales volumes grew modestly in Asia Pacific and Latin America, were down low-single-digits year-over-year in Europe and essentially flat in North America. Specialty coatings and materials sales volumes increased as the silicas business business achieved higher year over year sales volumes in both the U.S. and Europe as a result of solid demand growth. Segment income increased $147 million, or 22% from the prior year, to $824 million primarily due to the impact from the higher sales coupled with ongoing cost management initiatives and the benefits from the Company's restructuring actions initiated in 2012.

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Glass

Glass segment net sales increased $35 million, or 3% from the prior year, to $1,067 million primarily due to higher fiber glass sales volumes. Sales volumes in fiber glass increased modestly, reflecting higher global demand in various end-use markets. Segment income was $56 million, a decrease of $7 million, or 11% from the prior year, primarily due to input cost inflation, including higher natural gas costs, lower licensing income and lower fiber glass equity earnings stemming from weaker personal computer production activity in Asia. These negative factors more than offset reductions in manufacturing costs.

Commitments and Contingent Liabilities, including Environmental Matters

PPG is involved in a number of lawsuits and claims, both actual and potential, including some that it has asserted against others, in which substantial monetary damages are sought. See Item 3, “Legal Proceedings” and Note 13, “Commitments and Contingent Liabilities,” under Item 8 of this Form 10-K for a description of certain of these lawsuits, including a description of the proposed asbestos settlement.

As discussed in Item 3 and Note 13, although the result of any future litigation of such lawsuits and claims is inherently unpredictable, management believes that, in the aggregate, the outcome of all lawsuits and claims involving PPG, including asbestos-related claims in the event the proposed asbestos settlement described in Note 13 does not become effective, will not have a material effect on PPG’s consolidated financial position or liquidity; however, any such outcome may be material to the results of operations of any particular period in which costs, if any, are recognized.

It is PPG’s policy to accrue expenses for contingencies when it is probable that a liability has been incurred and the amount of loss can be reasonably estimated. Reserves for environmental contingencies are exclusive of claims against third parties and are generally not discounted. In management’s opinion, the Company operates in an environmentally sound manner and the outcome of the Company’s environmental contingencies will not have a material effect on PPG’s financial position or liquidity; however, any such outcome may be material to the results of operations of any particular period in which costs, if any, are recognized. Management anticipates that the resolution of the Company’s environmental contingencies will occur over an extended period of time.

As of December 31, 2014 and 2013, PPG had reserves for environmental contingencies totaling $317 million and $337 million, respectively, of which $141 million and $133 million, respectively, were classified as current liabilities. Pre-tax charges against income for environmental remediation costs in 2014, 2013 and 2012 totaled $144 million, $108 million and $166 million, respectively, and are included in “Other charges” in the accompanying consolidated statement of income. Cash outlays related to environmental remediation were $165 million, $111 million, and $62 million in 2014, 2013 and 2012, respectively.

In addition to the amounts currently reserved for environmental remediation, the Company may be subject to loss contingencies related to environmental matters now estimated to

be approximately $75 million to $200 million which is lower than the estimate of $100 million to $200 million as of December 31, 2013 as a result of the additional environmental remediation charge recorded in the third quarter of 2014 explained below. Such unreserved losses are reasonably possible but are not currently considered to be probable of occurrence. These reasonably possible unreserved losses relate to environmental matters at a number of sites. The loss contingencies related to these sites include significant unresolved issues such as the nature and extent of contamination at these sites and the methods that may have to be employed to remediate them. The impact of evolving programs, such as natural resource damage claims, industrial site re-use initiatives and state remediation programs, also adds to the present uncertainties with regard to the ultimate resolution of this unreserved exposure to future loss. The Company’s assessment of the potential impact of these environmental contingencies is subject to considerable uncertainty due to the complex, ongoing and evolving process of investigation and remediation, if necessary, of such environmental contingencies, and the potential for technological and regulatory developments.

The Company continues to analyze, assess and remediate the environmental issues associated with PPG's former chromium manufacturing plant in Jersey City, N.J. and associated sites ("New Jersey Chrome"). During the third quarters of 2014 and 2013, PPG completed assessments of costs incurred to date versus current progress and the potential cost impacts of the most recent information. Based on these assessments, the Company recorded reserve

adjustments of $136 million and $89 million in the third quarters of 2014 and 2013, respectively. Principal factors impacting costs included a refinement in the estimate of the mix of hazardous to non-hazardous soils to be excavated, an overall increase in soil volumes to be excavated, enhanced water management requirements, decreased daily soil excavation rates due to site conditions, initial estimates for remedial actions related to groundwater, and increased oversight and management costs.

A charge of $145 million was recorded in the first quarter of 2012 as a result of updated information the Company compiled about the sites that was used to develop a new estimate of the cost to remediate these sites. The updated information was compiled in connection with the preparation of a final draft soil remedial action work plan and cost estimate.

The charges for estimated environmental remediation costs for the previous three years have been significantly higher than PPG's historical range. Excluding the charges related to New Jersey Chrome, pre-tax charges against income for environmental remediation have ranged between $10 million and $30 million per year for the past 10 years.

Information will continue to be generated from the ongoing groundwater remedial investigation activities related to New Jersey Chrome and will be incorporated into a final draft remedial action work plan for groundwater expected to be submitted to New Jersey Department of Environmental Protection in late 2015 or 2016.

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Liquidity and Capital Resources

During the past three years, PPG has had sufficient financial resources to meet its operating requirements, to fund our capital spending, including acquisitions, share repurchases and pension plans and to pay increasing dividends to shareholders.

Cash from continuing operating activities was $1,807 million, $1,562 million, and $1,410 million in 2014, 2013, and 2012, respectively. Increases in cash from continuing operating activities in 2014 compared to 2013 and in 2013 compared to 2012 were aided by higher income from continuing operations, including income from acquired businesses.

Operating Working Capital is a subset of total working capital and represents (1) receivables from customers, net of allowance for doubtful accounts, (2) inventories, and (3) trade liabilities. See Note 3, “Working Capital Detail” under Item 8 of this Form 10-K for further information related to the components of the Company’s Operating Working Capital. We believe Operating Working Capital represents the key components of working capital under the operating control of our businesses. Operating Working Capital at December 31, 2014 and 2013 was $2.5 billion and $2.6 billion, respectively. A key metric we use to measure our working capital management is Operating Working Capital as a percentage of sales (fourth quarter sales annualized).

($ in millions, except percentages)	2014		2013		
Trade Receivables, net	$2,366		$2,414		
Inventories, FIFO	2,007		2,019		
Trade Creditor's Liabilities	1,919		1,790		
Operating Working Capital	$2,454		$2,643		[a]
Operating Working Capital as % of Sales	16.5	%	17.8	%	

[a] Inclusive of amounts related to PPG's interest in the Transitions Optical joint venture and sunlens businesses that were sold on March 31, 2014. Excluding the interest in these businesses, operating working capital was $2,503 or 17.9% at December 31, 2013.

Operating working capital at December 31, 2014 decreased $189 million compared with the prior year. Trade receivables from customers, net, as a percentage of 2014 fourth quarter sales, annualized, was 16.0%, down slightly from 16.2% for 2013. Days sales outstanding was 54 days in 2014, a 3 day improvement from 2013. Inventories on a FIFO basis as a percentage of 2014 fourth quarter sales, annualized, was 13.5% compared to 13.6% in 2013. Inventory turnover was 4.8 times in 2014 and 4.5 times in 2013.

Total capital spending, including acquisitions, was $2,700 million, $1,477 million and $452 million in 2014, 2013, and 2012, respectively. Spending related to modernization and productivity improvements, expansion of existing businesses and environmental control projects was $587 million, $494 million and $330 million in 2014, 2013, and 2012, respectively, and is expected to be in the range of 3.5% to 4.0% of sales during 2015. Capital spending, excluding acquisitions, as a percentage of sales was 3.8%, 3.5% and 2.6% in 2014, 2013 and 2012, respectively. Capital spending related to business acquisitions amounted to $2,113 million, $983

million, and $122 million in 2014, 2013 and 2012, respectively. In addition, the Company acquired and repaid $314 million of debt from acquired companies. A primary focus for the Company in 2015 will continue to be prudent cash deployment focused on profitable income growth, including pursuing opportunities for additional strategic acquisitions.

In November 2014, the Company acquired Comex, an architectural coatings company with headquarters in Mexico City, Mexico. In 2014, PPG also completed the acquisition of several smaller companies. The total cost of the 2014 acquisitions, including acquired debt repaid, was $2,427 million, net of cash acquired.

In March 2014, PPG received $1.735 billion in cash proceeds for the sale of its 51% ownership interest in its Transitions Optical joint venture and 100% of its optical sunlens business to Essilor.

In April 2013, the Company acquired the North American architectural coatings business of Akzo Nobel, N.V., Amsterdam and certain assets of a privately-owned U.S. based specialty coatings company. The total cost of 2013 acquisitions was $983 million.

In January 2013, PPG received $900 million in cash proceeds in connection with the closing of the separation of its commodity chemicals business and subsequent merger of the subsidiary holding the PPG commodity chemicals business with a subsidiary of Georgia Gulf. Refer to Note 2, “Acquisitions and Dispositions” under Item 8 of this Form 10-K for financial information regarding these discontinued operations.

The Company’s share repurchase activity in 2014, 2013 and 2012 was about 3.8 million shares at a cost of $750 million, 5.7 million shares at a cost of $1 billion and 1 million shares at a cost of $92 million, respectively. We anticipate completing additional share repurchases during 2015. The Company has approximately $1.7 billion remaining under the current authorization from the Board of Directors, which was approved in 2014. The current authorized repurchase program has no expiration date.

In addition, about 10.8 million shares were added to treasury stock as a result of the January 2013 exchange transaction that was part of the separation of PPG's former commodity chemicals business.

Dividends paid to shareholders totaled $361 million, $345 million and $358 million in 2014, 2013 and 2012, respectively. PPG has paid uninterrupted annual dividends since 1899, and 2014 marked the 43rd consecutive year of increased annual per-share dividend payments to shareholders. The Company raised its per-share dividend 10% in April 2014.

We did not have a mandatory contribution to our U.S. defined benefit pension plans in 2014. We made a voluntary contribution of $2 million and $50 million to these plans in 2014 and 2013, respectively. We did not make any contributions to our U.S. defined benefit plans in 2012. We currently do not expect to make mandatory contributions to our

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U.S. defined benefit pension plans in 2015. We made contributions to our non-U.S. defined benefit pension plans of $39 million, $124 million and $80 million for 2014, 2013 and 2012, respectively, some of which were required by local funding requirements. We expect to make mandatory contributions to our non-U.S. plans in the range of $10 million to $20 million in 2015.

In the fourth quarter of 2014, PPG completed a debt refinancing which involved paying approximately $1.7 billion to redeem public notes which was funded by cash proceeds of approximately $1.2 billion from cash on hand and from several debt issuances described below.

In November 2014, PPG completed a public offering of $300 million in aggregate principal amount of its 2.30% Notes due 2019. These notes were issued pursuant to PPG's existing shelf registration statement. Also in November 2014, PPG entered into three Euro-denominated borrowings. PPG entered into a EURIBOR based variable rate 3-year €500 million bank loan and privately placed a 15-year €80 million 2.5% fixed interest note and a 30-year €120 million 3.0% fixed interest note. Refer to Note 8, "Borrowings and Lines of Credit" under Item 8 of this Form 10-K for financial information regarding these debt obligations.

Also in 2014, PPG increased by $300 million the borrowing capacity under its 2012 five-year credit agreement (the "Credit Agreement") with several banks and financial institutions as further discussed in Note 8, "Borrowings and Lines of Credit" under Item 8 of this Form 10-K. The Credit Agreement now provides for a $1.5 billion unsecured revolving credit facility. The Credit Agreement will terminate on September 12, 2017. During the years ended December 31, 2014 and 2013, there were no borrowings outstanding under the Credit Agreement.

In 2013, PPG repaid its $600 million 5.75% notes due March 15, 2013.

In July 2012, PPG completed a public offering of $400 million in aggregate principal amount of its 2.70% Notes due 2022 (the "2022 Notes"). The 2022 Notes were offered by the Company pursuant to its existing shelf registration statement. The proceeds of this offering of $397 million, net of discount and issuance costs, were used to repay a portion of the $600 million of 5.75% notes in March 2013. The remaining unamortized discount and issuance costs related to the 2022 Notes were recognized in earnings in 2014 as a result of the debt refinancing.

Also during the year ended December 31, 2012 the Company assumed $120 million of debt in an acquisition; repaid $119 million of that debt, and repaid the $71 million of 6.875% notes upon their maturity.

The ratio of total debt, including capital leases, to total debt and equity was 44% at December 31, 2014 up from 41% in 2013.

The Company has $5.0 billion and $3.9 billion of undistributed earnings of non-U.S. subsidiaries as of December 31, 2014 and December 31, 2013, respectively. These amounts

relate to approximately 200 subsidiaries in more than 60 taxable jurisdictions. As discussed in Note 2, "Acquisitions and Dispositions" under Item 8 of this Form 10-K, PPG recorded a deferred U.S. income tax liability of $247 million on the foreign earnings generated from the sale of its Transitions Optical joint venture in 2014. No significant deferred U.S. income taxes have been provided on the remaining $4.2 billion of PPG's undistributed earnings as they are considered to be reinvested for an indefinite period of time or will be repatriated when it is tax effective to do so. The Company estimates repatriation of undistributed earnings of non-U.S. subsidiaries as of December 31, 2014 and December 31, 2013 would have resulted in a U.S. tax cost of approximately $200 million and $250 million, respectively.

We continue to believe that our cash on hand and short term investments, cash from operations and the Company’s available debt capacity will continue to be sufficient to fund our operating activities, capital spending, including acquisitions, dividend payments, debt service, amounts due under the proposed asbestos settlement, share repurchases, contributions to pension plans, and PPG’s significant contractual obligations. These significant contractual obligations, along with amounts due under the proposed asbestos settlement are presented in the following table.

		Obligations Due In:			
($ in millions)	Total	2015	2016-2017	2018-2019	Thereafter
Contractual Obligations					
Long-term debt	$2,942	$363	$855	$425	$1,299

Short-term debt	115	115	—	—	—
Commercial paper	935	—	935	—	—
Capital lease obligations	33	3	6	5	19
Operating leases	698	180	261	149	108
Interest payments[1]	1,139	112	172	147	708
Pension contributions[2]	20	20	—	—	—
Unconditional purchase commitments	298	152	60	28	58
Total	$6,180	$945	$2,289	$754	$2,192
Asbestos Settlement[3]					
Aggregate cash payments	$340	$—	$67	$91	$182
PPG stock and other	—	—	—	—	—
Total	$340	$—	$67	$91	$182

(1) Includes interest on all outstanding debt.

(2) Includes the high end of the range of the expected pension contributions for 2015 only, as PPG is unable to estimate the pension contributions beyond 2015.

(3) We have recorded an obligation equal to the net present value of the aggregate cash payments, along with the PPG stock and other assets to be contributed to a trust under the proposed asbestos settlement. However, PPG has no obligation to pay any amounts under this settlement until the Funding Effective Date, as more fully discussed in Note 13, “Commitments and Contingent Liabilities,” under Item 8 of this Form 10-K.

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At December 31, 2014, the total amount of unrecognized tax benefits for uncertain tax positions, including an accrual of related interest and penalties along with positions only impacting the timing of tax benefits, was approximately $78 million. The timing of payments will depend on the progress of examinations with tax authorities. PPG does not expect a significant tax payment related to these obligations within the next year. The Company is unable to make a reasonably reliable estimate as to when any significant cash settlements with taxing authorities may occur.

The unconditional purchase commitments are principally take-or-pay obligations related to the purchase of certain materials, including industrial gases, natural gas, coal and electricity, consistent with customary industry practice.

See Note 8, “Borrowings and Lines of Credit,” under Item 8 of this Form 10-K for details regarding the use and availability of committed and uncommitted lines of credit, letters of credit, guarantees and debt covenants.

In addition to the amounts available under the lines of credit, the Company has an automatic shelf registration statement on file with the SEC pursuant to which it may issue, offer and sell from time to time on a continuous or delayed basis any combination of securities in one or more offerings.

Off-Balance Sheet Arrangements

The Company’s off-balance sheet arrangements include the operating leases and unconditional purchase commitments disclosed in the “Liquidity and Capital Resources” section in the contractual obligations table as well as letters of credit and guarantees as discussed in Note 8, “Borrowings and Lines of Credit,” under Item 8 of this Form 10-K.

Critical Accounting Estimates

Management has evaluated the accounting policies used in the preparation of the financial statements and related notes presented under Item 8 of this Form 10-K and believes those policies to be reasonable and appropriate. We believe that the most critical accounting estimates made in the preparation of our financial statements are those related to accounting for contingencies, under which we accrue a loss when it is probable that a liability has been incurred and the amount can be reasonably estimated, and to accounting for pensions, other postretirement benefits, business combinations, goodwill and other identifiable intangible assets with indefinite lives because of the importance of management judgment in making the estimates necessary to apply these policies.

Contingencies

Contingencies, by their nature, relate to uncertainties that require management to exercise judgment both in assessing the likelihood that a liability has been incurred as well as in estimating the amount of potential loss. The most important contingencies impacting our financial statements are those related to the collectability of accounts receivable, to environmental remediation, to pending, impending or overtly threatened litigation against the Company and to the resolution of matters related to open tax years. For more information on these matters, see Note 3, “Working Capital Detail,” Note 11,

“Income Taxes” and Note 13, “Commitments and Contingent Liabilities” under Item 8 of this Form 10-K.

Defined Benefit Pension and Other Postretirement Benefit Plans

Accounting for pensions and other postretirement benefits involves estimating the cost of benefits to be provided well into the future and attributing that cost over the time period each employee works. To accomplish this, extensive use is made of assumptions about inflation, investment returns, mortality, turnover, medical costs and discount rates. The Company has established a process by which management reviews and selects these assumptions annually. See Note 12, “Employee Benefit Plans,” under Item 8 for information on these plans and the assumptions used.

The discount rate used in accounting for pensions and other postretirement benefits is determined by reference to a current yield curve and by considering the timing and amount of projected future benefit payments. The weighted average discount rate assumption at December 31, 2014 is 4.0% for our U.S. defined benefit pension and other postretirement benefit plans. The weighted average discount rate assumption for our U.S. defined benefit pension and other postretirement benefit plans at December 31, 2013 was 4.83%. A change in the discount rate of 100 basis points, with all other assumptions held constant, would impact 2015 net periodic benefit expense for our defined benefit pension and other postretirement benefit plans by approximately $24 million and $15 million, respectively.

The expected return on plan assets assumption used in accounting for our pension plans is determined by evaluating the mix of investments that comprise plan assets and external forecasts of future long-term investment returns. For 2014, the return on plan assets assumption for our U.S. defined benefit pension plans was 7.25%. This assumption is

unchanged for 2015. A change in the rate of return of 100 basis points, with other assumptions held constant, would impact 2015 net periodic pension expense by approximately $26 million.

Business Combinations

In accordance with the accounting guidance for business combinations, the Company uses the acquisition method of accounting to allocate costs of acquired businesses to the assets acquired and liabilities assumed based on their estimated fair values at the dates of acquisition. The excess costs of acquired businesses over the fair values of the assets acquired and liabilities assumed were recognized as goodwill. The valuations of the acquired assets and liabilities will impact the determination of future operating results. In addition to using management estimates and negotiated amounts, the Company uses a variety of information sources to determine the estimated fair values of acquired assets and liabilities including: third-party appraisals for the estimated value and lives of identifiable intangible assets and property, plant and equipment; third-party actuaries for the estimated obligations of defined benefit pension plans and similar benefit obligations; and legal counsel or other experts to assess the obligations associated with legal, environmental and other contingent liabilities. The business and technical judgment of management was used in determining which intangible assets have indefinite lives and in determining the useful lives of finite-lived intangible assets in accordance

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with the accounting guidance for goodwill and other intangible assets.

Goodwill and Intangible Assets

As discussed in Note 1, “Summary of Significant Accounting Policies,” under Item 8 of this Form 10-K, the Company tests goodwill and identifiable intangible assets with indefinite lives for impairment at least annually. The Company tests indefinite-lived intangible assets and goodwill for impairment by either performing a qualitative evaluation or a quantitative test. The qualitative evaluation is an assessment of factors, including reporting unit or asset specific financial information as well as industry, market and general economic conditions, to determine whether it is more likely than not that the fair values of a reporting unit or asset is less than its carrying amount, including goodwill when testing goodwill for impairment. The Company may elect to bypass this qualitative assessment for some or all of its reporting units and indefinite-lived intangible assets and perform a quantitative test. Fair values under the quantitative test are estimated using discounted cash flow methodologies that are based on projections of the amounts and timing of future revenues and cash flows. Based on the 2014 impairment tests, none of our goodwill or identifiable intangible assets with indefinite lives was impaired.

We believe that the amounts recorded in the financial statements under Item 8 of this Form 10-K related to these contingencies, pensions, other postretirement benefits, business combinations, goodwill and other identifiable intangible assets with indefinite lives are based on the best estimates and judgments of the appropriate PPG management, although actual outcomes could differ from our estimates.

Currency

From December 31, 2013 to December 31, 2014, the U.S. dollar strengthened against the currencies in the countries in which PPG operates, most notably the Euro and the Mexican Peso. As a result, consolidated net assets at December 31, 2014 decreased by $623 million, compared to December 31, 2013. Comparing exchange rates during 2014 to those of 2013, in the countries in which PPG operates, the U.S. dollar was weaker overall, which had an immaterial favorable impact on full year 2014 income before income taxes from the translation of these foreign earnings into U.S. dollars.

From December 31, 2012 to December 31, 2013, the U.S. dollar strengthened against certain currencies in the countries in which PPG operates, while weakening against others, the most notable being the Euro. As a result, consolidated net assets at December 31, 2013 decreased by $44 million, compared to December 31, 2012. Comparing exchange rates during 2013 to those of 2012, in the countries in which PPG operates, the U.S. dollar was weaker in certain countries, which had a favorable impact on full year 2013 income before income taxes of $11 million from the translation of these foreign earnings into U.S. dollars.

The U.S. dollar weakened from year-end December 31, 2011 to year-end December 31, 2012, against certain currencies in the countries in which PPG operates, most notably against the Euro, the British pound sterling, Polish zloty, and the South Korean won. A $141 million increase in PPG consolidated net assets and shareholders' equity resulted from translating PPG’s

foreign denominated net assets to U.S. dollars at December 31, 2012, compared to December 31, 2011. Comparing exchange rates during 2012 to those of 2011, in the countries in which PPG operates, the U.S. dollar was generally stronger, particularly against the Euro, which had an unfavorable impact on full year 2012 income before income taxes of approximately $40 million from the translation of these foreign earnings into U.S. dollars.

Forward-Looking Statements

The Private Securities Litigation Reform Act of 1995 provides a safe harbor for forward-looking statements made by or on behalf of the Company. Management’s Discussion and Analysis and other sections of this Annual Report contain forward-looking statements that reflect the Company’s current views with respect to future events and financial performance.

You can identify forward-looking statements by the fact that they do not relate strictly to current or historic facts. Forward-looking statements are identified by the use of the words “aim,” “believe,” “expect,” “anticipate,” “intend,” “estimate,” “project,” “outlook,” “forecast” and other expressions that indicate future events and trends. Any forward-looking statement speaks only as of the date on which such statement is made, and the Company undertakes no obligation to update any forward looking statement, whether as a result of new information, future events or otherwise, except as otherwise

required by applicable law. You are advised, however, to consult any further disclosures we make on related subjects in our reports to the Securities and Exchange Commission. Also, note the following cautionary statements.

Many factors could cause actual results to differ materially from the Company's forward-looking statements. Such factors include global economic conditions, increasing price and product competition by foreign and domestic competitors, fluctuations in cost and availability of raw materials, the ability to maintain favorable supplier relationships and arrangements, difficulties in integrating acquired businesses and achieving expected synergies therefrom, economic and political conditions in international markets, the ability to penetrate existing, developing and emerging foreign and domestic markets, foreign exchange rates and fluctuations in such rates, fluctuations in tax rates, the impact of future legislation, the impact of environmental regulations, unexpected business disruptions, the unpredictability of existing and possible future litigation, including litigation that could result if the proposed asbestos settlement does not become effective, the realization of anticipated cost savings from restructuring initiatives, and PPG's ability to integrate the Comex business acquisition and to achieve anticipated synergies. However, it is not possible to predict or identify all such factors. Consequently, while the list of factors presented here and under Item 1A is considered representative, no such list should be considered to be a complete statement of all potential risks and uncertainties. Unlisted factors may present significant additional obstacles to the realization of forward-looking statements.

Consequences of material differences in the results compared with those anticipated in the forward-looking statements could include, among other things, business disruption, operational problems, financial loss, legal liability to third parties, other factors set forth in Item 1A of this Form 10-K

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and similar risks, any of which could have a material adverse effect on the Company's consolidated financial condition, results of operations or liquidity.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

PPG is exposed to market risks related to changes in foreign currency exchange rates, interest rates, and to changes in PPG's stock price. The Company may enter into derivative financial instrument transactions in order to manage or reduce these market risks. A detailed description of these exposures and the Company's risk management policies are provided in Note 9, "Financial Instruments, Hedging Activities and Fair Value Measurements," under Item 8 of this Form 10-K.

The following disclosures summarize PPG's exposure to market risks and information regarding the use of and fair value of derivatives employed to manage its exposure to such risks. Quantitative sensitivity analyses have been provided to reflect how reasonably possible, unfavorable changes in market rates can impact PPG's consolidated results of operations, cash flows and financial position.

Foreign Currency Risk

We conduct operations in many countries around the world. Our results of operations are subject to both currency transaction and currency translation risk. Foreign currency forward contracts outstanding during 2014 and 2013 were used to hedge PPG's exposure to foreign currency transaction risk. The fair value of these contracts as of December 31, 2014 and 2013 was insignificant. The potential reduction in PPG's income from continuing operations resulting from the impact of adverse changes in exchange rates on the fair value of its outstanding foreign currency hedge contracts of 10% for European currencies and 20% for Asian and South American currencies for the years ended December 31, 2014 and 2013 would have been $24 million and $9 million, respectively.

As of January 1, 2012, PPG had U.S. dollar to euro cross currency swap contracts with a total notional amount of $1.16 billion outstanding, of which $600 million were settled in June 2012. The remaining outstanding contracts of $560 million are expected to be settled in March 2018. On settlement of the remaining outstanding contracts, PPG will receive $560 million U.S. dollars and pay Euros to the counterparties to the contracts. During the term of these contracts, PPG receives semiannual payments in March and September of each year based on U.S. dollar, long-term fixed interest rates, and PPG makes annual payments in March of each year to the counterparties based on Euro, long-term fixed interest rates. The Company designated all of the cross currency swaps as hedges of its net investment in acquired European coatings businesses and, as a result, the mark to fair value adjustments of the swaps outstanding have been and will be recorded as a component of Accumulated Other Comprehensive (Loss)/Income ("AOCI"), and the cash flow impact of these swaps has been and will be classified as investing activities in the consolidated statement of cash flows. As of December 31, 2014 and December 31, 2013, the fair value of these contracts was a net liability of $32 million and $120 million, respectively. A 10% increase in the value of the Euro to the U.S. dollar would have had an unfavorable effect on the fair value of these swap contracts and increased the liability by $70

million and $81 million at December 31, 2014 and 2013, respectively.

PPG had non-U.S. dollar denominated debt outstanding of $1,325 million as of December 31, 2014 and $453 million as of December 31, 2013. A weakening of the U.S. dollar by 10% against European currencies and by 20% against Asian and South American currencies would have resulted in unrealized translation losses of approximately $154 million and $53 million as of December 31, 2014 and 2013, respectively.

Interest Rate Risk

The Company manages its interest rate risk by balancing its exposure to fixed and variable rates while attempting to minimize its interest costs. During 2012, PPG settled interest rate swaps with a notional value of $445 million that converted fixed rate debt to variable rate debt, receiving $29 million from such settlements. A 10% increase in interest rates in the U.S., Canada, Mexico and Europe and a 20% increase in interest rates in Asia and South America would have an insignificant effect on PPG's variable rate debt obligations and interest expense for the years ended December 31, 2014 and 2013, respectively. Further, a 10% reduction in interest rates would have increased the present value of the Company's fixed rate debt by approximately $62 million as of December 31, 2014 and $81 million as of December 31, 2013; however, such changes would not have had an effect on PPG's annual income from continuing operations or cash flows.

Equity Price Risk

An equity forward arrangement was entered into to hedge the Company's exposure to changes in fair value of its future obligation to contribute PPG stock into an asbestos settlement trust (see Note 9, "Financial Instruments, Hedging Activities and Fair Value Measurements" and Note 13, "Commitments and Contingent Liabilities," under Item 8 of this Form 10-K). The fair value of this instrument as of December 31, 2014 and 2013 was an asset of $268 million and $207 million, respectively. A 10% decrease in PPG's stock price would have had an unfavorable effect on the fair value of this instrument of $32 million and $26 million at December 31, 2014 and 2013, respectively.

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Item 8. Financial Statements and Supplementary Data

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of PPG Industries, Inc.

In our opinion, the accompanying consolidated balance sheets as of December 31, 2014 and 2013 and the related consolidated statements of income, comprehensive income, shareholders' equity, and cash flows for the years then ended present fairly, in all material respects, the financial position of PPG Industries, Inc. and its subsidiaries as of December 31, 2014 and 2013, and the results of their operations and their cash flows for the years then ended in conformity with accounting principles generally accepted in the United States of America. In addition, in our opinion, the financial statement schedule for the years ended December 31, 2014 and 2013 listed in the index appearing under Item 15(a)(2) presents fairly, in all material respects, the information set forth therein when read in conjunction with the related consolidated financial statements. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2014, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Company's management is responsible for these financial statements and financial statement schedule, for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the Management Report on Establishing and Maintaining Adequate Internal Control Over Financial Reporting. Our responsibility is to express opinions on these financial statements, on the financial statement schedule, 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.

We also have audited the adjustments to the 2012 consolidated financial statements to retrospectively reflect the discontinued operations of the Transitions Optical joint venture and sunlens business discussed in Note 2 and to retrospectively reflect the change in the composition of reportable segments discussed in Note 19. In our opinion, such adjustments are appropriate and have been properly applied. We were not engaged to audit, review, or apply any procedures to the 2012 financial statements of the Company other than with respect to the adjustments and, accordingly, we do not express an opinion or any other form of assurance on the 2012 financial statements taken as a whole.

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.

As described in the Management Report on Establishing and Maintaining Adequate Internal Control Over Financial Reporting, management has excluded Consorcio Comex, S. A. de C.V. from its assessment of internal control over financial reporting as of December 31, 2014 because it was acquired by the Company in a purchase business combination in November, 2014. We have also excluded Consorcio Comex, S.A. de C.V. from our audit of internal control over financial reporting. Consorcio Comex, S.A. de C.V. is a wholly-owned subsidiary whose total assets and total revenues excluded from management's assessment and our audit represent 2% and 1%, respectively, of the related consolidated financial statement amounts as of and for the year ended December 31, 2014.

/s/ PricewaterhouseCoopers LLP

Pittsburgh, Pennsylvania
February 19, 2015

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Management Report

Responsibility for Preparation of the Financial Statements and Establishing and Maintaining Adequate Internal Control Over Financial Reporting

We are responsible for the preparation of the financial statements included in this Annual Report. The financial statements were prepared in accordance with accounting principles generally accepted in the United States of America and include amounts that are based on the best estimates and judgments of management.

We are also responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rules 13a-15(f) and 15d-15(f) under the Securities Exchange Act of 1934, as amended. Internal control over financial reporting, no matter how well designed, have inherent limitations. Therefore, a system of internal control over financial reporting can provide only reasonable assurance and may not prevent or detect misstatements. In addition, because of changing conditions, there is risk in projecting any evaluation of internal controls to future periods.

We conducted an evaluation of the effectiveness of the Company’s internal control over financial reporting as of December 31, 2014. In making this evaluation, we used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in Internal Control - Integrated Framework (2013). Our evaluation included reviewing the documentation of our controls, evaluating the design effectiveness of our controls and testing their operating effectiveness. In November 2014, the Company acquired Consorcio Comex, S.A. de C.V. As the acquisition occurred in November 2014, the scope of the Company's assessment of the design and effectiveness of PPG's internal control over financial reporting for the year ended December 31, 2014 excluded this acquired business. The total assets and total revenues excluded from our assessment represented approximately 2% and 1%, respectively, of PPG's consolidated total assets and total revenue as of and for the year ended December 31, 2014. This exclusion is in accordance with the SEC's general guidance that an assessment of a recently acquired business may be omitted from the scope of the Company's evaluation of the effectiveness of its internal controls in the year of acquisition. This acquired business will be included in management’s assessment of the effectiveness of our internal controls over financial reporting as of December 31, 2015. Based on this evaluation we have concluded that, as of December 31, 2014, the Company’s internal controls over financial reporting were effective.

PricewaterhouseCoopers LLP, an independent registered public accounting firm, has issued their report, included on page 32 of this Form 10-K, regarding the Company’s internal control over financial reporting.

/s/ Charles E. Bunch	/s/ Frank S. Sklarsky
Charles E. Bunch	Frank S. Sklarsky
Chairman	Executive Vice President and
and Chief Executive Officer	Chief Financial Officer
February 19, 2015	February 19, 2015

2012 Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of PPG Industries, Inc.

We have audited, before the effects of the adjustments to retrospectively reflect the discontinued operations of the Transitions Optical joint venture and sunlens business discussed in Note 2 and to retrospectively reflect the change in the composition of reportable segments discussed in Note 19, the consolidated statements of income, comprehensive income, shareholders’ equity, and cash flows of PPG Industries, Inc. for the year ended December 31, 2012. Our audit also included the financial statement schedule listed in the Index at Item 15(a)(2) for the year ended December 31, 2012. The 2012 financial statements and financial statement schedule are the responsibility of the Company’s management. Our responsibility is to express an opinion on these financial statements based on our audit.

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

In our opinion, the 2012 financial statements, before the effects of the adjustments to retrospectively reflect the discontinued operations of the Transitions Optical joint venture and sunlens business discussed in Note 2 and to retrospectively reflect the change in the composition of reportable segments discussed in Note 19, present fairly, in all material respects, the results of operations and cash flows of PPG Industries, Inc. for the year ended December 31, 2012 in conformity with U.S. generally accepted accounting principles.

We were not engaged to audit, review, or apply any procedures to the adjustments to retrospectively reflect the discontinued operations of the Transitions Optical joint venture and sunlens business discussed in Note 2 and to retrospectively reflect the change in the composition of reportable segments discussed in Note 19 and, accordingly we do not express an opinion or any other form of assurance about whether such adjustments are appropriate and have been properly applied. Those adjustments were audited by other auditors.

/s/ DELOITTE & TOUCHE LLP

Pittsburgh, Pennsylvania
February 21, 2013
(July 29, 2013 as to the effects of the discontinued operations of PPG’s former commodity chemicals business discussed in Note 2)

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Consolidated Statement of Income

	For the Year		
($ in millions, except per share amounts)	2014	2013	2012
Net sales	$15,360	$14,265	$12,686
Cost of sales, exclusive of depreciation and amortization	8,791	8,314	7,599
Selling, general and administrative	3,758	3,486	2,987
Depreciation	350	333	292
Amortization	126	119	107
Research and development, net	492	463	430
Interest expense	187	196	210
Interest income	(50)	(43)	(40)
Asbestos settlement, net	12	11	12
Business restructuring	—	98	176
Debt refinancing charge	317	—	—
Other charges	221	189	223
Other income	(260)	(127)	(138)
Income before income taxes	1,416	1,226	828
Income tax expense	259	253	148
Income from continuing operations	1,157	973	680
Income from discontinued operations, net of tax	1,002	2,380	384
Net income attributable to the controlling and noncontrolling interests	2,159	3,353	1,064
Less: net income attributable to noncontrolling interests	57	122	123
Net income (attributable to PPG)	$2,102	$3,231	$941
Amounts Attributable to PPG			
Continuing operations	$1,133	$950	$663
Discontinued operations	969	2,281	278
Net income	$2,102	$3,231	$941
Earnings per common share			
Continuing operations	$8.19	$6.62	$4.32
Discontinued operations	7.01	15.91	1.81
Net income (attributable to PPG)	$15.20	$22.53	$6.13
Earnings per common share - assuming dilution			
Continuing operations	$8.10	$6.55	$4.27
Discontinued operations	6.93	15.72	1.79
Net income (attributable to PPG)	$15.03	$22.27	$6.06

Consolidated Statement of Comprehensive Income

	For the Year		
($ in millions)	2014	2013	2012
Net income attributable to the controlling and noncontrolling interests	$2,159	$3,353	$1,064
Unrealized foreign currency translation adjustment	(596)	(51)	146
Defined benefit pension and other postretirement benefit adjustments	(335)	440	—
Net change – derivative financial instruments	69	10	(7)
Other comprehensive (loss) / income, net of tax	(862)	399	139
Total comprehensive income	$1,297	$3,752	$1,203
Less: amounts attributable to noncontrolling interests:			
Net income	(57)	(122)	(123)
Unrealized foreign currency translation adjustment	6	7	(5)
Comprehensive income attributable to PPG	$1,246	$3,637	$1,075

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

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Consolidated Balance Sheet

($ in millions)	December 31 2014	2013
Assets		
Current assets		
Cash and cash equivalents	$686	$1,116
Short-term investments	497	629
Receivables	2,815	2,736
Inventories	1,825	1,824
Deferred income taxes	406	425
Other	621	484
Total current assets	6,850	7,214
Property, plant and equipment, net	3,092	2,876
Goodwill	3,801	3,008
Identifiable intangible assets, net	2,411	1,339
Deferred income taxes	505	491
Investments	443	393
Other assets	481	542
Total	$17,583	$15,863
Liabilities and Shareholders' Equity		
Current liabilities		
Accounts payable and accrued liabilities	$3,548	$3,265
Asbestos settlement	821	763
Restructuring reserves	26	73
Short-term debt and current portion of long-term debt	481	34
Total current liabilities	4,876	4,135
Long-term debt	3,544	3,372
Accrued pensions	995	728
Other postretirement benefits	1,132	1,007
Asbestos settlement	259	245
Deferred income taxes	702	249
Other liabilities	810	929
Total liabilities	12,318	10,665
Commitments and contingent liabilities (See Note 13)		
Shareholders' equity		
Common stock	484	484
Additional paid-in capital	1,028	953
Retained earnings	14,498	12,757
Treasury stock, at cost	(8,714)	(8,002)
Accumulated other comprehensive loss	(2,116)	(1,260)
Total PPG shareholders' equity	5,180	4,932
Noncontrolling interests	85	266
Total shareholders' equity	5,265	5,198
Total	$17,583	$15,863

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

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Consolidated Statement of Shareholders' Equity

($ in millions)	Common Stock	Additional Paid-In Capital	Retained Earnings	Treasury Stock	Accumulated Other Comprehensive Income/(Loss)	Total PPG	Non-controlling Interests	Total
Balance, January 1, 2012	$ 484	$ 783	$ 9,288	$ (5,506)	$ (1,800)	$ 3,249	$ 197	$ 3,446
Net income attributable to the controlling and noncontrolling interests	—	—	941	—	—	941	123	1,064
Other comprehensive loss, net of tax	—	—	—	—	134	134	5	139
Cash dividends	—	—	(358)	—	—	(358)	—	(358)
Purchase of treasury stock	—	—	—	(92)	—	(92)	—	(92)
Issuance of treasury stock	—	35	—	102	—	137	—	137
Stock-based compensation activity	—	55	—	—	—	55	—	55
Dividends paid on subsidiary common stock to noncontrolling interests	—	—	—	—	—	—	(111)	(111)
Joint venture formation and consolidation	—	(3)	—	—	—	(3)	45	42
Balance, December 31, 2012	$ 484	$ 870	$ 9,871	$ (5,496)	$ (1,666)	$ 4,063	$ 259	$ 4,322
Net income attributable to the controlling and noncontrolling interests	—	—	3,231	—	—	3,231	122	3,353
Other comprehensive income, net of tax	—	—	—	—	406	406	(7)	399
Cash dividends	—	—	(345)	—	—	(345)	—	(345)
Purchase of treasury stock	—	—	—	(1,000)	—	(1,000)	—	(1,000)
Issuance of treasury stock	—	25	—	55	—	80	—	80
Stock-based compensation activity	—	58	—	—	—	58	—	58
Separation and merger tender offer	—	—	—	(1,561)	—	(1,561)	—	(1,561)
Dividends paid on subsidiary common stock to noncontrolling interests	—	—	—	—	—	—	(90)	(90)
Joint venture formation and consolidation	—	—	—	—	—	—	(18)	(18)
Balance, December 31, 2013	$ 484	$ 953	$ 12,757	$ (8,002)	$ (1,260)	$ 4,932	$ 266	$ 5,198
Net income attributable to the controlling and noncontrolling interests	—	—	2,102	—	—	2,102	57	2,159
Other comprehensive income/(loss), net of tax	—	—	—	—	(856)	(856)	(6)	(862)
Cash dividends	—	—	(361)	—	—	(361)	—	(361)

Purchase of treasury stock	—	—	—	(750)	—	(750)	—	(750)
Issuance of treasury stock	—	39	—	38	—	77	—	77
Stock-based compensation activity	—	64	—	—	—	64	—	64
Dividends paid on subsidiary common stock to noncontrolling interests	—	—	—	—	—	—	(50)	(50)
Reductions in noncontrolling interests	—	(28)	—	—	—	(28)	(182)	(210)
Balance, December 31, 2014	$484	$1,028	$14,498	$(8,714)	$(2,116)	$5,180	$85	$5,265

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

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Consolidated Statement of Cash Flows

	For the Year		
($ in millions)	2014	2013	2012
Operating activities			
Net income attributable to the controlling and noncontrolling interests	$2,159	$3,353	$1,064
Less: Income from discontinued operations	1,002	2,380	384
Income from continuing operations	1,157	973	680
Adjustments to reconcile to cash from operations:			
Depreciation and amortization	476	452	399
Defined benefit pension expense	68	107	143
Business restructuring	—	98	176
Environmental remediation charge	138	101	159
Stock-based compensation expense	73	81	71
Equity affiliate (earnings)/losses, net of dividends	(56)	17	3
Deferred income taxes	(89)	(16)	(207)
Cash contributions to pension plans	(41)	(174)	(80)
Restructuring cash spending	(57)	(86)	(87)
Debt refinancing charge	317	—	—
Change in certain asset and liability accounts (net of acquisitions):			
Receivables	(119)	(25)	171
Inventories	(95)	44	53
Other current assets	(68)	(34)	7
Accounts payable and accrued liabilities	215	5	(55)
Noncurrent assets	(41)	32	(24)
Noncurrent liabilities	(112)	(84)	(35)
Taxes and interest payable	64	19	55
Other	(23)	52	(19)
Cash from operating activities - continuing operations	1,807	1,562	1,410
Cash (used for)/from operating activities - discontinued operations	(279)	229	377
Cash from operating activities	1,528	1,791	1,787
Investing activities			
Capital Expenditures	(587)	(494)	(330)
Business acquisitions, net of cash balances acquired	(2,113)	(983)	(122)
Proceeds from the 2014 sale of transitions and sunlens and 2013 separation of commodity chemicals	1,625	940	—
Proceeds from maturity of short-term investments	1,298	1,796	250
Purchase of short-term investments	(1,204)	(1,227)	(1,332)
Payments on cross currency swap contracts	(45)	(42)	(77)
Proceeds from cross currency swap contracts	37	37	54
Proceeds from net investment hedges	49	—	—
Other	84	(5)	28
Cash (used for)/from investing activities - continuing operations	(856)	22	(1,529)
Cash used for investing activities - discontinued operations	(1)	(19)	(82)
Cash (used for)/from investing activities	(857)	3	(1,611)
Financing activities			
Net change in borrowings with maturities of three months or less	89	(7)	(1)
Net proceeds/(payments) on commercial paper and short-term debt	932	—	(9)
Proceeds from the issuance of long-term debt (net of discount and issuance costs)	1,163	—	397

Repayment of long-term debt	(1,489)	(605)	(71)
Repayment of acquired debt	(314)	—	(119)
Premium paid for redemption of securities	(222)	—	—
Settlement of forward starting swaps	—	—	(121)
Proceeds from termination of interest rate swaps	—	—	29
Purchase of treasury stock	(750)	(1,000)	(92)
Issuance of treasury stock	57	68	122
Dividends paid on PPG common stock	(361)	(345)	(358)
Other	(34)	(4)	(27)
Cash used for financing activities - continuing operations	(929)	(1,893)	(250)
Cash used for financing activities - discontinued operations	(40)	(86)	(101)
Cash used for financing activities	(969)	(1,979)	(351)
Effect of currency exchange rate changes on cash and cash equivalents	(132)	(5)	24
Net decrease in cash and cash equivalents	(430)	(190)	(151)
Cash and cash equivalents, beginning of year	1,116	1,306	1,457
Cash and cash equivalents, end of year	$686	$1,116	$1,306
Supplemental disclosures of cash flow information:			
Interest paid, net of amount capitalized	$218	$201	$219
Taxes paid, net of refunds	$642	$319	$503

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

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Notes to the Consolidated Financial Statements

1. Summary of Significant Accounting Policies

Principles of Consolidation
The accompanying consolidated financial statements include the accounts of PPG Industries, Inc. (“PPG” or the “Company”) and all subsidiaries, both U.S. and non-U.S., that it controls. PPG owns more than 50% of the voting stock of most of the subsidiaries that it controls. For those consolidated subsidiaries in which the Company’s ownership is less than 100%, the outside shareholders’ interests are shown as noncontrolling interests. Investments in companies in which PPG owns 20% to 50% of the voting stock and has the ability to exercise significant influence over operating and financial policies of the investee are accounted for using the equity method of accounting. As a result, PPG’s share of the earnings or losses of such equity affiliates is included in the accompanying consolidated statement of income and PPG’s share of these companies’ shareholders’ equity is included in "Investments" in the accompanying consolidated balance sheet. Transactions between PPG and its subsidiaries are eliminated in consolidation.

Use of Estimates in the Preparation of Financial Statements
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, as well as the reported amounts of income and expenses during the reporting period. Such estimates also include the fair value of assets acquired and liabilities assumed as a result of allocations of purchase price of business combinations consummated. Actual outcomes could differ from those estimates.

Revenue Recognition
The Company recognizes revenue when the earnings process is complete. Revenue from sales is recognized by all operating segments when goods are shipped and title to inventory and risk of loss passes to the customer or when services have been rendered.

Shipping and Handling Costs
Amounts billed to customers for shipping and handling are reported in “Net sales” in the accompanying consolidated statement of income. Shipping and handling costs incurred by the Company for the delivery of goods to customers are included in “Cost of sales, exclusive of depreciation and amortization” in the accompanying consolidated statement of income.

Selling, General and Administrative Costs
Amounts presented as “Selling, general and administrative” in the accompanying consolidated statement of income are comprised of selling, customer service, distribution and advertising costs, as well as the costs of providing corporate-wide functional support in such areas as finance, law, human resources and planning. Distribution costs pertain to the movement and storage of finished goods inventory at company-

owned and leased warehouses, terminals and other distribution facilities.

Advertising Costs
Advertising costs are expensed as incurred and totaled $297 million, $235 million and $174 million in 2014, 2013 and 2012, respectively.

Research and Development
Research and development costs, which consist primarily of employee related costs, are charged to expense as incurred. The following are the research and development costs for the years ended December 31:

($ in millions)	2014	2013	2012
Research and development – total	$509	$479	$444
Less depreciation on research facilities	17	16	14
Research and development, net	$492	$463	$430

Legal Costs

Legal costs are expensed as incurred. Legal costs incurred by PPG include legal costs associated with acquisition and divestiture transactions, general litigation, environmental regulation compliance, patent and trademark protection and other general corporate purposes.

Foreign Currency Translation

The functional currency of most significant non-U.S. operations is their local currency. Assets and liabilities of those operations are translated into U.S. dollars using year-end exchange rates; income and expenses are translated using the average exchange rates for the reporting period. Unrealized foreign currency translation adjustments are deferred in accumulated other comprehensive loss, a separate component of shareholders' equity.

Cash Equivalents

Cash equivalents are highly liquid investments (valued at cost, which approximates fair value) acquired with an original maturity of three months or less.

Short-term Investments

Short-term investments are highly liquid, high credit quality investments (valued at cost plus accrued interest) that have stated maturities of greater than three months to one year. The purchases and sales of these investments are classified as investing activities in the consolidated statement of cash flows.

Marketable Equity Securities

The Company's investment in marketable equity securities is recorded at fair market value and reported in "Other current assets" and "Investments" in the accompanying consolidated balance sheet with changes in fair market value recorded in income for those securities designated as trading securities and in other comprehensive income, net of tax, for those designated as available for sale securities.

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Notes to the Consolidated Financial Statements

Inventories

Inventories are stated at the lower of cost or market. Most U.S. inventories are stated at cost, using the last-in, first-out (“LIFO”) method of accounting, which does not exceed market. All other inventories are stated at cost, using the first-in, first-out (“FIFO”) method of accounting, which does not exceed market. PPG determines cost using either average or standard factory costs, which approximate actual costs, excluding certain fixed costs such as depreciation and property taxes. See Note 3, "Working Capital Detail" for further information concerning the Company's inventory.

Derivative Financial Instruments

The Company recognizes all derivative financial instruments as either assets or liabilities at fair value on the balance sheet. The accounting for changes in the fair value of a derivative depends on the use of the instrument.

To the extent that a derivative is designated as effective as a hedge of an exposure to future changes in cash flows (cash flow hedge), the change in fair value of the instrument is deferred in accumulated other comprehensive income ("AOCI") and subsequently reclassified within net income as gains and losses are recognized on the related transactions. Any portion considered to be ineffective is reported within net income.

To the extent that a derivative is designated as effective as a hedge of an exposure to future changes in fair value (fair value hedge), the change in the derivative’s fair value is offset in the consolidated statement of income by the change in fair value of the item being hedged.

To the extent that a derivative or a financial instrument is designated as effective as a hedge of a net investment in a foreign operation, the change in the derivative’s fair value or the financial instrument's carrying value is deferred as an unrealized currency translation adjustment in AOCI. Deferrals in AOCI related to hedges of the Company's net investments in foreign operations are reclassified and recognized in income from continuing operations upon a substantial liquidation, sale or partial sale of such investments or upon impairment of all or a portion of such investments. The cash flow impact of these instruments have been and will be classified as investing activities in the consolidated statement of cash flows.

Changes in the fair value of derivative instruments not designated as hedges for hedge accounting purposes are recognized in income from continuing operations in the period of change.

Property, Plant and Equipment

Property, plant and equipment is recorded at cost. PPG computes depreciation by the straight-line method based on the estimated useful lives of depreciable assets. Additional expense is recorded when facilities or equipment are subject to abnormal economic conditions or obsolescence.

Significant improvements that add to productive capacity or extend the lives of properties are capitalized. Costs for repairs and maintenance are charged to expense as incurred. When property is retired or otherwise disposed of, the original cost and

related accumulated depreciation balance are removed from the accounts and any related gain or loss is included in income from continuing operations. Amortization of the cost of capitalized leased assets is included in depreciation expense. Property and other long-lived assets are reviewed for impairment whenever events or circumstances indicate that their carrying amounts may not be recoverable. See Note 4, "Property, Plant and Equipment" for further details.

Goodwill and Identifiable Intangible Assets

Goodwill represents the excess of the cost over the fair value of acquired identifiable tangible and intangible assets less liabilities assumed from acquired businesses. Identifiable intangible assets acquired in business combinations are recorded based upon their fair value at the date of acquisition.

The Company tests goodwill of each reporting unit for impairment at least annually in connection with PPG’s strategic planning process. The Company tests goodwill for impairment by either performing a qualitative evaluation or a two-step quantitative test. The qualitative evaluation is an assessment of factors, including reporting unit specific

operating results as well as industry, market and general economic conditions, to determine whether it is more likely than not that the fair values of a reporting unit is less than its carrying amount, including goodwill. The Company may elect to bypass this qualitative assessment for some or all of its reporting units and perform a two-step quantitative test. The quantitative goodwill impairment test is performed during the fourth quarter by comparing the estimated fair value of the associated reporting unit as of September 30 to its carrying value. The Company's reporting units are its operating segments. (See Note 19, "Reportable Business Segment Information" for further information concerning the Company's operating segments.) Fair value is estimated using discounted cash flow methodologies.

The Company has determined that certain acquired trademarks have indefinite useful lives. The Company tests the carrying value of these trademarks for impairment at least annually, or as needed whenever events and circumstances indicate that their carrying amount may not be recoverable. The annual assessment takes place in the fourth quarter of each year either by completing a qualitative assessment or quantitatively by comparing the estimated fair value of each trademark as of September 30 to its carrying value. Fair value is estimated by using the relief from royalty method (a discounted cash flow methodology). The qualitative assessment includes consideration of factors, including revenue relative to the asset being assessed, the operating results of the related business as well as industry, market and general economic conditions, to determine whether it is more likely than not that the fair value of the asset is less than its carrying amount.

Identifiable intangible assets with finite lives are amortized on a straight-line basis over their estimated useful lives (1 to 30 years) and are reviewed for impairment whenever events or circumstances indicate that their carrying amount may not be recoverable.

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Notes to the Consolidated Financial Statements

Receivables and Allowances
All trade receivables are reported on the balance sheet at the outstanding principal adjusted for any allowance for credit losses and any charge offs. The Company provides an allowance for doubtful accounts to reduce receivables to their estimated net realizable value when it is probable that a loss will be incurred. Those estimates are based on historical collection experience, current economic and market conditions, a review of the aging of accounts receivable and the assessments of current creditworthiness of customers.

Product Warranties
The Company accrues for product warranties at the time the associated products are sold based on historical claims experience. The reserve, pre-tax charges against income and cash outlays for product warranties were not significant to the consolidated financial statements of the Company for any year presented.

Asset Retirement Obligations
An asset retirement obligation represents a legal obligation associated with the retirement of a tangible long-lived asset that is incurred upon the acquisition, construction, development or normal operation of that long-lived asset. PPG recognizes asset retirement obligations in the period in which they are incurred, if a reasonable estimate of fair value can be made. The asset retirement obligation is subsequently adjusted for changes in fair value. The associated estimated asset retirement costs are capitalized as part of the carrying amount of the long-lived asset and depreciated over its useful life. PPG’s asset retirement obligations are primarily associated with closure of certain assets used in the chemicals manufacturing process. The accrued asset retirement obligation was $18 million and $12 million as of December 31, 2014 and December 31, 2013, respectively.
PPG’s only conditional asset retirement obligation relates to the possible future abatement of asbestos contained in certain PPG production facilities. The asbestos in PPG’s production facilities arises from the application of normal and customary building practices in the past when the facilities were constructed. This asbestos is encapsulated in place and, as a result, there is no current legal requirement to abate it. Inasmuch as there is no requirement to abate, the Company does not have any current plans or an intention to abate and therefore the timing, method and cost of future abatement, if any, are not known. The Company has not recorded an asset retirement obligation associated with asbestos abatement, given the uncertainty concerning the timing of future abatement, if any.

Reclassifications
Certain reclassifications of prior years’ data have been made to conform to the current year presentation.
Accounting Standards Adopted in 2014
In July 2013, the Financial Accounting Standards Board (the "FASB") issued an Accounting Standards Update ("ASU") that changes how certain unrecognized tax benefits are to be presented on the consolidated balance sheet. This ASU clarified

existing guidance to require that an unrecognized tax benefit or a portion thereof be presented in the consolidated balance sheet as a reduction to a deferred tax asset for a net operating loss ("NOL") carryforward, similar tax loss, or a tax credit carryforward except when an NOL carryforward, similar tax loss, or tax credit carryforward is not available under the tax law of the applicable jurisdiction to settle any additional income taxes that would result from the disallowance of a tax position. In such a case, the unrecognized tax benefit would be presented in the consolidated balance sheet as a liability. PPG adopted this standard in 2014, and it did not have a significant effect on PPG's consolidated financial position, results of operations or cash flows.
Accounting Standards to be Adopted in Future Years
In May 2014, the FASB issued ASU 2014-09, “Revenue from Contracts with Customers: Topic 606”. This ASU replaces nearly all existing U.S. GAAP guidance on revenue recognition. The standard prescribes a five-step model for recognizing revenue, the application of which will require significant judgment. This standard is effective for

fiscal years beginning after December 15, 2016, and for interim periods within those fiscal years. PPG is in the process of assessing the impact the adoption of this ASU will have on its consolidated financial position, results of operations and cash flows.

In April 2014, the FASB issued an ASU that changes the criteria for determining which disposals can be presented as discontinued operations and modifies related disclosure requirements. Under the new guidance, a discontinued operation is defined as a disposal of a component or group of components that is disposed of or is classified as held for sale and represents a strategic shift that has or will have a major effect on an entity's operations and financial results. This standard is effective in annual periods beginning on or after December 15, 2014 with early adoption permitted. The guidance applies prospectively to new disposals and new classifications of disposal groups as held for sale after the effective date. Upon adoption of the ASU, PPG will assess discontinued operations using the new criteria and may have to provide expanded disclosure for disposals; however, this ASU will not affect PPG's consolidated financial position, results of operations or cash flows.

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Notes to the Consolidated Financial Statements

2. Acquisitions and Dispositions

Acquisitions

Consorcio Comex

In November 2014, PPG finalized the acquisition of Consorcio Comex, S.A. de C.V. (“Comex”), an architectural coatings company with headquarters in Mexico City, Mexico for $1.98 billion, net of cash acquired of $69 million. PPG also repaid $280 million of third-party debt assumed in the acquisition. The purchase price is subject to customary post-closing adjustments. Comex manufactures coatings and related products in Mexico and sells them in Mexico and Central America principally through more than 3,700 stores that are independently owned and operated by more than 700 concessionaires. Comex also sells its products through regional retailers and wholesalers, and directly to customers. The company has approximately 3,900 employees, eight manufacturing facilities and six distribution centers. The acquisition further expands PPG's global coatings business and adds a leading architectural coatings business in Mexico and Central America. Since the acquisition, the results of this acquired business have been included in the results of the architectural coatings - Americas and Asia Pacific operating segment, within the Performance Coatings reportable segment. Net sales reported by PPG from the date of acquisition from this acquired business were approximately $175 million for the year ended December 31, 2014. Segment income from continuing operations related to this acquisition was in the mid-teen percentage return on these sales.

PPG is in the process of obtaining third-party valuations of assets acquired and liabilities assumed in the Comex acquisition. As such, the allocation of the purchase price is subject to change. The following table summarizes the estimated fair value of assets acquired and liabilities assumed as reflected in the preliminary purchase price allocation for Comex.

($ in millions)	
Current assets	$379
Property, plant, and equipment	312
Trademarks with indefinite lives	1,022
Identifiable intangible assets with finite lives	280
Goodwill	1,086
Other non-current assets	32
Total assets	$3,111
Current liabilities	(357)
Non-current deferred tax liabilities	(449)
Long-term debt	(280)
Accrued pensions	(20)
Other long-term liabilities	(29)
Total liabilities	$(1,135)
Total purchase price, net of cash acquired	$1,976

The identifiable intangible assets with finite lives in the table above, which consist primarily of customer relationships and acquired technology, are subject to amortization over a weighted average period of 16 years. See Note 6, "Goodwill and Other Identifiable Intangible Assets" for further details regarding PPG's intangible assets.

The following information reflects the net sales of PPG for the years ended December 31, 2014 and 2013 on a pro forma basis as if the transaction for the Comex acquisition had been completed on January 1, 2013.

Condensed Consolidated Pro Forma information (unaudited)

	Year ended	
($ in millions)	2014	2013
Net sales	$16,175	$15,232

The pro forma impact on PPG's results of operations, including the pro forma effect of events that are directly attributable to the acquisition, was not significant to the consolidated results for either 2014 or 2013. While calculating this impact, no cost savings or operating synergies that may result from the acquisition were included.

Akzo Nobel North American Architectural Coatings

In April 2013, PPG finalized the acquisition of the North American architectural coatings business of Akzo Nobel N.V., Amsterdam, the Netherlands ("North American architectural coatings acquisition") for $947 million, net of cash acquired and a working capital adjustment. The acquisition further extended PPG’s architectural coatings business in the United States, Canada and the Caribbean. With this acquisition, PPG expanded its reach in all three major North American architectural coatings distribution channels, including home centers, independent paint dealers and company-owned paint stores. Since the date of acquisition, the results of this acquired business have been included in the results of the architectural coatings - Americas and Asia Pacific operating segment, within the Performance Coatings reportable segment.

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Notes to the Consolidated Financial Statements

The following table summarizes the fair value of assets acquired and liabilities assumed as reflected in the final purchase price allocation for the North American architectural coatings acquisition.

($ in millions)	
Current assets	$558
Property, plant, and equipment	184
Trademarks with indefinite lives	174
Identifiable intangible assets with finite lives	196
Goodwill	225
Other non-current assets	49
Total assets	$1,386
Current liabilities	(326)
Accrued pensions	(29)
Other post-retirement benefits	(40)
Other long-term liabilities	(44)
Total liabilities	$(439)
Total purchase price, net of cash acquired	$947

The identifiable intangible assets with finite lives in the table above, which consist primarily of customer relationships and acquired technology, are subject to amortization over a weighted average period of 10 years. See Note 6 "Goodwill and Other Identifiable Intangible Assets" for further details regarding PPG's intangible assets.

The following information reflects the net sales of PPG for the years ended December 31, 2013 and 2012 on a pro forma basis as if the transaction for the North American architectural coatings acquisition had been completed on January 1, 2012.

Condensed Consolidated Pro Forma information (unaudited)

	Year ended	
($ in millions)	2013	2012
Net sales	$14,637	$14,223

The pro forma impact on PPG's results of operations, including the pro forma effect of events that are directly attributable to the acquisition, was not significant. While calculating this impact, no cost savings or operating synergies that may result from the acquisition were included.

Other Acquisitions

For the years presented, the Company also completed the acquisition of several businesses, primarily in the Performance Coatings segment. The total consideration paid for these acquisitions, net of cash acquired and including debt assumed, was $189 million, $36 million and $288 million in 2014, 2013 and 2012, respectively.

Dispositions

Mt. Zion Flat Glass Facility

In September 2014, PPG completed the sale of substantially all of the assets of its former Mt. Zion, Illinois, flat glass manufacturing facility to automotive glass manufacturer Fuyao Glass America Incorporated. As a result of this transaction, the Company recognized a pre-tax gain of $22 million which is reported in the caption "Other income" on the Consolidated Statement of Income. The sale did not include certain production assets which are unique to PPG.

Pittsburgh Glass Works

In July 2014, Pittsburgh Glass Works LLC ("PGW"), an equity affiliate in which PPG has an approximate 40% ownership interest, sold its insurance and services business and recognized a pre-tax gain on the sale. PPG accounts for its interest in PGW under the equity method of accounting and in the third quarter of 2014 recognized $94 million as its share of the gain on this transaction. This gain is reported in the caption "Other income" on the Consolidated Statement of Income. In addition, PPG received a cash distribution of approximately $41 million from PGW to offset PPG’s expected income tax liability associated with this sale. The pre-tax gain and the cash distribution are both

reported within the "Equity affiliate earnings, net of distributions received" caption on the Consolidated Statement of Cash Flows.

Transitions Optical Joint Venture and Sunlens Business

In March 2014, the Company completed the sale of its 51% ownership interest in its Transitions Optical joint venture and 100% of its optical sunlens business to Essilor International (Compagnie Generale D'Optique) SA ("Essilor"). PPG received cash at closing of $1.735 billion pre-tax (approximately $1.5 billion after-tax). The sale of these businesses, which were previously reported in the former Optical and Specialty Materials segment, resulted in a first quarter of 2014 pre-tax gain of $1,468 million ($946 million after-tax) reported in discontinued operations. During the first quarter of 2014, the Company recognized $522 million of tax expense on the sale, of which $262 million is deferred U.S. income tax on the foreign earnings of the sale, as PPG does not consider these earnings to be reinvested for an indefinite period of time. The pre-tax gain on this sale reflects the excess of the sum of the cash proceeds received over the net book value of the net assets of PPG's former Transitions Optical and sunlens business. The Company also incurred $55 million of pre-tax expense, primarily for professional services related to the sale, post-closing adjustments, costs and other contingencies under the terms of the agreements. The net gain on the sale includes these related losses and expenses. During 2014, revisions to estimated tax liabilities associated with the transaction were recorded to discontinued operations.

The results of operations and cash flows of these businesses for the year ended December 31, 2014, and the net gain on the sale, are reported as results from discontinued operations for the year ended December 31, 2014. In prior periods presented, the results of operations and cash flows of these businesses were

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Notes to the Consolidated Financial Statements

reclassified from continuing operations and presented as results from discontinued operations.

Essilor has also entered into 5 year agreements with PPG for the continued supply of photochromic materials and for research and development services, subject to renewal. PPG considered the significance of the revenues associated with the agreements compared to total operating revenues of the disposed businesses and determined that they were not significant.

Net sales and earnings from discontinued operations related to the Transitions Optical and sunlens transaction are presented in the table below:

	Year-ended		
($ in millions)	2014	2013	2012
Net sales	$247	$843	$826
Income from operations	$104	$263	$229
Net gain from divestiture of PPG's interest in the Transitions Optical joint venture and sunlens business	1,468	—	—
Income tax expense	570	80	73
Income from discontinued operations, net of tax	$1,002	$183	$156
Less: Net income attributable to non-controlling interests, discontinued operations	$(33)	$(99)	$(93)
Net income from discontinued operations (attributable to PPG)	$969	$84	$63

The major classes of assets and liabilities of the Transitions Optical and sunlens businesses included in the PPG balance sheet at December 31, 2013 were as follows:

($ in millions)	
Cash	$154
Receivables	225
Inventory	68
Other current assets	13
Property, plant, and equipment	158
Goodwill	47
Other non-current assets	3
Total assets	$668
Accounts payable and accrued liabilities	(199)
Short-term debt and current portion of long-term debt	(24)
Accrued pensions	(1)
Other long-term liabilities	(10)
Noncontrolling interests	(167)
Net assets	$267

Commodity Chemicals Business Separation

In January 2013, the Company completed the separation of its commodity chemicals business and merger of its wholly-owned subsidiary, Eagle Spinco Inc., with a subsidiary of Georgia Gulf Corporation in a tax efficient Reverse Morris Trust transaction (the “Transaction”). Pursuant to the merger, Eagle Spinco, the entity holding PPG's former commodity chemicals business, became a

wholly-owned subsidiary of Georgia Gulf. The combined company formed by uniting Georgia Gulf with PPG's former commodity chemicals business is named Axiall Corporation (“Axiall”). PPG holds no ownership interest in Axiall. PPG received the necessary ruling from the Internal Revenue Service and as a result this Transaction was generally tax free to PPG and its shareholders in the United States and Canada.

Under the terms of the Transaction, PPG received $900 million of cash and 35.2 million shares of Axiall common stock (market value of $1.8 billion on January 25, 2013) which was distributed to PPG shareholders by an exchange offer. In the exchange offer, PPG shareholders who tendered their shares of PPG common stock as part of this offer received 3.2562 shares of Axiall common stock for each share of PPG common stock accepted for exchange. PPG was able to accept the maximum of 10,825,227 shares of PPG common stock for exchange in the offer. The completion of this exchange offer was a non-cash financing transaction, which resulted in an increase in "Treasury stock" at a cost of $1.561 billion based on the PPG closing stock price on January 25, 2013.

In addition, PPG received $67 million in cash for a preliminary post-closing working capital adjustment under the terms of the Transaction agreements. The net assets transferred to Axiall included $27 million of cash on the books of the business transferred. In the Transaction, PPG transferred environmental remediation liabilities, defined benefit pension plan assets and liabilities and other post-employment benefit liabilities related to the commodity chemicals business to Axiall.

PPG recorded a net gain of $2.2 billion on the Transaction reflecting the excess of the sum of the cash proceeds received and the cost (closing stock price on January 25, 2013) of the PPG shares tendered and accepted in the exchange for the 35.2 million shares of Axiall common stock over the net book value of the net assets of PPG's former commodity chemicals business. The Transaction resulted in a net partial settlement loss of $33 million associated with the spin out and termination of defined benefit pension liabilities and the transfer of other post-retirement benefit liabilities under the terms of the Transaction.

The results of operations and cash flows of PPG's former commodity chemicals business for January 2013 and the net gain on the Transaction are reported as results from discontinued operations for the year-ended December 31, 2013. For the year-ended December 31, 2012, the results of operations and cash flows of PPG's former commodity chemicals business have been reclassified from continuing operations and presented as results from discontinued operations.

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The net sales and income before income taxes of the commodity chemicals business that have been reclassified and reported as discontinued operations are presented in the table below:

	Year-ended	
($ in millions)	2013	2012
Net sales	$108	$1,688
Income from operations, before income tax	$—	$345
Net gain from separation and merger of commodity chemicals business	2,192	—
Income tax expense	(5)	117
Income from discontinued operations, net of tax	$2,197	$228
Less: Net income attributable to non-controlling interests, discontinued operations	$—	$(13)
Net income from discontinued operations (attributable to PPG)	$2,197	$215

3. Working Capital Detail

($ in millions)	2014	2013
Receivables		
Trade - net[1]	$2,366	$2,449
Equity affiliates	10	10
Other - net	439	277
Total	$2,815	$2,736
Inventories[2]		
Finished products	$1,169	$1,156
Work in process	157	160
Raw materials	439	440
Supplies	60	68
Total	$1,825	$1,824
Accounts payable and accrued liabilities		
Trade	$1,919	$1,790
Accrued payroll	497	506
Customer rebates	264	225
Other postretirement and pension benefits	94	93
Income taxes	62	80
Other	712	571
Total	$3,548	$3,265

(1) Allowance for Doubtful Accounts equaled $87 million and $74 million as of December 31, 2014 and 2013, respectively.

(2) Inventories valued using the LIFO method of inventory valuation comprised 40% and 38% of total gross inventory values as of December 31, 2014 and 2013, respectively. If the FIFO method of inventory valuation had been used, inventories would have been $182 million and $195 million higher as of December 31, 2014 and 2013, respectively. During the year ended December 31, 2014 and 2013, certain inventories accounted for on the LIFO method of accounting were reduced, which resulted in the liquidation of certain quantities carried at costs prevailing in prior years. The effect on income from continuing operations was expense of $0.3 million and income of $0.7 million for the years ended December 31, 2014 and 2013, respectively.

4. Property, Plant and Equipment

($ in millions)	Useful Lives	2014	2013

	(years)		
Land and land improvements	5-30	$489	$473
Buildings	20-40	1,563	1,593
Machinery and equipment	5-25	4,284	4,513
Other	3-20	751	743
Construction in progress		383	359
Total[(1)]		$7,470	$7,681
Less: accumulated depreciation		$4,378	$4,805
Net		$3,092	$2,876

(1) Interest capitalized in 2014, 2013 and 2012 was $16 million, $10 million and $8 million, respectively.

5. Investments

($ in millions)	2014	2013
Investments in equity affiliates	$295	$245
Marketable equity securities - Trading (See Note 9)	74	70
Other	74	78
Total	$443	$393

The Company’s investments in equity affiliates are comprised principally of 50% ownership interests in a number of joint ventures that manufacture and sell coatings and glass products, the most significant of which produce fiber glass products and are located in Asia. The Company’s investments in and advances to equity affiliates also include its approximate 40% ownership interest in Pittsburgh Glass Works LLC (“PGW”), which had a carrying value of $94 million and $30 million at December 31, 2014 and December 31, 2013, respectively.

Until January 28, 2013, PPG held a 50% ownership interest in RS Cogen, LLC, which toll produced electricity and steam primarily for PPG's former Lake Charles, La. commodity chemicals facility and its joint venture partner under take-or-pay contracts with terms that extended to 2022. On January 28, 2013, PPG's investment in R.S. Cogen and its future purchase obligations under the take-or-pay commitments were transferred with the separation of its commodity chemicals business and the merger of the subsidiary holding the PPG commodity chemicals business with a subsidiary of Georgia Gulf. Refer to Note 2, "Acquisitions and Dispositions."

PPG’s share of undistributed net earnings of equity affiliates was $171 million and $98 million as of December 31, 2014 and December 31, 2013, respectively. Dividends received from equity affiliates were $5 million, $9 million and $12 million in 2014, 2013 and 2012, respectively.

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6. Goodwill and Other Identifiable Intangible Assets

The change in the carrying amount of goodwill attributable to each reportable business segment for the years ended December 31, 2014 and 2013 was as follows:

($ in millions)	Performance Coatings	Industrial Coatings	Glass	Commodity Chemicals	Total
Balance, Jan. 1, 2013	$2,143	$560	$52	$6	$2,761
Goodwill from acquisitions	235	4	—	—	239
Goodwill reduction due to Separation (See Note 2)	—	—	—	(6)	(6)
Foreign currency translation	3	11	—	—	14
Balance, Dec. 31, 2013	$2,381	$575	$52	$—	$3,008
Goodwill from acquisitions	1,165	—	—	—	1,165
Goodwill reduction due to divestitures	—	(47)	—	—	(47)
Foreign currency translation	(279)	(42)	(4)	—	(325)
Balance, Dec. 31, 2014	$3,267	$486	$48	$—	$3,801

The carrying amount of acquired trademarks with indefinite lives as of December 31, 2014 and 2013 totaled $1.4 billion and $499 million, respectively. The increase is primarily due to the acquisition of Comex. Refer to Note 2, "Acquisitions and Dispositions".

The Company’s identifiable intangible assets with finite lives are being amortized over their estimated useful lives and are detailed below.

($ in millions)	Dec. 31, 2014 Gross Carrying Amount	Accumulated Amortization	Net	Dec. 31, 2013 Gross Carrying Amount	Accumulated Amortization	Net
Acquired technology	$560	$(394)	$166	$522	$(372)	$150
Customer-related intangibles	1,302	(570)	732	1,177	(557)	620
Tradenames	134	(60)	74	127	(61)	66
Other	42	(24)	18	30	(26)	4
Balance	$2,038	$(1,048)	$990	$1,856	$(1,016)	$840

Aggregate amortization expense was $126 million, $119 million and $107 million in 2014, 2013 and 2012, respectively. The estimated future amortization expense of identifiable intangible assets per year is approximately $145 million during 2015, approximately $120 million during 2016, approximately $115 million during 2017, approximately $110 million during 2018 and approximately $95 million during 2019.

7. Business Restructurings

In July 2013, the Company approved a business restructuring plan that resulted in a pre-tax charge of $98 million. The approved actions were focused on achieving cost synergies, through improved productivity and efficiency, related to the 2013 North American architectural coatings acquisition,

including actions in the acquired business, as well as in PPG's legacy architectural coatings businesses. Additionally, smaller targeted actions were approved for businesses, most notably protective and marine coatings and certain

European businesses such as architectural coatings and fiber glass. The restructuring actions impacted approximately 1,400 employees.

The charge of $98 million is comprised of employee severance and other costs of approximately $93 million and asset write-offs of approximately $5 million. Cash payouts for certain liabilities were $27 million in 2013 and $46 million in 2014, with the remainder of the cash spending to occur in 2015. Substantially all actions in the restructuring plan were completed as of December 31, 2014, with the few remaining actions expected to be completed during the first half of 2015.

The following table summarizes the 2013 restructuring charge and the reserve activity since inception and through the year ended December 31, 2014:

($ in millions, except no. of employees)	Severance and Other Costs	Asset Write-offs	Total Reserve	Employees Impacted
Performance Coatings	$74	$5	$79	1,253
Industrial Coatings	14	—	14	165
Glass	4	—	4	14
Corporate	1	—	1	4
Total third quarter 2013 restructuring charge	$93	$5	$98	1,436
2013 activity	(27)	(5)	(32)	(645)
Foreign currency impact	4	—	4	—
Balance as of December 31, 2013	$70	$—	$70	791
2014 activity	(46)	—	(46)	(768)
Foreign currency impact	4	—	4	—
Balance as of December 31, 2014	$24	$—	$24	23

In March 2012, the Company approved a business restructuring plan that resulted in a charge of $208 million. The approved actions were taken to reduce the Company's cost structure, primarily due to continuing weak economic conditions in Europe and in the commercial and residential construction markets in the U.S. and Europe. As part of this restructuring plan, PPG closed several laboratory, warehouse and distribution facilities and small production units and reduced staffing. The restructuring impacted a number of businesses globally, primarily the global architectural businesses and general and administrative functions in Europe.

The charge of $208 million was comprised of employee severance and other cash costs of $160 million, asset write-offs of $53 million, and a net pension curtailment gain of $5 million. As of December 31, 2014, all actions related to the 2012 restructuring plan were completed.

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8. Borrowings and Lines of Credit

Long-term Debt Obligations

($ in millions)	2014	2013
3 7/8% notes, due 2015 (€300)	$364	$413
1.9 % notes, due 2016[1]	250	249
7 3/8% notes, due 2016[1]	—	146
6 7/8% notes, due 2017	—	74
3-year variable rate bank loan, due 2017 (€500)	605	—
6.65% notes, due 2018	125	700
7.4% notes, due 2019	—	198
2.3% notes, due 2019	299	—
3.6% notes, due 2020	496	495
9% non-callable debentures, due 2021[1]	133	149
2.70% notes, due 2022	—	400
2.5% note, due 2029 (€80)	96	—
7.70% notes, due 2038	175	249
5.5% notes, due 2040	248	248
3% note, due 2044 (€120)	137	—
Commercial paper	935	—
Impact of derivatives on debt[1]	9	21
Various other non-U.S. debt, weighted average 2.3% as of December 31, 2014 and 0.7% of December 31, 2013.	5	4
Capital lease obligations	33	30
Total	3,910	3,376
Less payments due within one year	366	4
Long-term debt	$3,544	$3,372

(1) PPG entered into several interest rate swaps which had the effect of converting fixed rate notes to variable rates, based on the three-month London Interbank Offered Rate (LIBOR). There were no interest rate swaps outstanding related to these instruments as of December 31, 2014 and 2013. The impact of the derivatives on debt represents the fair value adjustment of the debt while the interest rate swaps were outstanding, which is being amortized as a reduction to interest expense over the remaining term of the debt. The weighted average effective interest rate for these borrowings, including the effects of the swaps, was 3.9% and 4.1% for the years ended December 31, 2014 and 2013, respectively. Refer to Note 9 for additional information.

In November 2014, PPG completed a public offering of $300 million in aggregate principal amount of its 2.30% Notes due 2019 (the "2.3% Notes”). These notes were issued pursuant to its existing shelf registration statement and pursuant to an indenture between the Company and The Bank of New York Mellon Trust Company, N.A., as trustee, as supplemented (the "Indenture"). The Company may issue additional debt from time to time pursuant to the Indenture. The Indenture governing these notes contains covenants that limit the Company’s ability to, among other things, incur certain liens securing indebtedness, engage in certain sale-leaseback transactions, and enter into certain consolidations, mergers, conveyances, transfers or leases of all or substantially all the Company’s assets. The terms of these notes also require the Company to make an offer to repurchase Notes upon a Change of Control Triggering Event (as defined in the Indenture) at a price equal to 101% of their principal amount plus accrued and unpaid interest.

Also in November 2014, the Company entered into three Euro-denominated borrowings as follows.

3-year €500 million bank loan

Interest on this loan is variable and is based on changes to the EURIBOR interest rate. This loan contains covenants materially consistent with the five-year credit agreement, as discussed below. At December 31, 2014, the average interest rate on this borrowing was 0.70%.

15-year €80 million 2.5% fixed interest and 30-year €120 million 3.0% fixed interest notes

PPG privately placed a 15-year €80 million 2.5% fixed interest note and a 30-year €120 million 3.0% fixed interest note. These notes contain covenants materially consistent with the 2.3% Notes discussed above.

The cash proceeds related to these borrowings net of discounts and fees are as follows:

($ in millions)	Proceeds
3-year variable rate bank loan [(2)]	$620
2.30% notes, due 2019	297
15-year 2.5% fixed rate note[(2)]	99
30-year 3.0% fixed rate note [(2)]	142
Total cash proceeds	$1,158

(2) These debt arrangements are denominated in Euro and have been designated as net investment hedges of the Company's European operations. For more information refer to Note 9 "Financial Instruments, Hedging Activities and Fair Value Measurements".

In December 2014, PPG completed a debt refinancing which included redeeming approximately $1.5 billion of public notes and a tender offer for any and all of its outstanding 9% debentures, due 2021 and the 7.70% notes, due 2038 (together, the "Offers"). The consideration for each $1,000 principal amount of the 2021 debentures was approximately $1,334 and was approximately $1,506 for the 2038 notes. After the expiration of the Offers, PPG accepted for purchase all of the securities that were validly tendered. An aggregate principal amount of $90 million was redeemed through the tender offer which required $43 million of premiums to be paid to the debt holders.

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The following table is a summary of the debt instruments redeemed and the tender offers completed:

($ in millions)	Amount Paid
Public notes redeemed:	
7 $^{3}/_{8}$% notes, due 2016	$146
6 $^{7}/_{8}$% notes, due 2017	75
6.65% notes, due 2018	575
7.4% notes, due 2019	199
2.70% notes, due 2022	400
Total of make-whole premiums paid to redeem notes	179
Tender Offer:	
9% debentures, due 2021	16
7.70% notes, due 2038	74
Total of premiums paid on tender offer	43
Total cash paid for debt redemption	$1,707

The Company recorded a charge of $317 million in the fourth quarter 2014 for the debt redemption which consists of the aggregate make-whole cash premium of $179 million for the public notes redemption, the aggregate cash premium of $43 million for the debt redeemed through the tender offer, the net realization of the unamortized interest rate swaps and forward starting swap losses of $89 million, and a balance of unamortized fees and discounts of $6 million related to the debt redeemed. Refer to Note 9, "Financial Instruments, Hedging Activity and Fair Value Measurement" for additional detail regarding the non-cash portion of the loss on the debt redemption.

The proceeds received from the 2.3% Notes and the three Euro-denominated borrowing arrangements were used to fund approximately $1.2 billion of the approximately $1.7 billion used for the 2014 debt redemption. Cash on hand was used to fund the remaining portion of the redemption payments.

In December 2014, the Company increased its 2012 five-year credit agreement with several banks and financial institutions (the “Credit Agreement”) by an additional $300 million, to a $1.5 billion unsecured revolving credit facility. The Credit Agreement terminates on September 12, 2017, although under circumstances specified in the Credit Agreement and subject to the lenders' approval, the Company may make one request to extend such termination date by one year with respect to the approving lenders. The Company has the right, subject to certain conditions set forth in the Credit Agreement, to designate certain subsidiaries of the Company as borrowers under the Credit Agreement. In connection with any such designation, the Company is required to guarantee the obligations of any such subsidiaries under the Credit Agreement. There were no amounts outstanding under the credit agreement during the years ended December 31, 2014 or December 31, 2013. The available borrowing rate on a one month, U.S. dollar denominated borrowing was 0.57% at December 31, 2014.

Borrowings under the Credit Agreement may be made in U.S. dollars or in Euros. The Credit Agreement provides that loans will bear interest at rates based, at the Company's option, on one of two specified base rates plus a margin based on certain formulas defined in the Credit Agreement. Additionally, the Credit Agreement contains a Commitment Fee, as defined in the Credit Agreement, on the amount of unused commitments under the Credit Agreement ranging from 0.080% to 0.225% per annum. The average Commitment Fee in 2014 was 0.10% and PPG is committed to pay 0.10% in 2015.

The Credit Agreement also supports the Company's commercial paper borrowings. As a result, the commercial paper borrowings as of December 31, 2014 are classified as long-term debt based on PPG's intent and ability to refinance these borrowings on a long-term basis.

The Credit Agreement contains usual and customary restrictive covenants for facilities of its type, which include, with specified exceptions, limitations on the Company's ability to create liens or other encumbrances, to enter into sale and

leaseback transactions and to enter into consolidations, mergers or transfers of all or substantially all of its assets. The Credit Agreement maintains the same restrictive covenant as the prior revolving credit facility whereby the Company must maintain a ratio of Total Indebtedness to Total Capitalization, as defined in the Credit Agreement, of 60% or less. As of December 31, 2014, total indebtedness was 38% of the Company's total capitalization.

The Credit Agreement also contains customary events of default, including the failure to make timely payments when due under the Credit Agreement or other material indebtedness, the failure to satisfy covenants contained in the Credit Agreement, a change in control of the Company and specified events of bankruptcy and insolvency that would permit the lenders to accelerate the repayment of any loans.

As of December 31, 2014, PPG was in full compliance with the restrictive covenants under its various credit agreements, loan agreements and indentures.

Additionally, substantially all of the Company's debt agreements contain customary cross-default provisions. Those provisions generally provide that a default on a debt service payment of $10 million or more for longer than the grace period provided (usually 10 days) under one agreement may result in an event of default under other agreements.

None of the Company's primary debt obligations are secured or guaranteed by the Company's affiliates.

In March 2013, the Company repaid the $600 million of 5.75% notes due.

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Aggregate maturities of long-term debt during the next five years excluding commercial paper are:

($ in millions)	Maturity per year
2015	$366
2016	253
2017	608
2018	127
2019	303
Thereafter	1,318

Other Debt Obligations

Short-term debt outstanding as of December 31, 2014 and 2013, was as follows:

($ in millions)	2014	2013
Various, weighted average 2.52% as of December 31, 2014 and 3.55% as of December 31, 2013	$115	$30
Total	$115	$30

Rental expense for operating leases was $284 million, $256 million and $209 million in 2014, 2013 and 2012, respectively. The primary leased assets include paint stores, transportation equipment, warehouses and other distribution facilities, and office space, including the Company's corporate headquarters located in Pittsburgh, Pa. Minimum lease commitments for operating leases that have initial or remaining lease terms in excess of one year are as follows:

($ in millions)	As of December 31, 2014
2015	$180
2016	143
2017	118
2018	87
2019	62
Beyond 2019	108

Income from discontinued operations, net of tax includes $1 million, $10 million and $25 million of rental expense for operating leases in 2014, 2013 and 2012, respectively.

PPG's non-U.S. operations have uncommitted lines of credit totaling $723 million of which $160 million was used as of December 31, 2014. These uncommitted lines of credit are subject to cancellation at any time and are generally not subject to any commitment fees.

The Company had outstanding letters of credit and surety bonds of $120 million and $110 million as of December 31, 2014 and 2013, respectively. The letters of credit secure the Company's performance to third parties under certain self-insurance programs and other commitments made in the ordinary course of business.

As of December 31, 2014 and 2013, guarantees outstanding were $25 million and $51 million, respectively. The guarantees relate primarily to debt of certain entities in which PPG has an ownership interest and selected customers of certain of the Company's businesses. A portion of such debt is secured by the assets of the related entities. The carrying values of these guarantees were $1 million and $1 million as of December 31, 2014 and 2013, respectively, and the fair values were $2 million and $3 million, as of December 31, 2014 and 2013, respectively. The fair value of each guarantee was estimated by comparing the net present value of two hypothetical cash flow streams, one based on PPG's incremental borrowing rate and the other based on the borrower's incremental borrowing rate, as of the effective date of the guarantee. Both streams were discounted at a risk free rate of return. The Company does not believe any loss related to these letters of credit, surety bonds or guarantees is likely.

9. Financial Instruments, Hedging Activities and Fair Value Measurements

Financial instruments include cash and cash equivalents, short-term investments, cash held in escrow, marketable equity securities, accounts receivable, company-owned life insurance, accounts payable, short-term and long-term debt instruments, and derivatives. The fair values of these financial instruments approximated their carrying values at December 31, 2014 and 2013, in the aggregate, except for long-term debt instruments.

Hedging Activities

The Company has exposure to market risk from changes in foreign currency rates, PPG's stock price, and interest rates. As a result, certain derivative financial instruments may be used when available on a cost effective basis to hedge the underlying economic exposure. Certain of these instruments qualify as cash flow, fair value and net investment hedges upon meeting the requisite criteria, including effectiveness of offsetting hedge exposures. Changes in the fair value of derivatives that do not qualify for hedge accounting are recognized in income from continuing operations in the period incurred.

PPG’s policies do not permit speculative use of derivative financial instruments. PPG enters into derivative financial instruments with high credit quality counterparties and diversifies its positions among such counterparties in order to reduce its exposure to credit losses. The Company did not realize a credit loss on derivatives during the three-year period ended December 31, 2014.

All of PPG's outstanding derivative instruments are subject to accelerated settlement in the event of PPG’s failure to meet its debt or payment obligations under the terms of the instruments’ contractual provisions. In addition, should the Company be acquired and its payment obligations under the derivative instruments’ contractual arrangements not be assumed by the acquirer, or should PPG enter into bankruptcy, receivership or reorganization proceedings, the instruments would also be subject to accelerated settlement.

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During 2014, there was one derivative instrument initially designated as a net investment hedge that was undesignated as a hedging instrument during the year ended December 31, 2014. The impact of this undesignation was not significant to the results of operations or financial position of the Company. There were no derivative instruments undesignated or discontinued as a hedging instrument in either 2013 or 2012. There were no amounts deferred in AOCI reclassified to income from continuing operations during the three-year period ended December 31, 2014 related to hedges of anticipated transactions that were no longer expected to occur.

Fair Value Hedges:

PPG designates forward currency contracts as hedges against the Company’s exposure to future changes in fair value related to certain firm sales commitments denominated in foreign currencies. As of December 31, 2014 and 2013, the fair value of these contracts was insignificant.

Interest rate swaps have been used from time to time to manage the Company's exposure to changing interest rates. When outstanding, the interest rate swaps were designated as fair value hedges and were recorded at fair value. In prior years, PPG settled interest rate swaps and received cash. There were no interest rate swaps outstanding as of December 31, 2014 and 2013. However, the fair value adjustment of the debt at the time the interest rates swaps were settled is being amortized as a reduction to interest expense over the remaining term of the related debt. As a result of the completed debt refinancing, a $4 million gain was recognized related to the portion of the fair value adjustment for the debt that was retired in 2014.

PPG has entered into renewable equity forward arrangements to hedge the impact to PPG's income from continuing operations for changes in the fair value of 1,388,889 shares of PPG stock that are to be contributed to the asbestos settlement trust as discussed in Note 13, “Commitments and Contingent Liabilities.” This financial instrument is recorded at fair value as an asset or liability and changes in the fair value of this financial instrument are reflected in the “Asbestos settlement – net” caption of the accompanying consolidated statement of income. The total principal amount payable for these shares is $62 million. PPG will pay to the counterparty interest based on the principal amount and the counterparty will pay to PPG an amount equal to the dividends paid on these shares during the period this financial instrument is outstanding. The difference between the principal amount and any amounts related to unpaid interest or dividends and the current market price for these shares, adjusted for credit risk, represents the fair value of the financial instrument as well as the amount that PPG would pay or receive if the counterparty chose to net settle the financial instrument. Alternatively, the bank may, at its option, require PPG to purchase the shares covered by the arrangement at the principal amount adjusted for unpaid interest and dividends as of the date of settlement. As of December 31, 2014 and 2013, the fair value of this contract was an asset of $268 million and $207 million, respectively.

Cash Flow Hedges:

PPG designates certain forward currency contracts and forward starting swaps as cash flow hedges of the Company’s exposure to variability in exchange rates on intercompany and third party transactions denominated in foreign currencies and interest rates. As of December 31, 2014 and 2013, the fair value of the forward currency contracts was a net asset of $46 million and $8 million, respectively.

The Company entered into forward starting swaps in 2009 and 2010 to effectively lock-in a fixed interest rate for future debt refinancings with an anticipated term of ten years based on the ten year swap rate, to which was added a corporate spread. The swaps had a total notional amount of $400 million and were settled in July 2012, resulting in a cash payment of $121 million. As of December 31, 2013, the amount of loss recorded in AOCI was $104 million, which was being amortized to interest expense over the remaining term of the ten-year debt that was issued in July 2012. In the fourth quarter of 2014, in conjunction with the debt refinancing, the ten-year debt instrument was redeemed and a non-cash charge for the related remaining unamortized loss of $93 million was recognized. Refer to Note 8, "Borrowings and Lines of Credit" for more information on the Company's debt refinancing. There were no forward starting swaps outstanding as of December 31, 2014 and 2013.

Net Investment Hedges:

PPG uses cross currency swaps, foreign currency contracts and Euro-denominated debt to hedge a portion of its net investment in its European operations. As of January 1, 2012, U.S. dollar to euro cross currency swap contracts with a total notional amount of $1.16 billion outstanding, of which $600 million of contracts were settled in June 2012. The remaining outstanding contracts of $560 million are to expire in March 2018. On settlement of the remaining outstanding contracts, PPG will receive $560 million U.S. dollars and pay Euros to the counterparties to the contracts. During the term of these contracts, PPG receives semiannual payments in March and September of each year based on U.S. dollar, long-term fixed interest rates, and PPG makes annual payments in March of each year to the counterparties based on Euro, long-term fixed interest rates. As of December 31, 2014 and December 31, 2013, the fair value of these contracts was a net liability of $32 million and $120 million, respectively.

In November 2014, the Company entered into three Euro-denominated borrowings. Refer to Note 8, "Borrowings and Lines of Credit" for more information. The Company has designated these debt arrangements as hedges of a portion of its net investment in its European operations and, as a result, mark to spot rate adjustments of the outstanding debt balances have been and will be recorded as a component of "Other comprehensive income."

During 2014 and 2013, PPG continued to designate a €300 million Euro-denominated borrowing as a hedge of a portion of PPG’s net investment in the Company’s European operations.

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During 2014, PPG used foreign currency forward contracts to hedge a portion of its net investment in its European operations. As of December 31, 2014, none of these contracts remained outstanding. PPG received cash proceeds of $49 million from the settlement of these contracts.

As of December 31, 2014 and 2013 the Company had accumulated pre-tax unrealized translation gains in AOCI of $169 million and losses of $35 million related to the Euro-denominated borrowings, foreign currency forward contracts, and the cross currency swaps.

The following tables provide details for the years ended December 31, 2014, 2013 and 2012 related to PPG's hedging activities. All dollar amounts are pre-tax.

December 31, 2014

Hedge Type ($ in millions)	Gain Deferred in OCI	Gain (Loss) Recognized Amount	Caption
Fair Value			
Foreign currency contracts	Not applicable	$1	Sales
Equity forward arrangements	Not applicable	60	Asbestos - net
Total Fair Value		$61	
Cash Flow			
Forward starting swaps	$—	$(104)	Interest expense and Other charges
Foreign currency contracts[(a)]	51	47	Other charges
Total Cash Flow	$51	$(57)	
Net Investment			
Cross currency swaps	$81		Other charges
Foreign denominated debt	75		Other charges
Foreign currency contracts	48		Other charges
Total Net Investment	$204		

(a) The ineffective portion related to this item was $7 million of expense.

December 31, 2013

Hedge Type ($ in millions)	Gain (Loss) Deferred in OCI	Gain (Loss) Recognized Amount	Caption
Fair Value			
Foreign currency contracts	Not applicable	$1	Sales
Equity forward arrangements	Not applicable	77	Asbestos - net
Total Fair Value		$78	
Cash Flow			
Forward starting swaps	$—	$(12)	Interest expense
Foreign currency contracts[(a)]	33	33	Other charges
Total Cash Flow	$33	$21	

Net Investment			
Cross currency swaps	$(28)		Other charges
Foreign denominated debt	(16)		Other charges
Total Net Investment	$(44)		

(a) The ineffective portion related to this item was $8 million of expense.

December 31, 2012			
Hedge Type ($ in millions)	Gain (Loss) Deferred in OCI	Gain (Loss) Recognized Amount	Caption
Fair Value			
Foreign currency contracts	Not applicable	$1	Sales
Equity forward arrangements	Not applicable	74	Asbestos - net
Total Fair Value		$75	
Cash Flow			
Natural gas swaps	$(2)	$(11)	Cost of sales and Income from Discontinued operations, net of tax
Interest rate swaps	(1)	(2)	Income from Discontinued operations, net of tax
Forward starting swaps[(a)]	(26)	(5)	Interest expense
Foreign currency contracts[(b)]	(9)	(9)	Other charges
Total Cash Flow	$(38)	$(27)	
Net Investment			
Cross currency swaps	$3		Other charges
Foreign denominated debt	(7)		Other charges
Total Net Investment	$(4)		

(a) The ineffective portion related to this item was $4 million of expense.
(b) The ineffective portion related to this item was $8 million of expense.

Fair Value Measurements
The Company follows a fair value measurement hierarchy to measure its assets and liabilities. The Company's financial

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assets and liabilities are measured using inputs from the following three levels.

Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets and liabilities that the Company has the ability to access at the measurement date. Level 1 inputs are considered to be the most reliable evidence of fair value as they are based on unadjusted quoted market prices from various financial information service providers and securities exchanges.

Level 2 inputs are directly or indirectly observable prices that are not quoted on active exchanges, which include quoted prices for similar assets and liabilities in active markets, quoted prices for identical or similar assets or liabilities in markets that are not active, inputs other than quoted prices that are observable for the asset or liability and inputs that are derived principally from or corroborated by observable market data by correlation or other means. The fair values of these derivative instruments reflect the contractual terms of the derivatives, including the period to maturity, and uses observable market-based inputs, including forward curves.

Level 3 inputs are unobservable inputs employed for measuring the fair value of assets or liabilities. The Company does not have any recurring financial assets or liabilities that are recorded in its consolidated balance sheets as of December 31, 2014 and 2013 that are classified as Level 3 inputs.

Assets and liabilities reported at fair value on a recurring basis:

	December 31, 2014		
($ in millions)	Level 1	Level 2	Level 3
Assets:			
Other current assets:			
Marketable equity securities	5	—	—
Foreign currency contracts	—	52	—
Equity forward arrangement	—	268	—
Investments:			
Marketable equity securities	74	—	—
Other assets:			
Foreign currency contracts	—	16	—
Liabilities:			
Accounts payable and accrued liabilities:			
Foreign currency contracts	—	23	—
Other liabilities:			
Cross currency swaps	—	32	—

	December 31, 2013		
($ in millions)	Level 1	Level 2	Level 3
Assets:			
Short-term investments:			
Commercial paper and certificates of deposit	$—	$50	$—
Other current assets:			
Marketable equity securities	5	—	—
Foreign currency contracts	—	25	—
Equity forward arrangement	—	207	—
Investments:			
Marketable equity securities	70	—	—
Other assets:			

Foreign currency contracts	—	2	—
Liabilities:			
Accounts payable and accrued liabilities:			
Foreign currency contracts	—	7	—
Other liabilities:			
Cross currency swaps	—	120	—
Foreign currency contracts	—	11	—

Long-Term Debt:
PPG's long-term debt (excluding capital lease obligations), had carrying and fair values totaling $3,877 million and $4,164 million, respectively, as of December 31, 2014. Long-term debt (excluding capital lease obligations), had carrying and fair values totaling $3,346 million and $3,683 million, respectively, as of December 31, 2013. The fair values of the debt instruments were based on discounted cash flows and interest rates then currently available to the Company for instruments of the same remaining maturities and were measured using level 2 inputs.

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Assets and liabilities reported at fair value on a nonrecurring basis:
There were no significant adjustments to the fair value of nonmonetary assets or liabilities during the years ended December 31, 2014, 2013 or 2012.

10. Earnings Per Common Share

Earnings per common share calculated for the years ended December 31, 2014, 2013 and 2012 are as follows:

($ in millions, except per share amounts)	2014	2013	2012
Earnings per common share (attributable to PPG)			
Income from continuing operations, net of tax	$1,133	$950	$663
Income from discontinued operations, net of tax	$969	$2,281	$278
Net income (attributable to PPG)	$2,102	$3,231	$941
Weighted average common shares outstanding	138.3	143.4	153.4
Earnings per common share (attributable to PPG):			
Income from continuing operations, net of tax	$8.19	$6.62	$4.32
Income from discontinued operations, net of tax	$7.01	$15.91	$1.81
Net income (attributable to PPG)	$15.20	$22.53	$6.13
Earnings per common share - assuming dilution (attributable to PPG)			
Income from continuing operations, net of tax	$1,133	$950	$663
Income from discontinued operations, net of tax	$969	$2,281	$278
Net income (attributable to PPG)	$2,102	$3,231	$941
Weighted average common shares outstanding	138.3	143.4	153.4
Effect of dilutive securities:			
Stock options	0.7	0.8	0.8
Other stock compensation plans	0.8	0.9	0.9
Potentially dilutive common shares	1.5	1.7	1.7
Adjusted weighted average common shares outstanding	139.8	145.1	155.1
Earnings per common share - assuming dilution (attributable to PPG)			
Income from continuing operations, net of tax	$8.10	$6.55	$4.27
Income from discontinued operations, net of tax	$6.93	$15.72	$1.79
Net income (attributable to PPG)	$15.03	$22.27	$6.06

There were no outstanding stock options excluded in 2014, 2013 or 2012 from the computation of diluted earnings per common share due to their anti-dilutive effect.

11. Income Taxes

The provision for income taxes by taxing jurisdiction and by significant components consisted of the following:

($ in millions)	2014	2013	2012
Current income tax expense			
U.S. federal	128	83	176
U.S. state and local	25	6	11
Foreign	195	180	168
Total current income tax	348	269	355
Deferred income tax expense			
U.S. federal	(78)	(8)	(151)
U.S. state and local	(1)	(5)	(14)
Foreign	(10)	(3)	(42)
Total deferred income tax	(89)	(16)	(207)
Total	$259	$253	$148

A reconciliation of the statutory U.S. corporate federal income tax rate to the Company's effective tax rate follows:

	2014		2013		2012	
U.S. federal income tax rate	35.0	%	35.0	%	35.0	%
Changes in rate due to:						
U.S. State and local taxes	0.9		0.6		0.5	
U.S. tax benefit on foreign dividends	(3.8	)	(3.3	)	(1.9	)
Taxes on foreign earnings	(8.7	)	(7.4	)	(10.6	)
PPG dividends paid to the ESOP	(0.4	)	(0.4	)	(0.2	)
U.S. tax incentives	(2.2	)	(2.8	)	(2.4	)
Other	(2.6	)	(1.1	)	(2.5	)
Effective income tax rate	18.2	%	20.6	%	17.9	%

In 2014, U.S. tax incentives include the R&D credit and the U.S. manufacturing deduction. The decrease of the impact of U.S. tax incentives in 2014 is due to the absence of the retroactive benefit of the reinstatement of the 2012 R&D credit in January 2013. This decrease was partly offset by an increase in the manufacturing deduction and the R&D credit in 2014.

The 2014 and 2013 increase in the U.S. tax benefit on foreign dividends was mainly due to repatriation of high taxed foreign earnings.

In 2014, Other includes the prior year benefit and remeasurement of temporary differences in a foreign jurisdiction as a result of receiving a favorable tax rate ruling for the tax years from 2008 to 2018. The retroactive benefit lowered 2014 tax expense by $29 million.

Income before income taxes of the Company’s U.S. operations for 2014, 2013 and 2012 was $377 million, $447 million and $220 million, respectively. Income before income taxes of the Company's foreign operations for 2014, 2013 and 2012 was $1,040 million, $779 million and $608 million, respectively.

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Deferred income taxes are provided for the effect of temporary differences that arise because there are certain items treated differently for financial accounting than for income tax reporting purposes. The deferred tax assets and liabilities are determined by applying the enacted tax rate in the year in which the temporary difference is expected to reverse. Net deferred income tax assets and liabilities as of December 31 were as follows:

($ in millions)	2014	2013
Deferred income tax assets related to		
Employee benefits	$877	$706
Contingent and accrued liabilities	671	613
Operating loss and other carry-forwards	380	269
Inventories	24	31
Property	29	4
Derivatives	24	—
Other	99	47
Valuation allowance	(181)	(136)
Total	1,923	1,534
Deferred income tax liabilities related to		
Property	401	310
Intangibles	805	450
Employee benefits	69	55
Derivatives	—	41
Undistributed foreign earnings	263	—
Other	180	21
Total	1,718	877
Deferred income tax assets – net	$205	$657

As of December 31, 2014, subsidiaries of the Company had available net operating loss carryforwards of approximately $637 million for income tax purposes, of which approximately $419 million has an indefinite expiration. The remaining $218 million expires between the years 2015 and 2028. The tax effected amount of the net operating loss carryforwards is $189 million.

Also, as of December 31, 2014, the Company and its subsidiaries had available credit carryforwards of approximately $191 million for income tax purposes. The carryforwards expire between the years 2015 and 2024.

As of December 31, 2013, subsidiaries of the Company had available net operating loss carryforwards of approximately $632 million for income tax purposes, of which approximately $516 million had an indefinite expiration. The remaining $116 million expires between the years 2014 and 2028. The tax effected amount of the net operating loss carryforwards was $182 million.

Also, as of December 31, 2013, the Company and its subsidiaries had available credit carryforwards of approximately $87 million for income tax purposes. The carryforwards expire between the years 2014 and 2023.

A valuation allowance has been established for carry-forwards at December 31, 2014 and 2013, when the ability to utilize them is not likely. It is at least reasonably possible that a valuation allowance established on approximately $40 million of after-tax foreign net operating losses at December 31, 2014 will meet the reversal criteria within the next twelve months. The increase in the total valuation allowance from December 31, 2013 is due to deferred tax assets acquired in 2014 and not expected to be realized by the Company prior to their expiration.

The Company has $5.0 billion and $3.9 billion of undistributed earnings of non-U.S. subsidiaries as of December 31, 2014 and December 31, 2013, respectively. These amounts relate to approximately 200 subsidiaries in more than 60 taxable jurisdictions. As discussed in Note 2, "Acquisitions and Dispositions", PPG recorded a deferred U.S. income tax liability of $247 million on the foreign earnings generated from the sale of its Transitions Optical joint venture in

2014. No significant deferred U.S. income taxes have been provided on the remaining $4.2 billion of PPG's undistributed earnings as they are considered to be reinvested for an indefinite period of time or will be repatriated when it is tax effective to do so. The Company estimates repatriation of undistributed earnings of non-U.S. subsidiaries as of December 31, 2014 and December 31, 2013 would have resulted in a U.S. tax cost of approximately $200 million and $250 million, respectively.

The Company files federal, state and local income tax returns in numerous domestic and foreign jurisdictions. In most tax jurisdictions, returns are subject to examination by the relevant tax authorities for a number of years after the returns have been filed. The Company is no longer subject to examinations by tax authorities in any major tax jurisdiction for years before 2006. Additionally, the Internal Revenue Service has completed its examination of the Company’s U.S. federal income tax returns filed for years through 2011. The examination of the Company’s U.S. federal income tax return for 2012 is currently underway.

A reconciliation of the total amounts of unrecognized tax benefits (excluding interest and penalties) as of December 31 follows:

($ in millions)	2014	2013	2012
Balance at January 1	$85	$82	$107
Additions based on tax positions related to the current year	12	12	12
Additions for tax positions of prior years	3	9	2
Reductions for tax positions of prior years	(15)	(10)	(12)
Pre-acquisition unrecognized tax benefits	—	—	2
Reductions for expiration of the applicable statute of limitations	(2)	(10)	(6)
Settlements	(6)	—	(23)
Foreign currency translation	(6)	2	—
Balance at December 31	$71	$85	$82

The Company expects that any reasonably possible change in the amount of unrecognized tax benefits in the next 12 months would not be significant.

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The total amount of unrecognized tax benefits that, if recognized, would affect the effective tax rate was $67 million as of December 31, 2014.
The Company recognizes accrued interest and penalties related to unrecognized tax benefits in income tax expense. As of December 31, 2014, 2013 and 2012, the Company had liabilities for estimated interest and penalties on unrecognized tax benefits of $7 million, $9 million and $10 million, respectively. The Company recognized $2 million, $2 million, and $5 million of income in 2014, 2013, and 2012 respectively, related to the reduction of estimated interest and penalties.
12. Employee Benefit Plans

Defined Benefit Plans
PPG has defined benefit pension plans that cover certain employees worldwide. The principal defined benefit pension plans are those in the U.S., Canada, the Netherlands and the U.K. which, in the aggregate represent approximately 96% of the projected benefit obligation at December 31, 2014, of which the U.S. defined benefit pension plans represent the majority. PPG also sponsors welfare benefit plans that provide postretirement medical and life insurance benefits for certain U.S. and Canadian employees and their dependents. These programs require retiree contributions based on retiree-selected coverage levels for certain retirees and their dependents and provide for sharing of future benefit cost increases between PPG and participants based on management discretion. The Company has the right to modify or terminate certain of these benefit plans in the future.
U.S. Defined Benefit Plans
Salaried and certain hourly employees in the U.S. hired on or after October 1, 2004, or rehired on or after October 1, 2012 are not eligible for postretirement medical benefits. Salaried employees in the U.S. hired, rehired or transferred to salaried status on or after January 1, 2006, and certain U.S. hourly employees hired in 2006 or thereafter are eligible to participate in a defined contribution retirement plan. These employees are not eligible for defined benefit pension plan benefits. In 2011, the Company approved amendments related to certain U.S. defined benefit plans so that depending upon the affected employee's combined age and years of service to PPG, certain employees stopped accruing benefits either during 2011 or at some point in the future. The affected employees will participate in the various Company’s defined contribution retirement plans from the date their benefits under their respective defined benefit plans are frozen. The Company has amended other defined benefit plans in other countries in a similar way and plans to continue reviewing and potentially changing other PPG defined benefit plans in the future.
Separation and Merger of Commodity Chemicals Business
On January 28, 2013, PPG completed the separation of its commodity chemicals business and the merger of the subsidiary holding the PPG commodity chemicals business with a subsidiary of Georgia Gulf, as discussed in Note 2,

“Acquisitions and Dispositions.” PPG transferred the defined benefit pension plan and other postretirement benefit liabilities for the affected employees in the U.S., Canada, and Taiwan in the separation resulting in a net partial settlement loss of $33 million that was recorded in the first quarter of 2013. This transaction lowered the projected benefit obligation of PPG's defined benefit pension plans by approximately $550 million and the accumulated benefit obligation of the other postretirement benefit plans by $165 million. In 2013, PPG transferred to Axiall U.S. pension assets of $421 million and then in 2014, an additional $86 million in U.S. pension assets and $11 million in Canadian assets were transferred upon the completion of the calculation of the total amount required to be transferred. Expense amounts related to these plans for 2013 and 2012 is included within "Income from discontinued operations, net of tax" and is excluded from the expense disclosures in the remainder of this footnote.
As a part of the separation activities related to the separation and merger transaction of the former commodity chemicals business, the Company reorganized its U.S. defined benefit pension plans. The decision to reorganize these plans was finalized in August 2013. As a result of this reorganization, certain of these newly formed plans have no active participants and as such the amortization periods of the unrecognized net actuarial losses of these plans were changed to the average remaining life expectancy of the plan participants from the average remaining service period

of plan participants in accordance with the accounting guidance for retirement benefits. This change reduced the Company's 2013 annual pension expense by approximately $18 million.

Plan Termination

During June 2014, PPG terminated one of the defined benefit pension plans containing only participants who are no longer accruing benefits, which lowered the projected benefit obligation and plan assets of PPG’s defined benefit pension plans by approximately $41 million. Additionally, PPG recorded an immaterial settlement loss related to the termination of the plan.

Postretirement medical

Beginning in 2004, PPG's other postretirement benefit plan provided a retiree prescription drug benefit which was at least actuarially equivalent to Medicare Part D. Therefore, PPG received the federal subsidy provided for under the Medicare Act of 2003. The federal subsidy is not subject to U.S. federal income tax and is recorded as a reduction in annual net periodic benefit cost of other postretirement benefits. During the period from January 1, 2010 to December 31, 2012 the Company provided a self-insured plan for certain retirees and their dependents that was at least actuarially equivalent to Medicare Part D and received the subsidy under the Medicare Act of 2003 for those retirees and their dependents.

In 2012, the Company decided, effective January 1, 2013, to move to an Employee Group Waiver Plan ("EGWP") for certain Medicare-eligible retirees and their dependents. The EGWP includes a fully-insured Medicare Part D prescription drug plan.

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As such, beginning in 2013 PPG was no longer eligible to receive the federal subsidy provided under the Medicare Act of 2003 for these retirees and their dependents.

The following table sets forth the changes in projected benefit obligations ("PBO") (as calculated as of December 31), plan assets, the funded status and the amounts recognized in the accompanying consolidated balance sheet for the Company's defined benefit pension and other postretirement benefit plans:

	Pensions		Other Postretirement Benefits	
($ in millions)	2014	2013	2014	2013
Projected benefit obligation, January 1	$5,240	$5,784	$1,070	$1,362
Service cost	52	57	15	20
Interest cost	230	218	47	49
Plan amendments	—	(25)	—	(8)
Actuarial losses / (gains) - net	846	(267)	125	(160)
Benefits paid	(390)	(304)	(44)	(60)
Plan transfers	36	327	—	40
Foreign currency translation adjustments	(229)	12	(12)	(8)
Curtailment and special termination benefits	(6)	(18)	—	—
Impact of commodity chemicals transaction	—	(548)	—	(165)
Other	(4)	4	(5)	—
Projected benefit obligation, December 31	$5,775	$5,240	$1,196	$1,070
Market value of plan assets, January 1	$4,701	$4,750		
Actual return on plan assets	658	267		
Company contributions	41	174		
Participant contributions	2	2		
Benefits paid	(375)	(283)		
Plan transfers	35	352		
Plan settlements	(4)	(51)		
Plan expenses and other-net	(4)	(2)		
Foreign currency translation adjustments	(198)	(11)		
Impact of commodity chemicals transaction	(22)	(496)		
Other	5	(1)		
Market value of plan assets, December 31	$4,839	$4,701		
Funded Status	$(936)	$(539)	$(1,196)	$(1,070)
Amounts recognized in the Consolidated Balance Sheet:				
Other assets (long-term)	86	224	—	—
Accounts payable and accrued liabilities	(27)	(19)	(64)	(63)
Accrued pensions	(995)	(744)	—	—
Other postretirement benefits	—	—	(1,132)	(1,007)
Net liability recognized	$(936)	$(539)	$(1,196)	$(1,070)

The PBO is the actuarial present value of benefits attributable to employee service rendered to date, including the effects of estimated future pay increases. The accumulated

benefit obligation ("ABO") is the actuarial present value of benefits attributable to employee service rendered to date, but does not include the effects of estimated future pay increases. The ABO for all defined benefit pension plans as of December 31, 2014 and 2013 was $5,624 million and $5,064 million, respectively.

The following table details the pension plans where the benefit liability exceeds the fair value of the plan assets:

	Pensions	
($ in millions)	2014	2013
Plans with PBO in Excess of Plan Assets:		
Projected benefit obligation	$4,864	$2,377
Fair value of plan assets	3,879	1,619
Plans with ABO in Excess of Plan Assets:		
Accumulated benefit obligation	$4,453	$2,242
Fair value of plan assets	3,584	1,617

Amounts (pretax) not yet reflected in net periodic benefit cost and included in accumulated other comprehensive loss include the following:

($ in millions)	Pensions		Other Postretirement Benefits	
	2014	2013	2014	2013
Accumulated net actuarial losses	$1,910	$1,542	$366	$254
Accumulated prior service credit	(20)	(26)	(34)	(45)
Total	$1,890	$1,516	$332	$209

The accumulated net actuarial losses for pensions and other postretirement benefits relate primarily to declines in the discount rate as well as an updated mortality assumption. The accumulated net actuarial losses exceed 10% of the higher of the market value of plan assets or the PBO at the beginning of the year, therefore, amortization of such excess has been included in net periodic benefit costs for pension and other postretirement benefits in each of the last three years. The amortization period is the average remaining service period of active employees expected to receive benefits unless a plan is mostly inactive in which case the amortization period is the average remaining life expectancy of the plan participants. Accumulated prior service cost (credit) is amortized over the future service periods of those employees who are active at the dates of the plan amendments and who are expected to receive benefits.

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The decrease in accumulated other comprehensive loss (pretax) in 2014 relating to defined benefit pension and other postretirement benefits consists of:

($ in millions)	Pensions	Other Postretirement Benefits
Net actuarial loss arising during the year	$494	$125
Impact of curtailments	(11)	—
Amortization of actuarial loss	(77)	(11)
Amortization of prior service cost	2	10
Foreign currency translation adjustments and other	(34)	(1)
Net change	$374	$123

The net actuarial losses arising during 2014 related to the Company's pension and other postretirement benefit plans were primarily due to a decrease in the discount rate as well as an updated mortality assumption.

The estimated amounts of accumulated net actuarial loss and prior service (credit) for the defined benefit pension plans that will be amortized from accumulated other comprehensive income into net periodic benefit cost in 2015 are $116 million and $(2) million, respectively. The estimated amounts of accumulated net actuarial loss and prior service (credit) for the other postretirement benefit plans that will be amortized from accumulated other comprehensive (loss) income into net periodic benefit cost in 2015 are $32 million and $(9) million, respectively.

Net periodic benefit cost for the three years ended December 31, 2014, included the following:

	Pensions			Other Postretirement Benefits		
($ in millions)	2014	2013	2012	2014	2013	2012
Service cost	$52	$57	$54	$15	$20	$19
Interest cost	230	218	217	47	49	50
Expected return on plan assets	(297)	(286)	(261)	—	—	—
Amortization of prior service cost (credit)	(2)	(2)	—	(10)	(9)	(10)
Amortization of actuarial losses	77	102	133	11	28	31
Curtailments and special termination benefits	8	18	—	—	—	—
Net periodic benefit cost	$68	$107	$143	$63	$88	$90

Net periodic benefit cost is included in Cost of sales, exclusive of depreciation and amortization, Selling, general and administrative and Research and development in the accompanying consolidated statement of income.

Assumptions

The following weighted average assumptions were used to determine the benefit obligation for the Company's defined benefit pension and other postretirement plans as of December 31, 2014 and 2013:

	2014	2013
Discount rate[1]	3.8 %	4.6 %
Rate of compensation increase	2.0 %	3.5 %

(1) The discount rate for U.S. defined benefit pension and other postretirement plans was 4% as of December 31, 2014.

The following weighted average assumptions were used to determine the net periodic benefit cost for the Company's defined benefit pension and other postretirement benefit plans for the three years in the period ended December 31, 2014:

	2014		2013		2012	
Discount rate	4.6	%	4.1	%	4.6	%
Expected return on assets	6.5	%	6.5	%	7.0	%
Rate of compensation increase	3.0	%	4.0	%	3.9	%

These assumptions for each plan are reviewed on an annual basis. In determining the expected return on plan asset assumption, the Company evaluates the mix of investments that comprise each plan's assets and external forecasts of future long-term investment returns. The Company compares the expected return on plan assets assumption to actual historic returns to ensure reasonability. The global expected return on plan assets assumption to be used in determining 2015 net periodic pension expense will be 6.10% (7.25% for the U.S. plans only).

In 2014, the Company updated the mortality tables used to calculate its U.S. defined benefit pension and other postretirement benefit liabilities. In October 2014, the Society of Actuaries' Retirement Plans Experience Committee released new mortality tables known as RP 2014. The new tables released reflect a long period of significant improvement in mortality. The Company considered these new tables and performed a review of its own mortality history, as well as the industry in which the Company operates to assess future improvements in mortality rates based on its U.S. population. The Company chose to value its U.S. defined benefit pension and other postretirement benefit liabilities using a slightly modified assumption of future mortality which better approximates our plan participant population and reflects significant improvement in life expectancy over the previously used mortality table, known as RP 2000.

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The weighted-average healthcare cost trend rate (inflation) used for 2014 was 6.3% declining to a projected 4.5% in the year 2024. For 2015, the assumed weighted-average healthcare cost trend rate used will be 6.4% declining to a projected 4.5% in the year 2024. These assumptions are reviewed on an annual basis. In selecting rates for current and long-term health care cost assumptions, the Company takes into consideration a number of factors including the Company's actual health care cost increases, the design of the Company's benefit programs, the demographics of the Company's active and retiree populations and external expectations of future medical cost inflation rates. If these 2015 health care cost trend rates were increased or decreased by one percentage point per year, such increase or decrease would have the following effects:

($ in millions)	One-Percentage Point Increase	Decrease
Increase (decrease) in the aggregate of service and interest cost components of annual expense	$8	$(6)
Increase (decrease) in the benefit obligation	$138	$(105)

Contributions to Defined Benefit Plans

PPG was not required to make a mandatory contribution to its U.S. defined benefit plans in 2014 and does not currently expect to have to make a mandatory contribution in 2015. PPG made voluntary contributions to these plans of $2 million and $50 million in 2014 and 2013, respectively. PPG did not make any contributions to its U.S. defined benefit plans in 2012. PPG made contributions to its non-U.S. defined benefit pension plans of $39 million in 2014, $124 million in 2013, and $80 million in 2012. PPG expects to make mandatory contributions to its non-U.S. plans in the range of $10 million to $20 million in 2015.

Benefit Payments

The estimated benefits expected to be paid under the Company's defined benefit pension and other postretirement benefit plans (in millions) are:

($ in millions)	Pensions	Other Postretirement Benefits
2015	$297	$67
2016	286	68
2017	270	69
2018	273	69
2019	276	70
2020 to 2024	1,425	345

Beginning in 2012, the Company initiated a lump sum payout program that gave certain terminated vested participants in certain U.S. defined benefit pension plans the option to take a one-time lump sum cash payment in lieu of receiving a future monthly annuity. PPG paid approximately $61 million and $22 million in 2014 and 2013, respectively, in lump sum benefits to terminated vested participants who elected to participate in the program.

Plan Assets

Each PPG sponsored defined benefit pension plan is managed in accordance with the requirements of local laws and regulations governing defined benefit pension plans for the exclusive purpose of providing pension benefits to participants and their beneficiaries. Investment committees comprised of PPG managers have fiduciary responsibility to oversee the management of pension plan assets by third party asset managers. Pension plan assets are held in trust by financial institutions and managed on a day-to-day basis by the asset managers. The asset managers receive a mandate from each investment committee that is aligned with the asset allocation targets established by each investment committee to achieve the plan's investment strategies. The performance of the asset managers is monitored and evaluated by the investment committees throughout the year.

Pension plan assets are invested to generate investment earnings over an extended time horizon to help fund the cost of benefits promised under the plans while mitigating investment risk. The asset allocation targets established for each pension plan are intended to diversify the investments among a variety of asset categories and among a variety of individual securities within each asset category to mitigate investment risk and provide each plan with sufficient liquidity to fund the payment of pension benefits to retirees.

The following summarizes the weighted average target pension plan asset allocation as of December 31, 2014 and 2013 for all PPG defined benefit plans:

Asset Category	Dec. 31, 2014	Dec. 31, 2013
Equity securities	30-65%	30-65%
Debt securities	30-65%	30-65%
Real estate	0-10%	0-10%
Other	0-10%	0-10%

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The fair values of the Company's pension plan assets at December 31, 2014, by asset category, are as follows:

($ in millions)	Level 1[1]	Level 2[1]	Level 3[1]	Total
Asset Category				
Equity securities:				
U.S.				
Large cap	$—	$278	$—	$278
Small cap	—	112	—	112
PPG common stock	102	—	—	102
Non-U.S.				
Developed and emerging markets[2]	107	688	—	795
Debt securities:				
Cash and cash equivalents	—	40	—	40
Corporate[3]				
U.S.[4]	—	1,121	124	1,245
Developed and emerging markets[2]	—	232	—	232
Diversified[5]	—	477	—	477
Government				
U.S.[4]	223	42	—	265
Developed markets	—	504	—	504
Other[6]	—	153	22	175
Real estate, hedge funds, and other	—	148	466	614
Total	$432	$3,795	$612	$4,839

(1) These levels refer to the accounting guidance on fair value measurement described in Note 9, "Financial Instruments, Hedging Activities and Fair Value Measurements."

(2) These amounts represent holdings in investment grade debt or equity securities of issuers in both developed markets and emerging economies.

(3) This category represents investment grade debt securities from a diverse set of industry issuers.

(4) These investments are primarily long duration fixed income securities.

(5) This category represents commingled funds invested in diverse portfolios of debt securities.

(6) This category includes mortgage-backed and asset backed debt securities, municipal bonds and other debt securities including derivatives.

The fair values of the Company's pension plan assets at December 31, 2013, by asset category, are as follows:

($ in millions)	Level 1[1]	Level 2[1]	Level 3[1]	Total
Asset Category				
Equity securities:				
U.S.				
Large cap	$6	$378	$—	$384
Small cap	—	172	—	172
PPG common stock	85	—	—	85
Non-U.S.				
Developed and emerging markets[2]	17	795	—	812
Debt securities:				
Cash and cash equivalents	—	115	—	115
Corporate[3]				
U.S.[4]	—	750	131	881

Developed and emerging markets[2]	—	200	—	200
Diversified[5]	—	698	—	698
Government				
U.S.[4]	201	36	—	237
Developed markets	—	331	—	331
Other[6]	—	161	27	188
Real estate, hedge funds, and other	—	124	474	598
Total	$309	$3,760	$632	$4,701

(1) These levels refer to the accounting guidance on fair value measurement described in Note 9, “Financial Instruments, Hedging Activities and Fair Value Measurements.”

(2) These amounts represent holdings in investment grade debt or equity securities of issuers in both developed markets and emerging economies.

(3) This category represents investment grade debt securities from a diverse set of industry issuers.

(4) These investments are primarily long duration fixed income securities.

(5) This category represents commingled funds invested in diverse portfolios of debt securities.

(6) This category includes mortgage-backed and asset backed debt securities, municipal bonds and other debt securities including derivatives.

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The change in the fair value of the Company's Level 3 pension assets for the years ended December 31, 2014 and 2013 was as follows:

($ in millions)	Real Estate	Other Debt Securities	Hedge Funds & Other Assets	Total
Balance, January 1, 2013	$176	$27	$316	$519
Realized gain	7	1	55	63
Unrealized gain for positions still held	18	—	14	32
Transfers in/(out)	21	(1)	(5)	15
Foreign currency gain	—	—	3	3
Balance, December 31, 2013	$222	$27	$383	$632
Realized gain	17	1	3	21
Unrealized gain for positions still held	8		5	13
Transfers out	(34)	(1)	(4)	(39)
Foreign currency loss	(3)	(4)	(8)	(15)
Balance, December 31, 2014	$210	$23	$379	$612

Real Estate properties are externally appraised at least annually by reputable, independent appraisal firms. Property valuations are also reviewed on a regular basis and are adjusted if there has been a significant change in circumstances related to the property since the last valuation.

Other debt securities consist of insurance contracts, which are externally valued by insurance companies based on the present value of the expected future cash flows. Hedge funds consist of a wide range of investments which target a relatively stable investment return. The underlying funds are valued at different frequencies, some monthly and some quarterly, based on the value of the underlying investments. Other assets consist primarily of small investments in private equity funds and senior secured debt obligations of non-investment grade borrowers.

Retained Liabilities and Legacy Settlement Charges

PPG has retained certain liabilities for pension and post-employment benefits earned for service up to the date of sale of its former automotive glass and service business, totaling approximately $945 million and $914 million at December 31, 2014 and 2013, respectively, for employees who were active as of the divestiture date and for individuals who were retirees of the business as of the divestiture date. PPG recognized expense of approximately $19 million, $30 million and $35 million related to these obligations in 2014, 2013, and 2012, respectively.

There have been multiple PPG facilities closed in Canada related to the former automotive glass and services business as well as other PPG businesses. These various plant closures have resulted in partial and full windups, and related settlement charges, of pension plans for various hourly and salary employees employed by these locations. The charges are recorded for the individual plans when a particular windup is approved by the Canadian pension authorities and the Company has made all contributions to the various plan. The Company

recorded settlement charges of $2 million and $16 million in the 2014 and 2013, respectively. There will be additional windup charges of $55 million to $70 million related to these plant closures in 2015 and 2016. The expected cash contributions related to these windups total $10 million to $20 million during these periods.

Other Plans

Defined Contribution Plans

The Company recognized expense for defined contribution pension plans in 2014, 2013 and 2012 of $55 million, $49 million and $41 million, respectively. The Company's annual cash contributions to defined contribution pension plans approximated the expense recognized in 2014, 2013 and 2012. As of December 31, 2014 and 2013, the Company's liability for contributions to be made to the defined contribution pension plans was $14 million and $17 million, respectively.

Employee Savings Plan

PPG's Employee Savings Plan ("Savings Plan") covers substantially all employees in the U.S., Puerto Rico and Canada. The Company makes matching contributions to the Savings Plan, at management's discretion, based upon participants' savings, subject to certain limitations. For most participants not covered by a collective bargaining agreement, Company-matching contributions are established each year at the discretion of the Company and are applied to participant savings up to a maximum of 6% of eligible participant compensation. For those participants whose employment is covered by a collective bargaining agreement, the level of Company-matching contribution, if any, is determined by the relevant collective bargaining agreement.

The Company-matching contribution was 75% on the first 6% of compensation contributed by eligible employees in 2012. In 2013, the Company match was increased to 100% on the first 6% of compensation contributed by eligible employees. The Company-matching contribution remained at 100% for 2014.

Compensation expense and cash contributions related to the Company match of participant contributions to the Savings Plan for 2014, 2013, and 2012 totaled $42 million, $36 million and $28 million, respectively. A portion of the Savings Plan qualifies under the Internal Revenue Code as an Employee Stock Ownership Plan. As a result, the dividends on PPG shares held by that portion of the Savings Plan totaling $14 million, $15 million and $18 million for 2014, 2013, and 2012, respectively, were tax deductible to the Company for U.S. Federal tax purposes.

Deferred Compensation Plan

The Company has a deferred compensation plan for certain key managers which allows them to defer a portion of their compensation in a phantom PPG stock account or other phantom investment accounts. The amount deferred earns a return based on the investment options selected by the participant. The amount owed to participants is an unfunded and unsecured general obligation of the Company. Upon retirement, death, disability, termination of employment, scheduled payment or

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unforeseen emergency, the compensation deferred and related accumulated earnings are distributed in accordance with the participant's election in cash or in PPG stock, based on the accounts selected by the participant.
The plan provides participants with investment alternatives and the ability to transfer amounts between the phantom non-PPG stock investment accounts. To mitigate the impact on compensation expense of changes in the market value of the liability, the Company has purchased a portfolio of marketable securities that mirror the phantom non-PPG stock investment accounts selected by the participants, except the money market accounts. These investments are carried by PPG at fair market value, and the changes in market value of these securities are also included in income from continuing operations. Trading occurs in this portfolio to align the securities held with the participant's phantom non-PPG stock investment accounts, except the money market accounts.
The cost of the deferred compensation plan, comprised of dividend equivalents accrued on the phantom PPG stock account, investment income and the change in market value of the liability, was expense in 2014, 2013 and 2012 of $10 million, $18 million and $10 million, respectively. These amounts are included in "Selling, general and administrative" in the accompanying consolidated statement of income. The change in market value of the investment portfolio was income of $8 million, $17 million, and $8 million in 2014, 2013 and 2012, respectively, of which $2.9 million, $3.4 million and $0.9 million was realized gains, and is also included in "Selling, general and administrative."
The Company's obligations under this plan, which are included in "Accounts payable and accrued liabilities" and "Other liabilities" in the accompanying consolidated balance sheet, totaled $119 million and $114 million as of December 31, 2014 and 2013, respectively, and the investments in marketable securities, which are included in "Investments" and "Other current assets" in the accompanying consolidated balance sheet, were $79 million and $75 million as of December 31, 2014 and 2013, respectively.

13. Commitments and Contingent Liabilities

PPG is involved in a number of lawsuits and claims, both actual and potential, including some that it has asserted against others, in which substantial monetary damages are sought. These lawsuits and claims, the most significant of which are described below, relate to contract, patent, environmental, product liability, antitrust and other matters arising out of the conduct of PPG's current and past business activities. To the extent that these lawsuits and claims involve personal injury and property damage, PPG believes it has adequate insurance; however, certain of PPG's insurers are contesting coverage with respect to some of these claims, and other insurers, as they had prior to the asbestos settlement described below, may contest coverage with respect to some of the asbestos claims if the settlement is not implemented. PPG's lawsuits and claims against others include claims against insurers and other third parties with respect to

actual and contingent losses related to environmental, asbestos and other matters.
The results of any current or future litigation and claims are inherently unpredictable. However, management believes that, in the aggregate, the outcome of all lawsuits and claims involving PPG, including asbestos-related claims in the event the settlement described below does not become effective, will not have a material effect on PPG's consolidated financial position or liquidity; however, such outcome may be material to the results of operations of any particular period in which costs, if any, are recognized.

Foreign Tax Matter

In June 2014, PPG received a notice from a Foreign Tax Authority ("FTA") inviting the Company to pay interest totaling approximately $70 million for failure to withhold taxes on a 2009 intercompany dividend. Prior to the payment of the dividend, PPG obtained a ruling from the FTA which indicated that the dividend was tax-exempt and eligible for a simplified no-withholding procedure provided that certain administrative criteria were met. The FTA is now asserting that PPG did not meet all of the administrative criteria for the simplified procedure, and consequently taxes should have been withheld by the dividend payer, which would have made the dividend recipient eligible for a refund. The Company disagrees with the FTA's assertion. The notice from the FTA is not a formal assessment, and PPG plans to vigorously defend against any assessment that may be received.

Asbestos Matters

For over 30 years, PPG has been a defendant in lawsuits involving claims alleging personal injury from exposure to asbestos. Most of PPG's potential exposure relates to allegations by plaintiffs that PPG should be liable for injuries involving asbestos-containing thermal insulation products, known as Unibestos, manufactured and distributed by Pittsburgh Corning Corporation ("PC"). PPG and Corning Incorporated are each 50% shareholders of PC. PPG has denied responsibility for, and has defended, all claims for any injuries caused by PC products. As of the April 16, 2000 order which stayed and enjoined asbestos claims against PPG (as discussed below), PPG was one of many defendants in numerous asbestos-related lawsuits involving approximately 114,000 claims served on PPG. During the period of the stay, PPG generally has not been aware of the dispositions, if any, of these asbestos claims.

Background of PC Bankruptcy Plan of Reorganization

On April 16, 2000, PC filed for Chapter 11 Bankruptcy in the U.S. Bankruptcy Court for the Western District of Pennsylvania located in Pittsburgh, Pa. Accordingly, in the first quarter of 2000, PPG recorded an after-tax charge of $35 million for the write-off of all of its investment in PC. As a consequence of the bankruptcy filing and various motions and orders in that proceeding, the asbestos litigation against PPG (as well as against PC) has been stayed and the filing of additional asbestos suits against them has been enjoined, until 30 days after the effective date of a confirmed plan of reorganization for PC

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substantially in accordance with the settlement arrangement among PPG and several other parties discussed below. By its terms, the stay may be terminated if the Bankruptcy Court determines that such a plan will not be confirmed, or the settlement arrangement set forth below is not likely to be consummated.

On May 14, 2002, PPG announced that it had agreed with several other parties, including certain of its insurance carriers, the official committee representing asbestos claimants in the PC bankruptcy, and the legal representatives of future asbestos claimants appointed in the PC bankruptcy, on the terms of a settlement arrangement relating to certain asbestos claims against PPG and PC (the "2002 PPG Settlement Arrangement").

On March 28, 2003, Corning Incorporated announced that it had separately reached its own arrangement with the representatives of asbestos claimants for the settlement of certain asbestos claims against Corning Incorporated and PC (the "2003 Corning Settlement Arrangement").

The terms of the 2002 PPG Settlement Arrangement and the 2003 Corning Settlement Arrangement were incorporated into a bankruptcy reorganization plan for PC along with a disclosure statement describing the plan, which PC filed with the Bankruptcy Court on April 30, 2003. Amendments to the plan and disclosure statement were subsequently filed. On November 26, 2003, after considering objections to the second amended disclosure statement and plan of reorganization, the Bankruptcy Court entered an order approving such disclosure statement and directing that it be sent to creditors, including asbestos claimants, for voting. In March 2004, the second amended PC plan of reorganization (the "second amended PC plan of reorganization") received the required votes to approve the plan with a channeling injunction for present and future asbestos claimants under §524(g) of the Bankruptcy Code. After voting results for the second amended PC plan of reorganization were received, the Bankruptcy Court judge conducted a hearing regarding the fairness of the settlement, including whether the plan would be fair with respect to present and future claimants, whether such claimants would be treated in substantially the same manner, and whether the protection provided to PPG and its participating insurers would be fair in view of the assets they would convey to the asbestos settlement trust (the "Trust") to be established as part of the second amended PC plan of reorganization. At that hearing, creditors and other parties in interest raised objections to the second amended PC plan of reorganization. Following that hearing, the Bankruptcy Court scheduled oral arguments for the contested items.

The Bankruptcy Court heard oral arguments on the contested items on November 17-18, 2004. At the conclusion of the hearing, the Bankruptcy Court agreed to consider certain post-hearing written submissions. In a further development, on February 2, 2005, the Bankruptcy Court established a briefing schedule to address whether certain aspects of a decision of the U.S. Third Circuit Court of Appeals in an unrelated case had any applicability to the second amended PC plan of reorganization. Oral arguments on these matters were subsequently held in

March 2005. During an omnibus hearing on February 28, 2006, the Bankruptcy Court judge stated that she was prepared to rule on the PC plan of reorganization in the near future, provided certain amendments were made to the plan. Those amendments were filed, as directed, on March 17, 2006. After further conferences and supplemental briefings, in December 2006, the court denied confirmation of the second amended PC plan of reorganization, on the basis that the plan was too broad in the treatment of allegedly independent asbestos claims not associated with PC.

Terms of 2002 PPG Settlement Arrangement

PPG had no obligation to pay any amounts under the 2002 PPG Settlement Arrangement until 30 days after the second amended PC plan of reorganization was finally approved by an appropriate court order that was no longer subject to appellate review (the "Effective Date"). If the second amended PC plan of reorganization had been approved as proposed, PPG and certain of its insurers (along with PC) would have made payments on the Effective Date to the Trust, which would have provided the sole source of payment for all present and future asbestos bodily injury claims against PPG, its subsidiaries or PC alleged to be caused by the manufacture, distribution or sale of asbestos products by these companies. PPG would have conveyed the following assets to the Trust: (i) the stock it owns in PC and Pittsburgh Corning Europe, (ii) 1,388,889 shares of PPG's common stock and (iii) aggregate cash payments to the Trust of approximately $998 million, payable according to a fixed payment schedule over 21 years, beginning on June 30, 2003, or, if later, the Effective Date. PPG would have had the right, in its sole discretion, to prepay these cash

payments to the Trust at any time at a discount rate of 5.5% per annum as of the prepayment date. In addition to the conveyance of these assets, PPG would have paid $30 million in legal fees and expenses on behalf of the Trust to recover proceeds from certain historical insurance assets, including policies issued by certain insurance carriers that were not participating in the settlement, the rights to which would have been assigned to the Trust by PPG.

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Under the proposed 2002 PPG Settlement Arrangement, PPG's participating historical insurance carriers would have made cash payments to the Trust of approximately $1.7 billion between the Effective Date and 2023. These payments could also have been prepaid to the Trust at any time at a discount rate of 5.5% per annum as of the prepayment date. In addition, as referenced above, PPG would have assigned to the Trust its rights, insofar as they related to the asbestos claims to have been resolved by the Trust, to the proceeds of policies issued by certain insurance carriers that were not participating in the 2002 PPG Settlement Arrangement and from the estates of insolvent insurers and state insurance guaranty funds.

Under the proposed 2002 PPG Settlement Arrangement, PPG would have granted asbestos releases to all participating insurers, subject to a coverage-in-place agreement with certain insurers for the continuing coverage of premises claims (discussed below). PPG would have granted certain participating insurers full policy releases on primary policies and full product liability releases on excess coverage policies. PPG would have also granted certain other participating excess insurers credit against their product liability coverage limits.

If the second amended PC plan of reorganization incorporating the terms of the 2002 PPG Settlement Arrangement and the 2003 Corning Settlement Arrangement had been approved by the Bankruptcy Court, the Court would have entered a channeling injunction under §524(g) and other provisions of the Bankruptcy Code, prohibiting present and future claimants from asserting bodily injury claims after the Effective Date against PPG or its subsidiaries or PC relating to the manufacture, distribution or sale of asbestos-containing products by PC or PPG or its subsidiaries. The injunction would have also prohibited codefendants in those cases from asserting claims against PPG for contribution, indemnification or other recovery. All such claims would have been filed with the Trust and only paid from the assets of the Trust.

Modified Third Amended PC Plan of Reorganization

To address the issues raised by the Bankruptcy Court in its December 2006 ruling, the interested parties engaged in extensive negotiations regarding the terms of a third amended PC plan of reorganization, including modifications to the 2002 PPG Settlement Arrangement. A modified third amended PC plan of reorganization (the "third amended PC plan of reorganization"), including a modified PPG settlement arrangement (the "2009 PPG Settlement Arrangement"), was filed with the Bankruptcy Court on January 29, 2009. The parties also filed a disclosure statement describing the third amended PC plan of reorganization with the court. The third amended PC plan of reorganization also includes a modified settlement arrangement of Corning Incorporated.

Several creditors and other interested parties filed objections to the disclosure statement. Those objections were overruled by the Bankruptcy Court by order dated July 6, 2009 approving the disclosure statement. The third amended PC plan of reorganization and disclosure statement were then sent to creditors, including asbestos claimants, for voting. The report of

the voting agent, filed on February 18, 2010, revealed that all voting classes, including asbestos claimants, voted overwhelmingly in favor of the third amended PC plan of reorganization, which included the 2009 PPG Settlement Arrangement. In light of the favorable vote on the third amended PC plan of reorganization, the Bankruptcy Court conducted a hearing regarding the fairness of the proposed plan, including whether (i) the plan would be fair with respect to present and future claimants, (ii) such claimants would be treated in substantially the same manner, and (iii) the protection provided to PPG and its participating insurers would be fair in view of the assets they would convey to the Trust to be established as part of the third amended PC plan of reorganization. The hearing was held in June of 2010. The remaining objecting parties (a number of objections were resolved through plan amendments and stipulations filed before the hearing) appeared at the hearing and presented their cases. At the conclusion of the hearing, the Bankruptcy Court established a briefing schedule for its consideration of confirmation of the plan and the objections to confirmation. That briefing was completed and final oral arguments held in October 2010. On June 16, 2011 the Bankruptcy Court issued a decision denying confirmation of the third amended PC plan of reorganization. Following the June 16, 2011 ruling, the third amended PC plan of reorganization was the subject of negotiations among the parties in interest, amendments, proposed amendments and hearings. PC then filed an amended PC plan of

reorganization on August 17, 2012. Objections to the plan, as amended, were filed by three entities. One set of objections was resolved by PC, and another set merely restated for appellate purposes objections filed by a party that the Bankruptcy Court previously overruled. The Bankruptcy Court heard oral argument on the one remaining set of objections filed by the remaining affiliated insurer objectors on October 10, 2012. At the conclusion of that argument, the Bankruptcy Court set forth a schedule for negotiating and filing language that would resolve some, but not all, of the objections to confirmation advanced by the insurer objectors. On October 25, 2012, PC filed a notice regarding proposed confirmation order language that resolved those specific objections. Following additional hearings and status conferences, technical amendments to the PC plan of reorganization were filed on May 15, 2013. On May 16, 2013, the Bankruptcy Court issued a memorandum opinion and interim order confirming the PC plan of reorganization, as amended, and setting forth a schedule for motions for reconsideration. Following the filing of motions for reconsideration, the Bankruptcy Court, on May 24, 2013, issued a revised memorandum opinion and final order confirming the modified third amended plan of reorganization and issuing the asbestos permanent channeling injunction. The remaining insurer objectors filed a motion for reconsideration on June 6, 2013. On November 12, 2013, the Bankruptcy Court issued an order granting in part (by clarifying the scope of the channeling injunction in accordance with the agreement of the parties as expressed at the time of final argument on the motion for reconsideration) and otherwise denying the motion for

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reconsideration. Notices of appeal to the U. S. District Court for the Western District of Pennsylvania were filed by the remaining objecting parties. On March 17, 2014, the appeal of the remaining non-insurer objecting party was dismissed voluntarily, leaving only two affiliated insurance companies as appellants.

On September 30, 2014, the District Court issued a memorandum opinion and order affirming the confirmation order. On October 28, 2014, the remaining insurance company objectors filed a Notice of Appeal with the U.S. Third Circuit Court of Appeals challenging the affirmance order. All parties currently are awaiting a briefing and argument schedule from the Third Circuit Court of Appeals. If the District Court opinion and order are affirmed by the Court of Appeals, the remaining objectors subsequently could seek review by the U.S. Supreme Court.

The 2009 PPG Settlement Arrangement will not become effective until certain conditions precedent are satisfied or waived and the amended PC plan of reorganization is finally approved by an appropriate court order that is no longer subject to appellate review, and PPG's initial contributions will not be due until 30 business days thereafter (the "Funding Effective Date").

Asbestos Claims Subject to Bankruptcy Court's Channeling Injunction

The Bankruptcy Court's channeling injunction, entered under §524(g) of the Bankruptcy Code and which will become effective after the order confirming the modified third amended plan of reorganization is no longer subject to appellate review, will prohibit present and future claimants from asserting asbestos claims against PC. With regard to PPG, the channeling injunction by its terms will prohibit present and future claimants from asserting claims against PPG that arise, in whole or in part, out of exposure to Unibestos, or any other asbestos or asbestos-containing products manufactured, sold and/or distributed by PC, or asbestos on or emanating from any PC premises. The injunction by its terms will also prohibit codefendants in these cases that are subject to the channeling injunction from asserting claims against PPG for contribution, indemnification or other recovery. Such injunction will also preclude the prosecution of claims against PPG arising from alleged exposure to asbestos or asbestos-containing products to the extent that a claimant is alleging or seeking to impose liability, directly or indirectly, for the conduct of, claims against or demands on PC by reason of PPG's: (i) ownership of a financial interest in PC; (ii) involvement in the management of PC, or service as an officer, director or employee of PC or a related party; (iii) provision of insurance to PC or a related party; or (iv) involvement in a financial transaction affecting the financial condition of PC or a related party. The foregoing PC related claims are referred to as "PC Relationship Claims" and constitute, in PPG management's opinion, the vast majority of the pending asbestos personal injury claims against PPG. All claims channeled to the Trust will be paid only from the assets of the Trust.

Asbestos Claims Retained by PPG

The channeling injunction will not extend to any claim against PPG that arises out of exposure to any asbestos or asbestos-containing products manufactured, sold and/or distributed by PPG or its subsidiaries, or for which they are otherwise alleged to be liable, that is not a PC Relationship Claim, and in this respect differs from the channeling injunction contemplated by the second amended PC plan of reorganization filed in 2003. While management believes that the vast majority of the approximately 114,000 claims against PPG alleging personal injury from exposure to asbestos relate to products manufactured, distributed or sold by PC, the potential liability for any non-PC Relationship Claims will be retained by PPG. Because a determination of whether an asbestos claim is a non-PC Relationship Claim would typically not be known until shortly before trial and because the filing and prosecution of asbestos claims (other than certain premises claims) against PPG has been enjoined since April 2000, the actual number of non-PC Relationship Claims that may be pending at the expiration of the stay or the number of additional claims that may be filed against PPG in the future cannot be determined at this time. PPG intends to defend against all such claims vigorously and their ultimate resolution in the court system is expected to occur over a period of years.

In addition, similar to what was contemplated by the second amended PC plan of reorganization, the channeling injunction will not extend to claims against PPG alleging personal injury caused by asbestos on premises owned, leased or occupied by PPG (so called "premises claims"), which generally have been subject to the stay imposed by the Bankruptcy Court, although motions to lift the stay as to individual premises claims have been granted from time to

time. Historically, a small proportion of the claims against PPG and its subsidiaries have been premises claims, and based upon review and analysis, PPG believes that the number of premises claims currently comprises less than 2% of the total asbestos related claims against PPG. Beginning in late 2006, the Bankruptcy Court lifted the stay with respect to certain premises claims against PPG. As a result, PPG and its primary insurers have settled approximately 580 premises claims. PPG's insurers agreed to provide insurance coverage for a major portion of the payments made in connection with the settled claims, and PPG accrued the portion of the settlement amounts not covered by insurance. Primarily as a result of motions practice in the Bankruptcy Court with respect to the application of the stay to premises claims, PPG faces approximately 320 active premises claims. PPG is currently engaged in the process of settling or otherwise resolving approximately 80 of these claims. Of the remaining 240 active premises claims, approximately 110 such claims have been initiated in lawsuits filed in various state courts, primarily in Louisiana, West Virginia, Ohio, Illinois, and Pennsylvania, and are the subjects of active litigation and are being defended by PPG. PPG believes that any financial exposure resulting from such premises claims, taking into account available insurance coverage, will not have a material adverse effect on PPG's consolidated financial position, liquidity or results of operations.

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PPG's Funding Obligations

PPG has no obligation to pay any amounts under the third amended PC plan of reorganization, as amended, until the Funding Effective Date. On the Funding Effective Date, PPG will relinquish any claim to its equity interest in PC, convey the stock it owns in Pittsburgh Corning Europe and transfer 1,388,889 shares of PPG's common stock or cash equal to the fair value of such shares as defined in the 2009 PPG Settlement Arrangement. PPG will make aggregate pre-tax cash payments to the Trust of approximately $825 million, payable according to a fixed payment schedule over a period ending in 2023. The first payment is due on the Funding Effective Date. PPG would have the right, in its sole discretion, to prepay these pre-tax cash payments to the Trust at any time at a discount rate of 5.5% per annum as of the prepayment date. PPG's historical insurance carriers participating in the third amended PC plan of reorganization will also make cash payments to the Trust of approximately $1.7 billion between the Funding Effective Date and 2027. These payments could also be prepaid to the Trust at any time at a discount rate of 5.5% per annum as of the prepayment date. PPG will grant asbestos releases and indemnifications to all participating insurers, subject to amended coverage-in-place arrangements with certain insurers for remaining coverage of premises claims. PPG will grant certain participating insurers full policy releases on primary policies and full product liability releases on excess coverage policies. PPG will also grant certain other participating excess insurers credit against their product liability coverage limits.

PPG's obligation under the 2009 PPG Settlement Arrangement at December 31, 2008 was $162 million less than the amount that would have been due under the 2002 PPG Settlement Arrangement. This reduction is attributable to a number of negotiated provisions in the 2009 PPG Settlement Arrangement, including the provisions relating to the channeling injunction under which PPG retains liability for any non-PC Relationship Claims. PPG will retain such amount as a reserve for asbestos-related claims that will not be channeled to the Trust, as this amount represents PPG's best estimate of its liability for these claims. PPG does not have sufficient current claim information or settlement history on which to base a better estimate of this liability, in light of the fact that the Bankruptcy Court's stay has been in effect since 2000. As a result, PPG's reserve at December 31, 2014 and December 31, 2013 for asbestos-related claims that will not be channeled to the Trust is $162 million. This amount is included within "Other liabilities" on the accompanying consolidated balance sheets. In addition, under the 2009 PPG Settlement Arrangement, PPG will retain for its own account rights to recover proceeds from certain historical insurance assets, including policies issued by non-participating insurers. Rights to recover these proceeds would have been assigned to the Trust by PPG under the 2002 PPG Settlement Arrangement.

Following the effective date of the third amended PC plan of reorganization, as amended, and the lifting of the Bankruptcy Court stay, PPG will monitor the activity associated with asbestos claims which are not channeled to the Trust pursuant to

the third amended PC plan of reorganization, and evaluate its estimated liability for such claims and related insurance assets then available to the Company as well as underlying assumptions on a periodic basis to determine whether any adjustment to its reserve for these claims is required.

Of the total obligation of $1,080 million and $1,008 million under the 2009 PPG Settlement Arrangement at December 31, 2014 and 2013, respectively, $821 million and $763 million are reported as current liabilities and $259 million and $245 million are reported as a non-current liabilities in the accompanying consolidated balance sheet as of December 31, 2014 and 2013. The future accretion of the non-current portion of the liability totals $81 million at December 31, 2014, and will be reported as expense in the consolidated statement of income over the period through 2023, as follows (in millions):

2015	$14
2016	15
2017 – 2023	52
Total	$81

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The following table summarizes the impact on PPG's financial statements for the three years ended December 31, 2014 resulting from the 2009 PPG Settlement Arrangement including the change in fair value of the stock to be transferred to the Trust and the related equity forward instrument (see Note 9, "Financial Instruments, Hedging Activities and Fair Value Measurements") and the increase in the net present value of the future payments to be made to the Trust.

	Consolidated Balance Sheet Asbestos Settlement Liability		Equity Forward (Asset) Liability	pre-tax Charge
($ in millions)	Current	Long-term		
Balance as of January 1, 2012	$593	$241	$(56)	$12
Change in fair value:				
PPG stock	72	—	—	72
Equity forward instrument	—	—	(74)	(74)
Accretion of asbestos liability	—	14	—	14
Reclassification	18	(18)	—	—
Balance as of and Activity for the year ended December 31, 2012	$683	$237	$(130)	$12
Change in fair value:				
PPG stock	75	—	—	75
Equity forward instrument	—	—	(77)	(77)
Accretion of asbestos liability	—	13	—	13
Reclassification	5	(5)	—	—
Balance as of and Activity for the year ended December 31, 2013	$763	$245	$(207)	$11
Change in fair value:				
PPG stock	58	—	—	58
Equity forward instrument	—	—	(60)	(60)
Accretion of asbestos liability	—	14	—	14
Reclassification	—	—	—	—
Balance as of and Activity for the year ended December 31, 2014	$821	$259	$(267)	$12

The fair value of the equity forward instrument is included as an "Other current asset" as of December 31, 2014 and 2013 in the accompanying consolidated balance sheet. Payments under the fixed payment schedule require annual payments that are due each June. The current portion of the asbestos settlement liability included in the accompanying consolidated balance sheet as of December 31, 2014, consists of all such payments required through June 2014, the fair value of PPG's common stock and the value of PPG's investment in Pittsburgh Corning Europe. The net present value of the remaining payments is included in the long-term asbestos settlement liability in the accompanying consolidated balance sheet as of December 31, 2014.

Enjoined Claims

If the 2009 PPG Settlement Arrangement is not implemented, for any reason, and the Bankruptcy Court stay expires, PPG intends to defend vigorously the pending and any future asbestos claims, including PC Relationship Claims, asserted against it and its subsidiaries. PPG continues to assert that it is not responsible for any injuries caused by PC products,

which it believes account for the vast majority of the pending claims against PPG. Prior to 2000, PPG had never been found liable for any PC-related claims. In numerous cases, PPG was dismissed on motions prior to trial, and in others PPG was released as part of settlements by PC. PPG was found not responsible for PC-related claims at trial in two cases. In January 2000, one jury found PPG, for the first time, partly responsible for injuries to five plaintiffs alleged to be caused by PC products. The plaintiffs holding the judgment on that verdict moved to lift the injunction as applied to their claims. Before the hearing on that motion, PPG entered into a settlement with those claimants in the second quarter of 2010 to avoid the costs and risks associated with the possible lifting of the stay and appeal of the adverse 2000 verdict. The settlement resolved both the motion to lift the injunction and the judgment against PPG. The cost of this settlement was not significant to PPG's results of operations for the second quarter of 2010 and was fully offset by prior insurance recoveries. Although PPG has successfully defended asbestos claims brought against it in the past, in view of the number of claims, and the significant verdicts that other companies have experienced in asbestos litigation, the result of any future litigation of such claims is inherently unpredictable.

Environmental Matters

It is PPG's policy to accrue expenses for environmental contingencies when it is probable that a liability has been incurred and the amount of loss can be reasonably estimated. Reserves for environmental contingencies are exclusive of claims against third parties and are generally not discounted. In management's opinion, the Company operates in an environmentally sound manner and the outcome of the Company's environmental contingencies will not have a material effect on PPG's financial position or liquidity; however, any such outcome may be material to the results of operations of any particular period in which costs, if any, are recognized. Management anticipates that the resolution of the Company's environmental contingencies will occur over an extended period of time.

As of December 31, 2014 and 2013, PPG had reserves for environmental contingencies associated with PPG's former chromium manufacturing plant in Jersey City, N.J. ("New Jersey Chrome") and for other environmental contingencies, including National Priority List sites and legacy glass and chemical manufacturing sites, as follows:

Environmental Reserves

($ in millions)	2014	2013
New Jersey Chrome	$211	$231
Other contingencies	106	106
Total	$317	$337
Current Portion	$141	$133

Pre-tax charges against income for environmental remediation costs are included in "Other charges" in the accompanying consolidated statement of income. The pre-tax charges and cash outlays related to such environmental remediation in 2014, 2013 and 2012, were as follows:

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Pre-tax charges against income for environmental remediation

($ in millions)	2014	2013	2012
New Jersey Chrome	$136	$89	$145
Other contingencies	8	19	21
Total	$144	$108	$166
Cash outlays for environmental spending	$165	$111	$62

The Company continues to analyze, assess and remediate the environmental issues associated with New Jersey Chrome as further discussed below. During the past three years charges for estimated environmental remediation costs were significantly higher than PPG's historical range. Excluding the charges related to New Jersey Chrome, pre-tax charges against income for environmental remediation have ranged between $10 million and $30 million per year for the past 10 years.

Management expects cash outlays for environmental remediation costs to range from $130 million to $150 million in 2015, $60 million to $80 million in 2016, and from $25 million to $45 million annually from 2017 through 2019.

It is possible that technological, regulatory and enforcement developments, the results of environmental studies and other factors could alter the Company’s expectations with respect to future charges against income and future cash outlays. Specifically, the level of expected future remediation costs and cash outlays is highly dependent upon activity related to New Jersey Chrome as discussed below.

Remediation: New Jersey Chrome

PPG has remediated 47 of 61 residential and nonresidential sites under the 1990 Administrative Consent Order (“ACO”) with the New Jersey Department of Environmental Protection (“NJDEP”). The most significant of the 14 remaining sites is the former chromium manufacturing location located on Garfield Avenue in Jersey City, New Jersey. The principal contaminant of concern is hexavalent chromium. A settlement agreement among PPG, NJDEP and Jersey City (which had asserted claims against PPG for lost tax revenue) was reached in the form of a Judicial Consent Order (the “JCO”) that was entered by the court on June 26, 2009. PPG’s remedial obligations under the ACO were incorporated into the JCO. A new process was established for the review of PPG submitted technical reports for investigation and remedy selection for the 14 ACO sites and an additional six sites, which PPG accepted sole responsibility under the terms of a September 2011 agreement with NJDEP (“The Orphan Sites Settlement”) pursuant to the JCO. The JCO also provided for the appointment of a court-approved Site Administrator who is responsible for establishing a master schedule for the remediation of the 20 PPG sites. The JCO parties established a new master schedule in 2014 based upon current knowledge of site conditions and the experience gained since 2011, which was approved by the court, and extended the goal for cleanup of soils and sources of contamination to December 1, 2015. The NJDEP can seek stipulated civil penalties if PPG fails to complete soil and source remediation of JCO sites by the December 2015 goal or perform certain other tasks under the master schedule unless

litigation was undertaken to gain access to properties for remediation or by mutual consent of the JCO parties. Several remedial alternatives were assessed which included, but were not limited to, soil excavation and offsite disposal in a licensed disposal facility, in situ chemical stabilization of soil and groundwater, and in situ solidification of soils. A final draft soil remedial action work plan for the former Garfield Avenue chromium-manufacturing site and five adjacent sites (the “Garfield Avenue Group”) was submitted to NJDEP in May 2012. NJDEP completed a review of the technical aspects of PPG's proposed soil remedial action work plan and expressed its support of the remediation activities identified therein which PPG uses as a basis for the remediation work being performed. PPG is working with NJDEP and Jersey City regarding PPG’s proposed approach to obtain land use limitations, which require property owner consent for the remediated properties and must be implemented before the work plan can be formally approved by NJDEP. As the final draft soil remedial action work plan for the Garfield Avenue Group was being developed, the estimated remediation costs were refined for all New Jersey Chrome sites and the updated information was used to compile a new estimate of the remediation costs, which resulted in a reserve adjustment of $145 million in 2012.

The most significant assumptions underlying the cost estimates are those related to the extent and concentration of chromium impacts in the soil, as these determine the quantity of soil that must be treated in place, the quantity that will have to be excavated and transported for offsite disposal, and the nature of disposal required. During the third quarters of 2014 and 2013, PPG completed updated assessments of costs incurred to date versus current progress and the potential cost impacts of the most recent information, including the extent of impacted soils, percentage of hazardous versus non-hazardous soils, daily soil excavation rates, and engineering, administrative and other associated costs. Based on these assessments, reserve adjustments of $136 million and $89 million were recorded in the third quarters of 2014 and 2013, respectively. Principal factors affecting costs included refinements in the estimate of the mix of hazardous to non-hazardous soils to be excavated, an overall increase in soil volumes to be excavated, enhanced water management requirements, decreased daily soil excavation rates due to site conditions, initial estimates for remedial actions related to groundwater, and increased oversight and management costs. The reserve adjustments for the estimated costs to remediate all New Jersey Chrome sites are exclusive of any third party indemnification, as the recovery of any such amounts is uncertain.

PPG has completed all remedial activities at three sites and has received "No Further Action" determinations from the NJDEP on these sites. PPG has, or is in the process of, completing soil remedial activities at nine sites with completion of field activities expected by the December 1, 2015 deadline. Soil remedial activities for seven sites will extend beyond the end of 2015. One site was removed from the JCO process during 2014 and will be remediated separately at a future date. A total of 19 sites remain subject to the JCO process.

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PPG's financial reserve for remediation of all New Jersey Chrome sites is $211 million at December 31, 2014. The major cost components of this liability continue to be related to transportation and disposal of impacted soil, as well as, construction services. These components account for approximately 30% and 40% of the accrued amount, respectively. Although the majority of PPG's remedial responsibilities for source removal and soil remediation will be satisfied by the December 1, 2015 deadline under the JCO, there will be remedial activity continuing beyond 2015 at the seven JCO sites and the additional site that was removed from the JCO process. There are also 10 sewer sites for which responsibility is shared jointly between PPG and Honeywell International Inc. and two sites located within a former Exxon Mobil Corporation oil refinery. A final draft groundwater remedial action work plan for the Garfield Avenue Group is expected to be submitted to NJDEP in late 2015 or 2016. Groundwater remediation at the Garfield Avenue Group is expected to occur over several years after NJDEP approval of the work plan. Groundwater at the remaining JCO sites or other sites for which PPG has some responsibility is not expected to be a significant issue. There are multiple, future events yet to occur, including further remedy selection and design, remedy implementation and execution and applicable governmental agencies or community organization approvals. Considerable uncertainty exists regarding the timing of these future events for the New Jersey Chrome sites. Final resolution of these events is expected to occur over the next several years. As these events occur and to the extent that the cost estimates of the environmental remediation remedies change, the existing reserve for this environmental remediation will be adjusted.

Remediation: Other Sites

Certain remedial actions are also occurring at a legacy chemical manufacturing site in Barberton, Ohio, where PPG has completed a Facility Investigation and Corrective Measure Study ("CMS") under USEPA's Resource Conservation and Recycling Act ("RCRA") Corrective Action Program. USEPA Region V transferred its oversight authority to the Ohio Environmental Protection Agency ("OEPA") in 2010. PPG is responsible for filing engineering remedies for various issues at this site. PPG has been addressing impacts from a legacy plate glass manufacturing site in Kokomo, Indiana under the Voluntary Remediation Program of the Indiana Department of Environmental Management. PPG is currently performing additional investigation activities at this location.

With respect to certain waste sites, the financial condition of any other potentially responsible parties also contributes to the uncertainty of estimating PPG's final costs. Although contributors of waste to sites involving other potentially responsible parties may face governmental agency assertions of joint and several liability, in general, final allocations of costs are made based on the relative contributions of wastes to such sites. PPG is generally not a major contributor to such sites.

Separation and Merger of the Commodity Chemicals Business

As a result of the commodity chemicals business separation transaction, PPG has retained responsibility for potential environmental liabilities that may result from future Natural Resource Damage claims and any potential tort claims at the Calcasieu River Estuary associated with activities and historical operations of the Lake Charles, La. facility. PPG will additionally retain responsibility for all liabilities relating to, arising out of or resulting from sediment contamination in the Ohio River resulting from historical activities and operations at the Natrium, W.Va. facility, exclusive of remedial activities, if any, required to be performed on-site at the Natrium facility. PPG's obligations with respect to Ohio River sediment will terminate on December 30, 2017 unless within five years from December 30, 2012 PPG is required to further assess or to remediate sediment contamination caused by PPG's operation of the Natrium facility prior to the separation of the commodity chemicals business from PPG in which event PPG's obligations with respect to sediment in the Ohio River will continue for five years beyond the time that PPG is required to further assess or remediate sediment in the Ohio River.

Remediation: Reasonably Possible Matters

In addition to the amounts currently reserved for environmental remediation, the Company may be subject to loss contingencies related to environmental matters estimated to be as much as $75 million to $200 million. Such unreserved losses are reasonably possible but are not currently considered to be probable of occurrence. These reasonably possible unreserved losses relate to environmental matters at a number of sites. The loss contingencies

related to these sites include significant unresolved issues such as the nature and extent of contamination at these sites and the methods that may have to be employed to remediate them.

The impact of evolving programs, such as natural resource damage claims, industrial site re-use initiatives and state remediation programs, also adds to the present uncertainties with regard to the ultimate resolution of this unreserved exposure to future loss. The Company's assessment of the potential impact of these environmental contingencies is subject to considerable uncertainty due to the complex, ongoing and evolving process of investigation and remediation, if necessary, of such environmental contingencies, and the potential for technological and regulatory developments.

14. Shareholders' Equity

A class of 10 million shares of preferred stock, without par value, is authorized but unissued. Common stock has a par value of $1.66 $^{2}/_{3}$ per share; 600 million shares are authorized.

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The following table summarizes the shares outstanding for the three years ended December 31, 2014:

	Common Stock	Treasury Stock	Shares Outstanding
Balance, Jan. 1, 2012	290,573,068	(138,684,288)	151,888,780
Purchases	—	(1,000,000)	(1,000,000)
Issuances	—	2,677,517	2,677,517
Balance, Dec. 31, 2012	290,573,068	(137,006,771)	153,566,297
Increase in treasury stock due to separation and merger transaction (Note 2)	—	(10,825,227)	(10,825,227)
Purchases	—	(5,745,529)	(5,745,529)
Issuances	—	1,650,841	1,650,841
Balance, Dec. 31, 2013	290,573,068	(151,926,686)	138,646,382
Purchases	—	(3,813,191)	(3,813,191)
Issuances	—	1,149,092	1,149,092
Balance, Dec. 31, 2014	290,573,068	(154,590,785)	135,982,283

Per share cash dividends paid were $2.62 in 2014, $2.42 in 2013 and $2.34 in 2012.

15. Accumulated Other Comprehensive Loss

($ in millions)	Unrealized Foreign Currency Translation Adjustments	Pension and Other Post retirement Benefit Adjustments, net of tax (c)	Unrealized Gain (Loss) on Derivatives, net of tax (d)	Accumulated Other Comprehensive (Loss) Income
Balance, January 1, 2012	$(135)	$(1,597)	$(68)	$(1,800)
Period change	141	—	(7)	134
Balance, December 31, 2012	$6	$(1,597)	$(75)	$(1,666)
Current year deferrals to AOCI (a)	36			36
Current year deferrals to AOCI, tax effected (b)	(80)	330	19	269
Separation & Merger Transaction (e)		33	4	37
Reclassifications from AOCI to net income		77	(13)	64
Period change	(44)	440	10	406
Balance, December 31, 2013	$(38)	$(1,157)	$(65)	$(1,260)
Current year deferrals to AOCI (a)	(442)	—		(442)
Current year deferrals to AOCI, tax effected (b)	(148)	(377)	34	(491)
Reclassifications from AOCI to net income	—	42	35	77
Period change	(590)	(335)	69	(856)

Balance, December 31, 2014	$(628)	$(1,492)	$4	$(2,116)

(a) - Unrealized foreign currency translation adjustments related to translation of foreign denominated balance sheets are not presented net of tax given that no deferred U.S. income taxes have been provided on undistributed earnings of non-U.S. subsidiaries because they are deemed to be reinvested for an indefinite period of time.

(b) - The tax cost related to unrealized foreign currency translation adjustments on tax inter-branch transactions, net investment hedges for the years ended December 31, 2014, 2013 and 2012 was $(33) million, $(35) million and $(1) million, respectively. In 2014, the balance includes a remeasurement of the tax cost on the foreign proceeds from the sale of the Company's interest in Transitions Optical which have not been permanently reinvested. Refer to Note 2, "Acquisitions and Dispositions" for additional information.

(c) - The tax benefit (cost) related to the adjustment for pension and other postretirement benefits for the years ended December 31, 2014, 2013 and 2013 was $162 million, $(392) million and $(30) million, respectively. Reclassifications from AOCI are included in the computation of net periodic benefit costs (See Note 12, "Employee Benefit Plans"). The cumulative tax benefit related to the adjustment for pension and other postretirement benefits at December 31, 2014 and 2013 was approximately $730 million and $568 million, respectively.

(d) - The tax (cost) benefit related to the change in the unrealized gain (loss) on derivatives for the years ended December 31, 2014, 2013 and 2012 was $(40) million, $(8) million and $4 million, respectively. Reclassifications from AOCI are included in the gain or loss recognized on cash flow hedges (See Note 9 "Financial Instruments, Hedging Activities and Fair Value Measurements").

(e) - Amounts in AOCI related to the commodity chemicals business were removed from the balance sheet in connection with recording the gain on the separation and merger of this business (See Note 2, "Acquisitions and Dispositions").

16. Other Income

($ in millions)	2014	2013	2012
Royalty income	$50	$48	$51
Share of net earnings/(losses) of equity affiliates (See Note 5)	101	(8)	9
Gain on sale of assets	28	6	3
Other	81	81	75
Total	$260	$127	$138

17. Stock-Based Compensation

The Company’s stock-based compensation includes stock options, restricted stock units (“RSUs”) and grants of contingent shares that are earned based on achieving targeted levels of total shareholder return. All current grants of stock options, RSUs and contingent shares are made under the PPG Industries, Inc. Amended and Restated Omnibus Incentive Plan (“PPG Amended Omnibus Plan”), which was amended and restated effective April 21, 2011. Shares available for future grants under the PPG Amended Omnibus Plan were 6.0 million as of December 31, 2014.

Total stock-based compensation cost was $73 million, $81 million and $71 million in 2014, 2013 and 2012, respectively. Stock-based compensation expense was lower in 2014 in comparison to 2013 due to decreases in time-based and performance-based RSU grants as well as a decrease in contingent shares. The total income tax benefit recognized in the accompanying consolidated statement of income related to the stock-based compensation was $25 million, $28 million and $25 million in 2014, 2013 and 2012, respectively.

Stock Options

PPG has outstanding stock option awards that have been granted under two stock option plans: the PPG Industries, Inc. Stock Plan (“PPG Stock Plan”) and the PPG Amended Omnibus

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Plan. Under the PPG Stock Plan and the PPG Amended Omnibus Plan, certain employees of the Company have been granted options to purchase shares of common stock at prices equal to the fair market value of the shares on the date the options were granted. The options are generally exercisable beginning from six to 48 months after being granted and have a maximum term of 10 years. Upon exercise of a stock option, shares of Company stock are issued from treasury stock. The PPG Stock Plan includes a restored option provision for options originally granted prior to January 1, 2003 that allows an optionee to exercise options and satisfy the option cost by certifying ownership of mature shares of PPG common stock with a market value equal to the option cost.

The fair value of stock options issued to employees is measured on the date of grant and is recognized as expense over the requisite service period. PPG estimates the fair value of stock options using the Black-Scholes option pricing model. The risk-free interest rate is determined by using the U.S. Treasury yield curve at the date of the grant and using a maturity equal to the expected life of the option. The expected life of options is calculated using the average of the vesting term and the maximum term, as prescribed by accounting guidance on the use of the simplified method for determining the expected term of an employee share option. The expected dividend yield and volatility are based on historical stock prices and dividend amounts over past time periods equal in length to the expected life of the options. The following weighted average assumptions were used to calculate the fair values of stock option grants in each year:

	2014		2013		2012	
Weighted average exercise price	$187.21		$131.55		$90.30	
Risk free interest rate	2.1	%	1.3	%	1.3	%
Expected life of option in years	6.5		6.5		6.5	
Expected dividend yield	3.0	%	3.2	%	3.3	%
Expected volatility	30.1	%	29.9	%	29.4	%

The weighted average fair value of options granted was $43.09 per share, $27.36 per share and $17.97 per share for the years ended December 31, 2014, 2013, and 2012, respectively.

A summary of stock options outstanding and exercisable and activity for the year ended December 31, 2014 is presented below:

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (in years)	Intrinsic Value (in millions)
Outstanding, January 1, 2014	2,644,388	$88.08	6.9	$269
Granted	362,721	$187.21		
Exercised	(758,299)	$75.18		
Forfeited/Expired	(27,629)	$140.54		
Outstanding, December 31, 2014	2,221,181	$108.01	6.8	$273
Vested or expected to vest, December 31, 2014	2,171,513	$107.71	6.8	$268
Exercisable, December 31, 2014	641,592	$66.79	4.0	$105

At December 31, 2014, unrecognized compensation cost related to outstanding stock options that have not yet vested totaled $9 million. This cost is expected to be recognized as expense over a weighted average period of 2.0 years.

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The following table presents stock option activity for the years ended December 31, 2014, 2013 and 2012:

($ in millions)	2014	2013	2012
Total intrinsic value of stock options exercised	$92	$110	$110
Cash received from stock option exercises	57	68	122
Income tax benefit from the exercise of stock options	33	36	35
Total fair value of stock options vested	10	11	6

Restricted Stock Units ("RSUs")

Long-term incentive value is delivered to selected key management employees by granting RSUs, which have either time or performance-based vesting features. The fair value of an RSU is equal to the market value of a share of PPG stock on the date of grant. Time-based RSUs vest over the three-year period following the date of grant, unless forfeited, and will be paid out in the form of stock, cash or a combination of both at the Company's discretion at the end of the three year vesting period. Performance-based RSUs vest based on achieving specific annual performance targets for earnings per share growth and cash flow return on capital over the three calendar year-end periods following the date of grant. Unless forfeited, the performance-based RSUs will be paid out in the form of stock, cash or a combination of both at the Company's discretion at the end of the three-year performance period if PPG meets the performance targets. The amount paid for performance-based awards may range from 0% to 180% of the original grant, based upon the frequency with which the annual earnings per share growth and cash flow return on capital performance targets are met over the three calendar year periods comprising the vesting period. For the purposes of expense recognition, PPG has assumed that performance-based RSUs granted in 2012 will vest at the 180% level, those granted in 2013 will vest at the 150% level, and those granted in 2014 will vest at the 100% level. As of December 31, 2014, six of the six possible performance targets had been met for the 2012 grant, four of the four possible performance targets had been met for the 2013 grant, and two of two possible performance targets had been met for the 2014 grant.

The following table summarizes RSU activity for the year ended December 31, 2014:

	Number of Shares	Weighted Average Fair Value	Intrinsic Value (in millions)
Outstanding, January 1, 2014	860,657	$90.15	$163
Granted	131,761	$180.69	
Additional shares vested	115,372	$105.35	
Released from restrictions	(324,313)	$81.87	
Forfeited	(28,015)	$103.83	
Outstanding, December 31, 2014	755,462	$113.16	$173
Vested or expected to vest, December 31, 2014	746,957	$113.03	$172

There was $17 million of total unrecognized compensation cost related to unvested RSUs outstanding as of December 31,

2014. This cost is expected to be recognized as expense over a weighted average period of 1.7 years.

Contingent Share Grants

The Company also provides grants of contingent shares to selected key executives that may be earned based on PPG total shareholder return ("TSR") over the three-year period following the date of grant. Contingent share grants (referred to as "TSR awards") are made annually and are paid out at the end of each three-year period based on the Company's performance. Performance is measured by determining the percentile rank of the total shareholder return of PPG common stock in relation to the total shareholder return of the S&P 500 for the three-year period following the date of grant. This comparison group represents the entire S&P 500 Index as it existed at the beginning of the

performance period. The payment of awards following the three-year award period will be based on performance achieved in accordance with the scale set forth in the plan agreement and may range from 0% to 220% of the initial grant. A payout of 100% is earned if the target performance is achieved. Contingent share awards for the 2011-2013, 2012-2014, and 2013-2015 periods earn dividend equivalents for the award period, which will be paid to participants with the award payout at the end of the period based on the actual number of contingent shares that are earned. Any payments made at the end of the award period may be in the form of stock, cash or a combination of both. The TSR awards qualify as liability awards, and compensation expense is recognized over the three-year award period based on the fair value of the awards (giving consideration to the Company's percentile rank of total shareholder return) remeasured in each reporting period until settlement of the awards.

As of December 31, 2014, there was $13 million of total unrecognized compensation cost related to outstanding TSR awards based on the current estimate of fair value. This cost is expected to be recognized as expense over a weighted average period of 1.5 years.

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18. Quarterly Financial Information (unaudited)

	2014 Quarter Ended				
($ in millions, except per share amounts)	March 31	June 30	Sept. 30	Dec. 31	Full Year
Net sales	$3,636	$4,082	$3,935	$3,707	$15,360
Cost of Sales[1]	2,091	2,306	2,229	2,165	8,791
Net income (loss) attributable to PPG					
Continuing Operations	277	393	377	86	1,133
Discontinued Operations	985	(7)	(6)	(3)	969
Net income	1,262	386	371	83	2,102
Earnings per common share					
Continuing Operations	$1.99	$2.83	$2.73	$0.63	$8.19
Discontinued Operations	$7.08	$(0.05)	$(0.04)	$(0.02)	$7.01
Earnings per common share	$9.07	$2.78	$2.69	$0.61	$15.20
Earnings per common share - assuming dilution					
Continuing Operations	$1.97	$2.80	$2.70	$0.62	$8.10
Discontinued Operations	$7.00	$(0.05)	$(0.04)	$(0.02)	$6.93
Earnings per common share – assuming dilution	$8.97	$2.75	$2.66	$0.60	$15.03

	2013 Quarter Ended				
$ in millions (except per share amounts)	March 31	June 30	Sept. 30	Dec. 31	Full Year
Net sales	$3,108	$3,883	$3,774	$3,500	$14,265
Cost of Sales[1]	1,862	2,263	2,161	2,028	8,314
Net income attributable to PPG					
Continuing Operations	191	318	204	237	950
Discontinued Operations	2,219	23	22	17	2,281
Net income	2,410	341	226	254	3,231
Earnings per common share					
Continuing Operations	$1.31	$2.22	$1.43	$1.68	$6.62
Discontinued Operations	$15.18	$0.16	$0.15	$0.12	$15.91
Earnings per common share	$16.49	$2.38	$1.58	$1.80	$22.53
Earnings per common share - assuming dilution					
Continuing Operations	$1.29	$2.19	$1.41	$1.66	$6.55
Discontinued Operations	$15.02	$0.16	$0.15	$0.12	$15.72
Earnings per common share – assuming dilution	$16.31	$2.35	$1.56	$1.78	$22.27

(1) Exclusive of depreciation and amortization.

19. Reportable Business Segment Information

Segment Organization and Products

PPG is a multinational manufacturer with 11 operating segments (which the Company refers to as "strategic business units") that are organized based on the Company’s major products lines. These operating segments are also the Company’s reporting units for purposes of testing goodwill for impairment (see Note 1, “Summary of Significant

Accounting Policies").

In conjunction with the Company's continued strategic focus on its coatings businesses, including the growth of the Company's global architectural coatings business, as well as the divestiture of its 51% ownership interest in its Transitions Optical joint venture and 100% of its sunlens business to Essilor, the Company realigned its segment reporting structure in the first quarter ended March 31, 2014.

Under the new segment reporting structure, the Company's reportable business segments have changed from the five segments of Performance Coatings, Industrial Coatings, Architectural Coatings-Europe, Middle East and Africa, Optical and Specialty Materials and Glass to the following three segments: Performance Coatings, Industrial Coatings and Glass. The segment financial results of the former Architectural Coatings-Europe, Middle East and Africa segment are now included in the Performance Coatings segment along with the architectural coatings - Americas and Asia Pacific businesses, and the segment financial results of the remaining former Optical and Specialty Materials segment, renamed specialty coatings and materials, are included in the Industrial Coatings segment. The operating segments have been aggregated based on economic similarities, the nature of their products, production processes, end-use markets and methods of distribution. The prior year information has been adjusted to conform to the new segment reporting structure.

The Performance Coatings reportable segment is comprised of the refinish, aerospace, architectural coatings – Americas and Asia Pacific, architectural coatings - EMEA, and protective and marine coatings operating segments. This reportable segment primarily supplies a variety of protective and decorative coatings, sealants and finishes along with paint strippers, stains and related chemicals, as well as transparencies and transparent armor.

The Industrial Coatings reportable segment is comprised of the automotive original equipment manufacturer ("OEM") coatings, industrial coatings, packaging coatings, and the specialty coatings and materials operating segments. This reportable segment primarily supplies a variety of protective and decorative coatings and finishes along with adhesives, sealants, metal pretreatment products, optical monomers and coatings, precipitated silicas and other specialty materials.

The Glass reportable segment is comprised of the flat glass and fiber glass operating segments. This reportable segment primarily supplies flat glass and continuous-strand fiber glass products.

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Notes to the Consolidated Financial Statements

Production facilities and markets for Performance Coatings, Industrial Coatings, and Glass are global. PPG's reportable segments continue to pursue opportunities to further develop their global markets, including efforts in Asia, Eastern Europe and Latin America. Each of the reportable segments in which PPG is engaged is highly competitive. The diversification of our product lines and the worldwide markets served tend to minimize the impact on PPG's total sales and income from continuing operations of changes in demand in a particular market or in a particular geographic area.

The accounting policies of the operating segments are the same as those described in the summary of significant accounting policies (See Note 1, "Summary of Significant Accounting Policies"). The Company allocates resources to operating segments and evaluates the performance of operating segments based upon segment income, which is income before interest expense – net, income taxes, and noncontrolling interests and excludes certain charges which are considered to be unusual or non-recurring. The Company also evaluates performance of operating segments based on working capital reduction, margin growth, and sales volume growth. Legacy items include current costs related to former operations of the Company, including certain environmental remediation, pension and other postretirement benefit costs, and certain charges for legal and other matters which are considered to be unusual or non-recurring. These legacy costs are excluded from the segment income that is used to evaluate the performance of the operating segments. Legacy items also include equity earnings from PPG's approximate 40% investment in its former automotive glass and services business and $19 million, $30 million and $35 million of costs in 2014, 2013 and 2012, respectively, related to the pension and other postemployment benefit liabilities of the divested business retained by PPG. Corporate unallocated costs include the costs of corporate staff functions not directly associated with the operating segments, the cost of corporate legal cases, net of related insurance recoveries and the cost of certain insurance and stock-based compensation programs. Net periodic pension expense is allocated to the operating segments and the portion of net periodic pension expense related to the corporate staff functions is included in the Corporate unallocated costs.

For the sales between the Industrial Coatings and Glass segments, intersegment sales and transfers are recorded at selling prices that approximate market prices. Product movement between Performance Coatings and Industrial Coatings is limited, is accounted for as an inventory transfer, and is recorded at cost plus a mark-up, the impact of which is not significant to the segment income of the coatings reportable segments.

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Notes to the Consolidated Financial Statements

($ in millions) Reportable Business Segments	Performance Coatings	Industrial Coatings	Glass	Corporate / Eliminations / Non-Segment Items[1]	Consolidated Totals
2014					
Net sales to external customers	$ 8,698	$5,552	$1,110	$ —	$ 15,360
Intersegment net sales	—	1	1	(2)	—
Total net sales	$ 8,698	$5,553	$1,111	$ (2)	$ 15,360
Segment income	$ 1,205	$951	$81	$ —	$ 2,237
Legacy items[2]					(49)
Debt refinancing charge					(317)
Transaction-related costs[5]					(62)
Interest expense, net of interest income					(137)
Corporate unallocated[1]					(256)
Income before income taxes					$ 1,416
Depreciation and amortization	$ 284	$115	$53	$ 24	$ 476
Share of net earnings (loss) of equity affiliates	—	—	(3)	104	101
Segment assets[3]	10,709	3,621	859	2,394	17,583
Investment in equity affiliates	41	15	127	112	295
Expenditures for property (including business acquisitions)	2,374	251	56	39	2,720

($ in millions) Reportable Business Segments	Performance Coatings	Industrial Coatings	Glass	Corporate / Eliminations / Non-Segment Items[1]	Consolidated Totals
2013					
Net sales to external customers	$ 7,934	$5,264	$1,067	$ —	$ 14,265
Intersegment net sales	—	1	—	(1)	—
Total net sales	$ 7,934	$5,265	$1,067	$ (1)	$ 14,265
Segment income	$ 1,043	$824	$56	$ —	$ 1,923
Legacy items[2]					(165)
Business restructuring					(98)
Transaction-related costs[5]					(36)
Interest expense, net of interest income					(153)
Corporate unallocated[1]					(245)
Income before income taxes					$ 1,226
Depreciation and amortization	$ 268	$110	$52	$ 22	$ 452
Share of net earnings/(loss) of equity affiliates	1	(1)	(6)	(2)	(8)
Segment assets[3]	8,067	3,447	917	3,432	15,863
Investment in equity affiliates	32	16	149	48	245
Expenditures for property (including business acquisitions)	1,167	209	80	52	1,508

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Notes to the Consolidated Financial Statements

($ in millions) Reportable Business Segments	Performance Coatings	Industrial Coatings	Glass	Corporate / Eliminations / Non-Segment Items[1]	Consolidated Totals
2012					—
Net sales to external customers	$ 6,899	$4,755	$1,032	$ —	$ 12,686
Intersegment net sales	—	1	—	(1)	—
Total net sales	$ 6,899	$4,756	$1,032	$ (1)	$ 12,686
Segment income	$ 889	$677	$63	$ —	$ 1,629
Legacy items[2]					(216)
Business restructuring					(176)
Transaction-related costs[5]					(11)
Interest expense, net of interest income					(170)
Corporate unallocated[1]					(228)
Income before income taxes					$ 828
Depreciation and amortization	$ 226	$98	$53	$ 22	$ 399
Share of net earnings of equity affiliates	3	(1)	4	3	9
Segment assets[3]	6,720	3,107	914	5,137	15,878
Investment in equity affiliates	29	15	166	52	262
Expenditures for property (including business acquisitions)	155	195	46	124	520

($ in millions) Geographic Information	2014	2013	2012
Net sales[4]			
The Americas			
United States	$6,323	$5,712	$4,620
Other Americas	1,718	1,445	1,046
Europe, Middle East and Africa (“EMEA”)	4,802	4,650	4,612
Asia Pacific	2,517	2,458	2,408
Total	$15,360	$14,265	$12,686
Segment income			
The Americas			
United States	$1,167	$1,031	$845
Other Americas	175	117	74
EMEA	576	475	430
Asia Pacific	319	300	280
Total	$2,237	$1,923	$1,629
Property—net			
The Americas			
United States	$1,386	$1,285	$1,379
Other Americas	461	153	100
EMEA	831	935	903
Asia Pacific	414	503	506
Total	$3,092	$2,876	$2,888

(1) Corporate intersegment net sales represent intersegment net sales eliminations. Corporate unallocated costs include the costs of corporate staff functions not directly associated with the operating segments, certain legal and

insurance costs and stock-based compensation expense.

(2) Legacy items include current costs related to former operations of the Company, including certain environmental remediation, pension and other postretirement benefit costs, legal costs and certain charges which are considered to be non-recurring. The Legacy items for 2014, 2013, and 2012 include environmental remediation pre-tax charges of $138 million, $101 million, and $159 million, respectively. These charges relate to continued environmental remediation activities at legacy chemicals sites, primarily at PPG's former Jersey City, N.J. chromium manufacturing plant and associated sites (See Note 13). In 2014, Legacy items includes the gains from an equity affiliates sale of a business line and the sale of a flat glass plant(See Note 2). Legacy items also include equity earnings from PPG’s approximate 40% investment in the former automotive glass and services business.

(3) Segment assets are the total assets used in the operation of each segment. Corporate assets are principally cash and cash equivalents, cash held in escrow, short term investments, deferred tax assets and the approximate 40% investment in the former automotive glass and services business. Non-segment items also includes the assets of businesses which have been reclassified as discontinued operations in the Consolidated Statement of Income. (See Note 2).

(4) Net sales to external customers are attributed to geographic regions based upon the location of the operating unit shipping the product.

(5) Transaction-related costs include advisory, legal, accounting, valuation, and other professional or consulting fees incurred to effect significant acquisitions, as well as similar fees and other costs to effect disposals not classified as discontinued operations. These costs also includes the flow-through cost of sales of the step up to fair value of inventory acquired in acquisitions.

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

None.

Item 9A. Controls and Procedures

(a) Evaluation of disclosure controls and procedures.

Based on their evaluation as of the end of the period covered by this Form 10-K, the Company's principal executive officer and principal financial officer have concluded that the Company's disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934 (the "Exchange Act")) are effective to ensure that information required to be disclosed by the Company in reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in Securities and Exchange Commission rules and forms and to ensure that information required to be disclosed by the Company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the Company's management, including its principal executive and principal financial officers, as appropriate, to allow timely decisions regarding required disclosure.

(b) Changes in internal control over financial reporting.

There were no changes in the Company's internal control over financial reporting that occurred during the Company's most recent fiscal quarter that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

(c) Management report on internal control over financial reporting.

See Management Report on page 33 for management's annual report on internal control over financial reporting. See Report of Independent Registered Public Accounting Firm on page 32 for PricewaterhouseCoopers LLP's audit report on the Company's internal control over financial reporting.

Item 9B. Other Information

None.

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Part III

Item 10. Directors, Executive Officers and Corporate Governance

The information about the Company's directors required by Item 10 and not otherwise set forth below is contained under the caption "Proposal 1: Election of Directors" in PPG's definitive Proxy Statement for the 2015 Annual Meeting of Shareholders (the "Proxy Statement") which the Company anticipates filing with the Securities and Exchange Commission, pursuant to Regulation 14A, not later than 120 days after the end of the Company's fiscal year, and is incorporated herein by reference.

The executive officers of the Company are elected by the Board of Directors. The information required by this item concerning the Company's executive officers is incorporated by reference herein from Part I of this report under the caption "Executive Officers of the Company."

Information regarding the Company's Audit Committee is included in the Proxy Statement under the caption "Corporate Governance – Audit Committee" and is incorporated herein by reference.

Information regarding the Company's codes of ethics is included in the Proxy Statement under the caption "Corporate Governance – Codes of Ethics" and is incorporated herein by reference.

Information about compliance with Section 16(a) of the Exchange Act is included in the Proxy Statement under the caption "Beneficial Ownership – Section 16(a) Beneficial Ownership Reporting Compliance" and is incorporated herein by reference.

Item 11. Executive Compensation

The information required by Item 11 is contained in the Proxy Statement under the captions "Compensation of Directors," "Compensation Discussion and Analysis," "Compensation of Executive Officers," "Potential Payments upon Termination or Change in Control," "Corporate Governance – Compensation Committee Interlocks and Insider Participation," and "Corporate Governance – Officers-Directors Compensation Committee Report to Shareholders" and is incorporated herein by reference.

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

The information required by Item 12 is contained in the Proxy Statement under the captions "Beneficial Ownership" and "Equity Compensation Plan Information" and is incorporated herein by reference.

Item 13. Certain Relationships and Related Transactions, and Director Independence

The information required by Item 13 is contained in the Proxy Statement under the captions "Corporate Governance – Director Independence," "Corporate Governance – Review and Approval or Ratification of Transactions with Related Persons" and "Corporate Governance – Certain Relationships and Related Transactions" and is incorporated herein by reference.

Item 14. Principal Accounting Fees and Services

The information required by Item 14 is contained in the Proxy Statement under the caption "Independent Registered Public Accounting Firm" and is incorporated herein by reference.

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Part IV

Item 15. Exhibits, Financial Statement Schedules

(a)(1) Consolidated Financial Statements and Reports of Independent Registered Public Accounting Firm (see Part II, Item 8 of this Form 10-K).

The following information is filed as part of this Form 10-K:

	Page
Report of Independent Registered Public Accounting Firm	32
Management Report	33
2012 Report of Independent Registered Public Accounting Firm	33
Consolidated Statement of Income for the Years Ended December 31, 2014, 2013 and 2012	34
Consolidated Statement of Comprehensive Income for the Years Ended December 31, 2014, 2013 and 2012	34
Consolidated Balance Sheet as of December 31, 2014 and 2013	35
Consolidated Statement of Shareholders' Equity for the Years Ended December 31, 2014, 2013 and 2012	36
Consolidated Statement of Cash Flows for the Years Ended December 31, 2014, 2013 and 2012	37
Notes to the Consolidated Financial Statements	38

(a)(2) Consolidated Financial Statement Schedule for the years ended December 31, 2014, 2013 and 2012.

The following Consolidated Financial Statement Schedule should be read in conjunction with the previously referenced financial statements:

Schedule II – Valuation and Qualifying Accounts

Allowance for Doubtful Accounts for the Years Ended December 31, 2014, 2013, and 2012

(Millions)	Balance at Beginning of Year	Charged to Costs and Expenses	Other Additions[1]	Deductions[2]	Balance at End of Year
2014	$74	$16	$31	$(34)	$87
2013	$77	$33	$4	$(40)	$74
2012	$71	$24	$8	$(26)	$77

(1) Represents allowance for doubtful accounts of acquired businesses.

(2) Notes and accounts receivable written off as uncollectible, net of recoveries, amounts attributable to divestitures and changes attributable to foreign currency translation.

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All other schedules are omitted because they are not applicable.

(a)(3) Exhibits. The following exhibits are filed as a part of, or incorporated by reference into, this Form 10-K.

2	Agreement and Plan of Merger, dated as of July 18, 2012, by and among PPG Industries, Inc., Eagle Spinco Inc., Georgia Gulf Corporation and Grizzly Acquisition Sub, Inc., was filed as Exhibit 2.1 to the Registrant's Current Report on Form 8-K filed on July 19, 2012.
2.1	Amendment No. 1 to the Agreement and Plan of Merger, dated as of August 31, 2012, by and PPG Industries, Inc., Eagle Spinco Inc., Georgia Gulf Corporation and Grizzly Acquisition Sub, Inc., was filed as Exhibit 2.1 to the Registrant's Current Report on Form 8-K filed on September 5, 2012.
2.2	Sale and Purchase Agreement, dated December 13, 2012, between Akzo Nobel N.V. and PPG Industries, Inc., was filed as Exhibit 2.3 to the Registrant's Annual Report on Form 10-K for the period ended December 31, 2012.
2.3	Transaction Agreement by and among PPG Industries, Inc., PPG Industries Securities, LLC, PPG Luxembourg Finance S.àR.L., Group 26 Diversified Holdings Ireland, and Essilor International (Compagnie Generale D'Optique) S.A. was filed as Exhibit 2.1 to the Registrant’s Quarterly Report on Form 10-Q for the period ended September 30, 2013.
2.4	Stock Purchase Agreement, dated June 30, 2014, by and among Avisep, S.A. de C.V., Bevisep, S.A. de C.V., PPG Industries, Inc. and Consorcio Comex, S.A. de C.V., was filed as Exhibit 2 to the Registrant’s Quarterly Report on Form 10-Q for the period ended June 30, 2014.
3	Statement with Respect to Shares Eliminating the Series A Junior Participating Preferred Stock, was filed as Exhibit 3.1 to the Registrant’s Quarterly Report on Form 10-Q for the period ended September 30, 2014.
3.1	Restated Articles of Incorporation of PPG Industries, Inc., was filed as Exhibit 3.2 to the Registrant’s Quarterly Report on Form 10-Q for the period ended September 30, 2014.

	3.2	Amended and Restated Bylaws of PPG Industries, Inc., as amended on July 17, 2014, was filed as Exhibit 3.1 to the Registrant's Current Report on Form 8-K filed on July 17, 2014.
	4	Indenture, dated as of Aug. 1, 1982, was filed as Exhibit 4.1 to the Registrant's Registration Statement on Form S-3 (No. 333-44397) dated January 16, 1998.
	4.1	First Supplemental Indenture, dated as of April 1, 1986, was filed as Exhibit 4.2 to the Registrant's Registration Statement on Form S-3 (No. 333-44397) dated January 16, 1998.
	4.2	Second Supplemental Indenture, dated as of October 1, 1989, was filed as Exhibit 4.3 to the Registrant's Registration Statement on Form S-3 (No. 333-44397) dated January 16, 1998.
	4.3	Third Supplemental Indenture, dated as of November 1, 1995, was filed as Exhibit 4.4 to the Registrant's Registration Statement on Form S-3 (No. 333-44397) dated January 16, 1998.
	4.4	Indenture, dated as of June 24, 2005, was filed as Exhibit 4.1 to the Registrant's Current Report on Form 8-K dated June 20, 2005.
	4.5	Indenture, dated as of March 18, 2008, was filed as Exhibit 4.1 to the Registrant's Current Report on Form 8-K filed on March 18, 2008.
	4.6	Supplemental Indenture, dated as of March 18, 2008, was filed as Exhibit 4.2 to the Registrant's Current Report on Form 8-K filed on March 18, 2008.
	4.7	Second Supplemental Indenture, dated as of November 12, 2010, was filed as Exhibit 4.3 to the Registrant's Current Report on Form 8-K filed on November 12, 2010.
	4.8	Third Supplemental Indenture, dated as of August 3, 2012, was filed as Exhibit 4.4 to the Registrant's Current Report on Form 8-K filed on August 3, 2012.
	4.9	Fourth Supplemental Indenture, dated as of November 12, 2014, between PPG Industries, Inc. and The Bank of New York Mellon Trust Company, was filed as Exhibit 4.2 to the Registrant's Current Report on Form 8-K filed on November 12, 2014.
*	10	PPG Industries, Inc. Nonqualified Retirement Plan, as amended and restated September 24, 2008, was filed as Exhibit 10 to the

		Registrant's Annual Report on Form 10-K for the period ended December 31, 2011.
*	10.1	Form of Change in Control Employment Agreement entered into with executives prior to January 1, 2008, as amended, was filed as Exhibit 10.2 to the Registrant's Annual Report on Form 10-K for the period ended December 31, 2007.
*	10.2	Form of Change in Control Employment Agreement entered into with executives on or after January 1, 2008 through December 31, 2009, was filed as Exhibit 10.24 to the Registrant's Annual Report on Form 10-K for the period ended December 31, 2007.
*	10.3	Form of Change in Control Employment Agreement entered into with executives on or after January 1, 2010, was filed as Exhibit 10.3 to the Registrant's Annual Report on Form 10-K for the period ended December 31, 2009.
*	10.4	Form of Change in Control Employment Agreement entered into with executives on or after June 30, 2012 was filed as Exhibit 10.4 to the Registrant's Annual Report on Form 10-K for the period ended December 31, 2012.
*	10.5	Form of Change in Control Employment Agreement entered into with executives on or after January 1, 2014, was filed as Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q for the period ended March 31, 2014.

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*	10.6	PPG Industries, Inc. Deferred Compensation Plan for Directors related to compensation deferred prior to January 1, 2005, was filed as Exhibit 10.3 to the Registrant's Annual Report on Form 10-K for the period ended December 31, 1997.
*	10.7	PPG Industries, Inc. Deferred Compensation Plan for Directors related to compensation deferred on or after January 1, 2005, as amended February 15, 2006, was filed as Exhibit 10.4 to the Registrant's Quarterly Report on Form 10-Q for the period ended March 31, 2006.
*	10.8	PPG Industries, Inc. Deferred Compensation Plan related to compensation deferred prior to January 1, 2005, as amended effective July 14, 2004, was filed as Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q for the period ended June 30, 2004.
*	10.9	PPG Industries, Inc. Deferred Compensation Plan related to compensation deferred on or after January 1, 2005, as amended and restated September 24, 2008, was filed as Exhibit 10.6 to the Registrant's Annual Report on Form 10-K for the period ended December 31, 2008.
*	10.10	PPG Industries, Inc. Deferred Compensation Plan related to compensation deferred on or prior to January 1, 2005, as amended and restated effective January 1, 2011, was filed as Exhibit 10.4 to the Registrant's Quarterly Report on Form 10-Q for the period ended June 30, 2012.
*	10.11	PPG Industries, Inc. Deferred Compensation Plan related to compensation deferred on or after to January 1, 2005, as amended and restated effective January 1, 2011, was filed as Exhibit 10.5 to the Registrant's Quarterly Report on Form 10-Q for the period ended June 30, 2012.
*	10.12	PPG Industries, Inc. Executive Officers' Long Term Incentive Plan was filed as Exhibit 10.1 to the Registrant's Current Report on Form 8-K dated February 16, 2005.
*	10.13	PPG Industries, Inc. Incentive Compensation Plan for Key Employees, as amended April 20, 2006, was filed as Exhibit 10.8 to the Registrant's Annual Report on Form 10-K for the period ended December 31, 2008.
*	10.14	

		PPG Industries, Inc. Management Award Plan, as amended April 20, 2006, was filed as Exhibit 10.9 to the Registrant's Annual Report on Form 10-K for the period ended December 31, 2008.
*	10.15	PPG Industries, Inc. Stock Plan, dated as of April 17, 1997, as amended July 20, 2005, was filed as Exhibit 10.13 to the Registrant's Quarterly Report on Form 10-Q for the period ended September 30, 2005.
*	10.16	PPG Industries, Inc. Omnibus Incentive Plan was filed as Exhibit 10.18 to the Registrant's Quarterly Report on Form 10-Q for the period ended March 31, 2006.
*	10.17	PPG Industries, Inc. Amended and Restated Omnibus Incentive Plan, was filed as Annex A to the Registrant's Definitive Proxy Statement for its 2011 Annual Meeting of Shareholders filed on March 10, 2011.
*	10.18	Form of Time-Vested Restricted Stock Unit Award Agreement for Directors, was filed as Exhibit 10.8 to the Registrant's Quarterly Report on Form 10-Q for the period ended June 30, 2011.
*	10.19	Form of Time-Vested Restricted Stock Unit Award Agreement for Directors, was filed as Exhibit 10 to the Registrant's Quarterly Report on Form 10-Q for the period ended June 30, 2014.
*	10.20	Form of Non-Qualified Stock Option Award Agreement, was filed as Exhibit 10.14 to the Registrant's Annual Report on Form 10-K for the period ended December 31, 2008.
*	10.21	Form of Non-Qualified Stock Option Award Agreement, was filed as Exhibit 10.3 to the Registrant's Quarterly Report on Form 10-Q for the period ended September 30, 2009.
*	10.22	Form of Non-Qualified Stock Option Award Agreement, was filed as Exhibit 10.4 to the Registrant's Quarterly Report on Form 10-Q for the period ended June 30, 2011.
*	10.23	Form of Non-Qualified Stock Option Award Agreement, was filed as Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q for the period ended March 31, 2013.
*	10.24	Form of TSR Share Award Agreement, was filed as Exhibit 10.9 to the Registrant's Quarterly Report on Form 10-Q for the period ended June 30, 2011.
*	10.25	

		Form of TSR Share Award Agreement, was filed as Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q for the period ended June 30, 2012.
*	10.26	Form of TSR Share Award Agreement, was filed as Exhibit 10.6 to the Registrant's Quarterly Report on Form 10-Q for the period ended March 31, 2013.
*	10.27	Form of Performance-Based Restricted Stock Unit Award Agreement for Key Employees, was filed as Exhibit 10.5 to the Registrant’s Quarterly Report on Form 10-Q for the period ended June 30, 2011.
*	10.28	Form of Performance-Based Restricted Stock Unit Award Agreement, was filed as Exhibit 10.6 to the Registrant’s Quarterly Report on Form 10-Q for the period ended June 30, 2011.
*	10.29	Form of Performance-Based Restricted Stock Unit Award Agreement, was filed as Exhibit 10.4 to the Registrant's Quarterly Report on Form 10-Q for the period ended March 31, 2013.
*	10.30	Form of Performance-Based Restricted Stock Unit Award Agreement for Key Employees, was filed as Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q for the period ended June 30, 2012.
*	10.31	Form of Performance-Based Restricted Stock Unit Award Agreement for Key Employees, was filed as Exhibit 10.3 to the Registrant's Quarterly Report on Form 10-Q for the period ended March 31, 2013.

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*	10.32	Form of Time-Vested Restricted Stock Unit Award Agreement, was filed as Exhibit 10.6 to the Registrant’s Quarterly Report on Form 10-Q for the period ended September 30, 2009.
*	10.33	Form of Time-Vested Restricted Stock Unit Award Agreement, was filed as Exhibit 10.7 to the Registrant’s Quarterly Report on Form 10-Q for the period ended June 30, 2011.
*	10.34	Form of Time-Vested Restricted Stock Unit Award Agreement, was filed as Exhibit 10.5 to the Registrant's Quarterly Report on Form 10-Q for the period ended March 31, 2013.
*	10.35	Form of letter to certain executives regarding 2008 deferred compensation plan elections, was filed as Exhibit 10.20 to the Registrant’s Annual Report on Form 10-K for the period ended December 31, 2007.
	10.36	Five-Year Credit Agreement among PPG Industries, Inc.; the several banks and financial institutions party thereto; JPMorgan Chase Bank, N.A., as administrative agent; The Bank of Tokyo-Mitsubishi UFJ, Ltd., BNP Paribas, Citigroup Global Markets Inc. and PNC Bank, National Association, as co-syndication agents; and J.P. Morgan Securities LLC, The Bank of Tokyo-Mitsubishi UFJ, Ltd., BNP Paribas Securities Corp., Citigroup Global Markets Inc., and PNC Capital Markets LLC, as co-lead arrangers and co-bookrunners, was filed as Exhibit 10 to the Registrant's Current Report on Form 8-K filed on September 13, 2012.
	10.37	Separation Agreement, dated as of July 18, 2012, by and between PPG Industries, Inc. and Eagle Spinco Inc., was filed as Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on July 19, 2012.
*	10.38	Separation Agreement and Release between PPG Industries, Inc. and Richard C. Elias, was filed as Exhibit 10.1 to the Registrant’s Quarterly Report on Form 10-Q for the period ended March 31, 2014.
†	10.39	Term Loan Agreement, dated November 20, 2014, between PPG Industries, Inc. and Sumitomo Mitsui Banking Corporation, as Administrative Agent and as Initial Lender.
†	12	

		Computation of Ratio of Earnings to Fixed Charges for the Five Years Ended December 31, 2014.
†	13.1	Market Information, Dividends and Holders of Common Stock.
†	13.2	Selected Financial Data for the Five Years Ended December 31, 2014.
†	21	Subsidiaries of the Registrant.
†	23.1	Consent of PricewaterhouseCoopers LLP
†	23.2	Consent of Deloitte & Touche LLP
†	24	Powers of Attorney.
†	31.1	Certification of Principal Executive Officer Pursuant to Rule 13a-14(a) or 15d-14(a) of the Exchange Act, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
†	31.2	Certification of Principal Financial Officer Pursuant to Rule 13a-14(a) or 15d-14(a) of the Exchange Act, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
†	32.1	Certification of Chief Executive Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
†	32.2	Certification of Chief Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
**	101.INS	XBRL Instance Document
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† Filed herewith.

* Management contracts, compensatory plans or arrangements required to be filed as an exhibit hereto pursuant to Item 601 of Regulation S-K.

** Attached as Exhibit 101 to this report are the following documents formatted in XBRL (Extensible Business Reporting Language) as of and for the year ended December 31, 2014: (i) the Consolidated Statement of Income, (ii) the Consolidated Balance Sheet, (iii) the Consolidated Statement of Shareholders' Equity, (iv) the Consolidated Statement of Comprehensive Income (Loss), (v) the Consolidated Statement of Cash Flows, (vi) Notes to Consolidated Financial Statements and (vii) Financial Schedule of Valuation and Qualifying Accounts.

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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 on February 19, 2015.

PPG INDUSTRIES, INC.
(Registrant)

By /s/ Frank S. Sklarsky
Frank S. Sklarsky, Executive Vice President and Chief Financial Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed by the following persons on behalf of the Registrant and in the capacities indicated on February 19, 2015.

Signature.	Capacity
/s/ Charles E. Bunch Charles E. Bunch	Director, Chairman and Chief Executive Officer
/s/ Frank S. Sklarsky Frank S. Sklarsky	Executive Vice President and Chief Financial Officer (Principal Financial and Accounting Officer)
S. F. Angel	Director
J. G. Berges	Director
J. V. Faraci	Director
H. Grant	Director
V. F. Haynes	Director
M. J. Hooper	Director
M. H. Richenhagen	Director
T. J. Usher	Director

By /s/ Frank S. Sklarsky
Frank S. Sklarsky, Attorney-in-Fact

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PPG Industries Inc. and Consolidated Subsidiaries
Index to Exhibits

2	Agreement and Plan of Merger, dated as of July 18, 2012, by and among PPG Industries, Inc., Eagle Spinco Inc., Georgia Gulf Corporation and Grizzly Acquisition Sub, Inc., was filed as Exhibit 2.1 to the Registrant's Current Report on Form 8-K filed on July 19, 2012.
2.1	Amendment No. 1 to the Agreement and Plan of Merger, dated as of August 31, 2012, by and PPG Industries, Inc., Eagle Spinco Inc., Georgia Gulf Corporation and Grizzly Acquisition Sub, Inc., was filed as Exhibit 2.1 to the Registrant's Current Report on Form 8-K filed on September 5, 2012.
2.2	Sale and Purchase Agreement, dated December 13, 2012, between Akzo Nobel N.V. and PPG Industries, Inc., was filed as Exhibit 2.3 to the Registrant's Annual Report on Form 10-K for the period ended December 31, 2012.
2.3	Transaction Agreement by and among PPG Industries, Inc., PPG Industries Securities, LLC, PPG Luxembourg Finance S.àR.L., Group 26 Diversified Holdings Ireland, and Essilor International (Compagnie Generale D'Optique) S.A. was filed as Exhibit 2.1 to the Registrant’s Quarterly Report on Form 10-Q for the period ended September 30, 2013.
2.4	Stock Purchase Agreement, dated June 30, 2014, by and among Avisep, S.A. de C.V., Bevisep, S.A. de C.V., PPG Industries, Inc. and Consorcio Comex, S.A. de C.V., was filed as Exhibit 2 to the Registrant’s Quarterly Report on Form 10-Q for the period ended June 30, 2014.
3	Statement with Respect to Shares Eliminating the Series A Junior Participating Preferred Stock, was filed as Exhibit 3.1 to the Registrant’s Quarterly Report on Form 10-Q for the period ended September 30, 2014.
3.1	Restated Articles of Incorporation of PPG Industries, Inc., was filed as Exhibit 3.2 to the Registrant’s Quarterly Report on Form 10-Q for the period ended September 30, 2014.
3.2	Amended and Restated Bylaws of PPG Industries, Inc., as amended on July 17, 2014, was filed as Exhibit 3.1 to the Registrant’s Current Report on Form 8-K filed on July 17, 2014.
4	Indenture, dated as of Aug. 1, 1982, was filed as Exhibit 4.1 to the Registrant’s Registration Statement on Form S-3 (No. 333-44397) dated January 16, 1998.
4.1	First Supplemental Indenture, dated as of April 1, 1986, was filed as Exhibit 4.2 to the Registrant’s Registration Statement on Form S-3 (No. 333-44397) dated January 16, 1998.
4.2	Second Supplemental Indenture, dated as of October 1, 1989, was filed as Exhibit 4.3 to the Registrant’s Registration Statement on Form S-3 (No. 333-44397) dated January 16, 1998.
4.3	Third Supplemental Indenture, dated as of November 1, 1995, was filed as Exhibit 4.4 to the Registrant’s Registration Statement on Form S-3 (No. 333-44397) dated January 16, 1998.
4.4	Indenture, dated as of June 24, 2005, was filed as Exhibit 4.1 to the Registrant’s Current Report on Form 8-K dated June 20, 2005.
4.5	Indenture, dated as of March 18, 2008, was filed as Exhibit 4.1 to the Registrant’s Current Report on Form 8-K filed on March 18, 2008.
4.6	Supplemental Indenture, dated as of March 18, 2008, was filed as Exhibit 4.2 to the Registrant’s Current Report on Form 8-K filed on March 18, 2008.
4.7	Second Supplemental Indenture, dated as of November 12, 2010, was filed as Exhibit 4.3 to the Registrant’s Current Report on Form 8-K filed on November 12, 2010.
4.8	Third Supplemental Indenture, dated as of August 3, 2012, was filed as Exhibit 4.4 to the Registrant's Current Report on Form 8-K filed on August 3, 2012.
4.9	Fourth Supplemental Indenture, dated as of November 12, 2014, between PPG Industries, Inc. and The Bank of New York Mellon Trust Company, was filed as Exhibit 4.2 to the Registrant’s Current Report on Form 8-K filed on November 12, 2014.
* 10	

		PPG Industries, Inc. Nonqualified Retirement Plan, as amended and restated September 24, 2008, was filed as Exhibit 10 to the Registrant's Annual Report on Form 10-K for the period ended December 31, 2011.
*	10.1	Form of Change in Control Employment Agreement entered into with executives prior to January 1, 2008, as amended, was filed as Exhibit 10.2 to the Registrant’s Annual Report on Form 10-K for the period ended December 31, 2007.
*	10.2	Form of Change in Control Employment Agreement entered into with executives on or after January 1, 2008 through December 31, 2009, was filed as Exhibit 10.24 to the Registrant’s Annual Report on Form 10-K for the period ended December 31, 2007.
*	10.3	Form of Change in Control Employment Agreement entered into with executives on or after January 1, 2010, was filed as Exhibit 10.3 to the Registrant’s Annual Report on Form 10-K for the period ended December 31, 2009.
*	10.4	Form of Change in Control Employment Agreement entered into with executives on or after June 30, 2012 was filed as Exhibit 10.4 to the Registrant's Annual Report on Form 10-K for the period ended December 31, 2012.

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*	10.5	Form of Change in Control Employment Agreement entered into with executives on or after January 1, 2014, was filed as Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q for the period ended March 31, 2014.
*	10.6	PPG Industries, Inc. Deferred Compensation Plan for Directors related to compensation deferred prior to January 1, 2005, was filed as Exhibit 10.3 to the Registrant's Annual Report on Form 10-K for the period ended December 31, 1997.
*	10.7	PPG Industries, Inc. Deferred Compensation Plan for Directors related to compensation deferred on or after January 1, 2005, as amended February 15, 2006, was filed as Exhibit 10.4 to the Registrant's Quarterly Report on Form 10-Q for the period ended March 31, 2006.
*	10.8	PPG Industries, Inc. Deferred Compensation Plan related to compensation deferred prior to January 1, 2005, as amended effective July 14, 2004, was filed as Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q for the period ended June 30, 2004.
*	10.9	PPG Industries, Inc. Deferred Compensation Plan related to compensation deferred on or after January 1, 2005, as amended and restated September 24, 2008, was filed as Exhibit 10.6 to the Registrant's Annual Report on Form 10-K for the period ended December 31, 2008.
*	10.10	PPG Industries, Inc. Deferred Compensation Plan related to compensation deferred on or prior to January 1, 2005, as amended and restated effective January 1, 2011, was filed as Exhibit 10.4 to the Registrant's Quarterly Report on Form 10-Q for the period ended June 30, 2012.
*	10.11	PPG Industries, Inc. Deferred Compensation Plan related to compensation deferred on or after to January 1, 2005, as amended and restated effective January 1, 2011, was filed as Exhibit 10.5 to the Registrant's Quarterly Report on Form 10-Q for the period ended June 30, 2012.
*	10.12	PPG Industries, Inc. Executive Officers' Long Term Incentive Plan was filed as Exhibit 10.1 to the Registrant's Current Report on Form 8-K dated February 16, 2005.
*	10.13	PPG Industries, Inc. Incentive Compensation Plan for Key Employees, as amended April 20, 2006, was filed as Exhibit 10.8 to the Registrant's Annual Report on Form 10-K for the period ended December 31, 2008.
*	10.14	PPG Industries, Inc. Management Award Plan, as amended April 20, 2006, was filed as Exhibit 10.9 to the Registrant's Annual Report on Form 10-K for the period ended December 31, 2008.
*	10.15	PPG Industries, Inc. Stock Plan, dated as of April 17, 1997, as amended July 20, 2005, was filed as Exhibit 10.13 to the Registrant's Quarterly Report on Form 10-Q for the period ended September 30, 2005.
*	10.16	PPG Industries, Inc. Omnibus Incentive Plan was filed as Exhibit 10.18 to the Registrant's Quarterly Report on Form 10-Q for the period ended March 31, 2006.
*	10.17	PPG Industries, Inc. Amended and Restated Omnibus Incentive Plan, was filed as Annex A to the Registrant's Definitive Proxy Statement for its 2011 Annual Meeting of Shareholders filed on March 10, 2011.
*	10.18	Form of Time-Vested Restricted Stock Unit Award Agreement for Directors, was filed as Exhibit 10.8 to the Registrant's Quarterly Report on Form 10-Q for the period ended June 30, 2011.
*	10.19	Form of Time-Vested Restricted Stock Unit Award Agreement for Directors, was filed as Exhibit 10 to the Registrant's Quarterly Report on Form 10-Q for the period ended June 30, 2014.
*	10.20	Form of Non-Qualified Stock Option Award Agreement, was filed as Exhibit 10.14 to the Registrant's Annual Report on Form 10-K for the period ended December 31, 2008.
*	10.21	Form of Non-Qualified Stock Option Award Agreement, was filed as Exhibit 10.3 to the Registrant's Quarterly Report on Form 10-Q for the period ended September 30, 2009.
*	10.22	Form of Non-Qualified Stock Option Award Agreement, was filed as Exhibit 10.4 to the Registrant's Quarterly Report on Form 10-Q for the period ended June 30, 2011.
*	10.23	Form of Non-Qualified Stock Option Award Agreement, was filed as Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q for the period ended March 31, 2013.

*	10.24	Form of TSR Share Award Agreement, was filed as Exhibit 10.9 to the Registrant’s Quarterly Report on Form 10-Q for the period ended June 30, 2011.
*	10.25	Form of TSR Share Award Agreement, was filed as Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q for the period ended June 30, 2012.
*	10.26	Form of TSR Share Award Agreement, was filed as Exhibit 10.6 to the Registrant's Quarterly Report on Form 10-Q for the period ended March 31, 2013.
*	10.27	Form of Performance-Based Restricted Stock Unit Award Agreement for Key Employees, was filed as Exhibit 10.5 to the Registrant’s Quarterly Report on Form 10-Q for the period ended June 30, 2011.
*	10.28	Form of Performance-Based Restricted Stock Unit Award Agreement, was filed as Exhibit 10.6 to the Registrant’s Quarterly Report on Form 10-Q for the period ended June 30, 2011.
*	10.29	Form of Performance-Based Restricted Stock Unit Award Agreement, was filed as Exhibit 10.4 to the Registrant's Quarterly Report on Form 10-Q for the period ended March 31, 2013.

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*	10.30	Form of Performance-Based Restricted Stock Unit Award Agreement for Key Employees, was filed as Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q for the period ended June 30, 2012.
*	10.31	Form of Performance-Based Restricted Stock Unit Award Agreement for Key Employees, was filed as Exhibit 10.3 to the Registrant's Quarterly Report on Form 10-Q for the period ended March 31, 2013.
*	10.32	Form of Time-Vested Restricted Stock Unit Award Agreement, was filed as Exhibit 10.6 to the Registrant’s Quarterly Report on Form 10-Q for the period ended September 30, 2009.
*	10.33	Form of Time-Vested Restricted Stock Unit Award Agreement, was filed as Exhibit 10.7 to the Registrant’s Quarterly Report on Form 10-Q for the period ended June 30, 2011.
*	10.34	Form of Time-Vested Restricted Stock Unit Award Agreement, was filed as Exhibit 10.5 to the Registrant's Quarterly Report on Form 10-Q for the period ended March 31, 2013.
*	10.35	Form of letter to certain executives regarding 2008 deferred compensation plan elections, was filed as Exhibit 10.20 to the Registrant’s Annual Report on Form 10-K for the period ended December 31, 2007.
	10.36	Five-Year Credit Agreement among PPG Industries, Inc.; the several banks and financial institutions party thereto; JPMorgan Chase Bank, N.A., as administrative agent; The Bank of Tokyo-Mitsubishi UFJ, Ltd., BNP Paribas, Citigroup Global Markets Inc. and PNC Bank, National Association, as co-syndication agents; and J.P. Morgan Securities LLC, The Bank of Tokyo-Mitsubishi UFJ, Ltd., BNP Paribas Securities Corp., Citigroup Global Markets Inc., and PNC Capital Markets LLC, as co-lead arrangers and co-bookrunners, was filed as Exhibit 10 to the Registrant's Current Report on Form 8-K filed on September 13, 2012.
	10.37	Separation Agreement, dated as of July 18, 2012, by and between PPG Industries, Inc. and Eagle Spinco Inc., was filed as Exhibit 10.1 to the Registrant's Current Report on Form 8-K filed on July 19, 2012.
*	10.38	Separation Agreement and Release between PPG Industries, Inc. and Richard C. Elias, was filed as Exhibit 10.1 to the Registrant’s Quarterly Report on Form 10-Q for the period ended March 31, 2014.
†	10.39	Term Loan Agreement, dated November 20, 2014, between PPG Industries, Inc. and Sumitomo Mitsui Banking Corporation, as Administrative Agent and as Initial Lender.
†	12	Computation of Ratio of Earnings to Fixed Charges for the Five Years Ended December 31, 2014.
†	13.1	Market Information, Dividends and Holders of Common Stock.
†	13.2	Selected Financial Data for the Five Years Ended December 31, 2014.
†	21	Subsidiaries of the Registrant.
†	23.1	Consent of PricewaterhouseCoopers LLP
†	23.2	Consent of Deloitte & Touche LLP
†	24	Powers of Attorney.
†	31.1	Certification of Principal Executive Officer Pursuant to Rule 13a-14(a) or 15d-14(a) of the Exchange Act, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
†	31.2	Certification of Principal Financial Officer Pursuant to Rule 13a-14(a) or 15d-14(a) of the Exchange Act, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
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