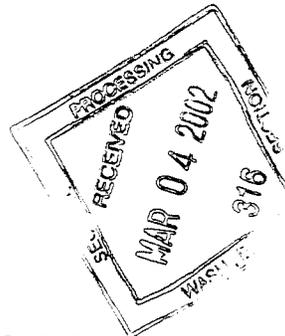




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Customers Look To PPG For Technologies That Make A World Of Difference

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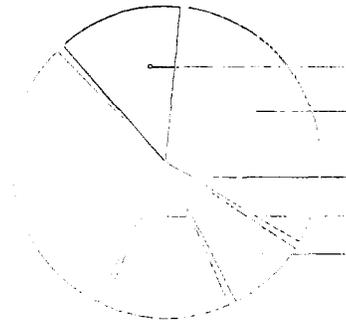


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Markets Served by PPG

Approximate Percent of Sales in 2001



- 1 Consumer 14%
- 2 Service, Maintenance and Aftermarket 32%
- 3 New Vehicles and Aircraft 31%
- 4 Industrial 14%
- 5 New Construction 9%



SEGMENT NET SALES IN 2001

- Coatings 54%
- Glass 27%
- Chemicals 19%

Aerospace. Global supplier of sealants, coatings, application systems and world's leading supplier of cockpit transparencies, serving original equipment manufacturers and the maintenance market for the commercial, military and general aviation industries. Also manufactures sealants for architectural insulating glass units. [2] [3] [5]

Architectural Coatings. Under the *Pittsburgh Paints*, *Olympic*, *Porter*, *Monarch*, *Lucite* and *Pittsburgh HPC* (High Performance Coatings) brands, this unit produces paints, stains and specialty coatings for commercial, maintenance and residential uses. [2] [4] [5]

Automotive Coatings. Global supplier of automotive coatings and services to auto and truck manufacturers. Products include primers, base coats, topcoats, pretreatment chemicals, adhesives and sealants. [3]

Automotive Glass. Produces original equipment windshields, rear and side windows and related assemblies for auto and truck manufacturers. [1]

Automotive Refinish. Produces a full line of coatings products for automotive repair and refurbishing and specialty coatings for sign and fleet markets. Also responsible for *CertifiedFirst* Network in auto body repair market. [2] [4]

Automotive Replacement Glass. Fabricates replacement windshields and rear and side windows. Also responsible for *PPG PROSTARS* marketing alliance in the retail auto glass replacement market. [2]

Chlor-Alkali and Derivatives. A world leader in the production of chlorine, caustic soda and related chemicals for use in chemical manufacturing, pulp and paper production, water treatment, plastics production and many other products. [1] [2] [3] [4] [5]

Fiber Glass: Electronic and Specialty Materials. Maker of fiber glass yarn for use in electronics, especially printed circuit boards. Specialty materials are used in applications such as medical casts, tape, thermal insulators, insect screening and other building products. [1] [2] [3] [4] [5]

Fiber Glass: Reinforcements. Produces fiber glass used as a reinforcing agent in thermoset and thermoplastic composite applications. End products include recreational boats, shower units, whirlpools and auto parts. [1] [2] [3] [4] [5]

Flat Glass. Produces flat glass that is fabricated into products primarily for the residential, construction, appliance, mirror and transportation industries. [1] [2] [5]

Industrial Coatings. Manufactures a wide variety of coatings for industrial uses, including appliance, agricultural and construction equipment, consumer electronics, heavy-duty trucks, automotive parts and accessories, coil, aluminum extrusion, wood flooring and recreation. [1] [2] [3] [4] [5]

Insurance & Services. An array of service businesses linking the automotive aftermarket and the insurance industry. Includes *LYNX Services*, a wholly owned subsidiary, offering end-to-end claims management and call center services to leading insurance companies. [2]

Packaging Coatings. Global supplier of coatings, inks, compounds and chemicals for metal and plastic containers for the beverage, food, general line and specialty packaging industries. [1]

Specialty Chemicals: Fine Chemicals. Produces phosgene derivatives used in agricultural, pharmaceutical and other industries, and advanced intermediates and bulk active ingredients for the pharmaceutical industry. [1] [4]

Specialty Chemicals: Optical Products. Produces optical monomers, photochromic dyes, *Transitions* photochromic ophthalmic plastic eyewear and *Trivex* lens material. [1]

Specialty Chemicals: Silicas. Produces more than 100 varieties of amorphous silicas used as free-flow agents in products such as salt, reinforcing agents in tires and other rubber products, abrasives in toothpaste and flattening agents in paints. Also manufactures *Teslin* synthetic printing sheet. [1] [2] [3] [4]

At A Glance

Established in 1883, PPG Industries is a leading diversified manufacturer that supplies its products and services around the world. The company makes protective and decorative coatings, sealants, adhesives, metal pretreatment products, flat glass, fabricated glass products, continuous-strand fiber glass products, and industrial and specialty chemicals — including photochromic ophthalmic lenses, optical monomers, silicas and fine chemicals.

From its headquarters in Pittsburgh, PPG has 120 manufacturing facilities and equity affiliates in Argentina, Australia, Brazil, Canada, China, England, France, Germany, Hong Kong, India, Ireland, Italy, Japan, Malaysia, Mexico, the Netherlands, the Philippines, South Korea, Spain, Taiwan, Thailand, Turkey, the United States and Venezuela.



Customers use to find the solutions they need to solve their problems. Maybe it's the eyeglass wearer who wants the fastest variable-tint lenses on the market. Maybe it's the architect who requires a one-of-a-kind glass. Maybe it's the painting contractor or homeowner who wants a paint that has all the qualities of a premium interior latex yet is environmentally friendly. Or maybe it's the car manufacturer who wants a revolutionary technology that helps create a quiet ride for passengers. Though their requirements are very different, all of these customers and many others have one thing in common: They rely on PPG technologies.

Automotive coatings, glass, floor coverings and more. PPG makes the products and services that help our customers work better.



Appearing in literature, advertisements and product and service labels, the See It's PPG icon is helping to raise awareness among a variety of audiences — including customers, symbolized by the woman on the cover — of just how many products contain PPG technologies. Launched in 2001, PPG's brand identifier is being incorporated into existing communications campaigns, such as this advertisement about the use of Solarban 60 solar control low-e glass in the pavilion at the base of Seattle's landmark Space Needle.

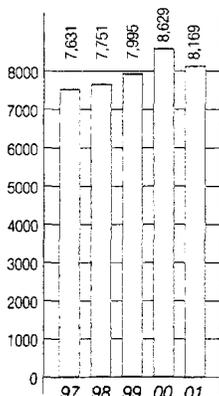
Financial Highlights 2001

For the Year	2001	Change	2000
Net sales	\$8,169	-5%	\$8,629
Net income	\$387	-38%	\$620
Earnings per share*			
As reported	\$2.29	-36%	\$3.57
Non-recurring charges	\$.42	—	\$.22
Excluding non-recurring charges	\$2.71	-28%	\$3.79
Dividends per share	\$1.68	5%	\$1.60
Return on average capital	8.4%	-31%	12.1%
Return on average equity	12.6%	-36%	19.7%
Operating cash flow	\$1,060	22%	\$870
Capital spending — including acquisitions	\$301	-55%	\$676
Research and development	\$283	-6%	\$301
Average shares outstanding *	169.2	-3%	173.6
Average number of employees	34,900	-3%	36,000

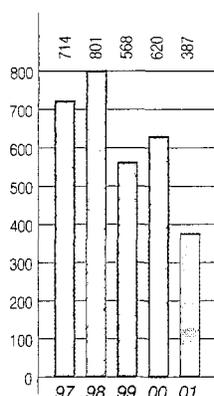
At Year End

Working capital	\$748	36%	\$550
Operating working capital**	\$1,061	-19%	\$1,302
Shareholders' equity	\$3,080	-1%	\$3,097
Shareholders (at Jan. 31, '02 and '01)	29,005	-3%	30,035

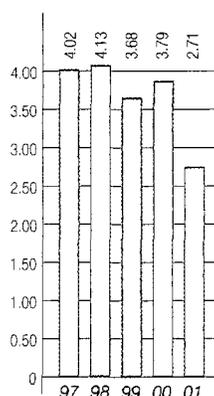
Average shares outstanding and all dollar amounts except per share data are in millions.



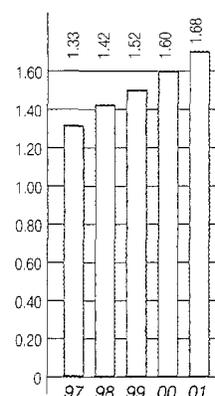
NET SALES
Millions of Dollars



NET INCOME
Millions of Dollars



EARNINGS PER SHARE*†
Dollars



DIVIDENDS PER SHARE
Dollars

* Assumes dilution

** Receivables and inventories less accounts payable and accrued liabilities

† Excludes non-recurring charges and gains

As a result of our operating discipline, and despite a significant decline in net income, we increased our cash flow from operations by nearly \$200 million and reduced capital spending by \$375 million, enabling us to reduce debt by about 20 percent — without sacrificing our commitment to technology or customer service.

A letter from the chairman



Ray LeBoeuf, PPG chairman and chief executive officer, relaxes at home beneath skylights featuring SunClean self-cleaning glass. Introduced in 2001, PPG's newest innovation in glass technology slowly breaks down and loosens organic dirt on the outer surface and causes water to flush it clean. As a result, windows are easier to clean, helping to simplify life for homeowners. In addition, LeBoeuf wears glasses containing Trivex lens material, the world's first to combine superior optics, maximum impact resistance and ultra-light weight.

The U.S. economy presented us with a number of challenges in 2001 — excess inventories, plunging industrial production, a slumping stock market, sagging consumer confidence and rising unemployment. All contributed to the worst recession in nearly 20 years in the United States, where we generate about 75 percent of our income. And then came the tragic events of Sept. 11. The terrorist attacks on America's homeland magnified the downturn and its effect on the global economy — to say nothing of the impact it had on the world's sense of security and well-being.

Understandably, our financial performance reflected these trying times. For 2001, we reported net income of \$387 million, or \$2.29 a share, including a \$101 million pretax restructuring charge in the first quarter. Excluding the charge, equaling 42 cents a share aftertax, net income was \$458 million or \$2.71 a share. Sales were \$8.2 billion. That compares with net income of \$658 million, or \$3.79 a share on sales of \$8.6 billion in 2000, excluding \$38 million or 22 cents a share aftertax to write off a 50-percent-owned equity investment and rationalize an automotive replacement glass distribution venture.

Our 2001 results were better than many of our peers because we acted early and quickly to reduce costs and increase efficiency. In the third quarter of 2000 we saw the first indications that a recession was a possibility, and in the first quarter of 2001 we took a restructuring charge for work force reductions and asset write-downs for facility closings, as well as production realignments to gain economies of scale. Many of the projects included in this charge would have been implemented over the next several years, largely as a result of our efforts to bring the operating performance of recent acquisitions in line with our expectations. The economic downturn, however, caused us to accelerate these plans. And in the first quarter of 2002, we plan to take an additional restructuring charge, in the range of \$60 million to \$90 million, to reduce our work force and close facilities or portions of facilities no longer needed as a result of improved business processes. In conjunction with the drive to improve our cash flow, in 2001 we focused on conserving capital as well.



STANDING TALL

The terrorist attacks in the United States brought out the best in PPG people around the world. Architectural coatings donated containers to the rescue and cleanup effort at the World Trade Center. A tractor trailer full of PPG safety supplies was sent to the Fire Department of New York. An Allison Park, Pa., employee took a three-week leave of absence to assist her husband, the coroner in Somerset County, Pa., as he investigated the crash site of United Flight 93. And a group of 13 automotive refinish territory managers in western Canada donated their more than \$3,000 collective recognition bonus from a sales competition to the Canadian Red Cross' 911 Fund. In all, more than \$200,000 in PPG employee donations and company matching funds were contributed to the Red Cross from the United States, Canada, Italy and Australia.

As a result of our operating discipline, and despite a significant decline in net income, we increased our cash flow from operations by nearly \$200 million and reduced capital spending by \$375 million, enabling us to reduce debt by about 20 percent — without sacrificing our commitment to technology or customer service. Our total debt stands at \$2.4 billion, which represents about 44 percent of total debt and equity, down from 49 percent at the end of 2000.

Although we're placing a greater emphasis on cash flow, we remain committed to our dividend goal, which is to maintain payments, over time, at about one-third of earnings per share. We believe this is an important component in generating a sustainable value for our shareholders. We're among only a small number of companies that have paid dividends uninterrupted since 1899. And 2001 marked the 31st consecutive year of increased shareholder payments.

Another equally important aspect in creating sustainable shareholder value is our continued focus on increasing earnings growth and consistency while achieving a minimum return on capital of 15 percent over the course of the business cycle. To meet these objectives, we continue to pursue a three-point strategy designed to generate value regardless of economic climate.

- Build A Better Mix Of Businesses
- Create Breakthrough Products
- Improve Our Customers' Results

During the past five years, building a better mix of businesses through acquisitions and divestitures has been the primary source of growth.

Better Mix Of Businesses

A significant portion of the more than \$2 billion spent since 1997 has been invested in aftermarket businesses, which historically have generated better margins and less cyclicity than our other businesses. Meanwhile, we exited two of our most cyclical businesses — European flat and automotive glass. This transformation of our business portfolio has been notable.

During the last recession, in 1991, we generated about 16 percent of sales from automotive maintenance and repair. In 2001, the percent of sales from that same market was up one-third, to 21 percent.

sensing value



PPG technologies appeal to the senses. Pure Performance paint, introduced in 2002 by Pittsburgh Paints, is an interior paint that has minimal odor during application and zero volatile organic compounds (VOC), making it well-suited for the growing "green" building market or anyplace where people and fresh paint occupy the same space, such as hospitals, homes or restaurants. PPG also provides the technology that allows Next Generation Transitions lenses, which were also introduced in early 2002, the fastest variable-tint lenses on the market, to go automatically from as clear as regular glasses indoors to as dark as sunglasses outdoors.

As a result of this better business mix, with a greater emphasis on aftermarket and coatings businesses, as well as our continuous focus on quality and operating efficiency, PPG's operating margins in 2001 were better than in previous downturns.

work vs. play



Whether at the office or on the water, PPG enhances the experience. PPG coatings protect and decorate metal office furniture, including desks, tables and file cabinets. And with the introduction of Envirocron XMR powder coatings in 2001, those objects as well as others have the potential for greatly improved mar-and-scratch resistance. PPG's fiber glass reinforcements, meanwhile, give strength and shape to all kinds of boats. Hybon 6400 fiber glass roving, introduced in 2001, has the ability to enhance the structural integrity of boats and other products while saving time and cost for manufacturers.

Since early 1997, most of our acquisition investments have been in the coatings segment, which over the years has displayed greater consistency and earnings growth than our two other segments. In 1991, we generated 39 percent of our sales from coatings. Last year, 54 percent came from coatings businesses.

As a result of this better business mix, with a greater emphasis on aftermarket and coatings businesses, as well as our continuous focus on quality and operating efficiency, PPG's operating margins in 2001 were better than in previous downturns. In 1991, we had operating margins of 9.7 percent. In 2001, they were 11.5 percent — an increase of 1.8 points over the last recession. To put that into perspective, our operating income in 2001 was 18 percent higher than if we had the same margins we had in 1991.

For now, the current phase of building a better mix of businesses is mostly behind us, although we will continue to evaluate acquisition and divestiture opportunities, as we always do. Successful acquisition candidates, for now, will likely be small, strategic additions to our business array. Our focus in 2001 was, and in the near term will be, to drive the operating performance of our acquisitions to the levels we expect and to increase cash flow.

As we further improve the profitability of our acquisitions, we will continue to invest in other ways that enable us to generate growth and improve our business mix. A good example is the launch of the *CertifiedFirst* Network of auto body repair shops in early 2001, which you can learn more about at the top of the next page. This network is a reliable source of highly qualified auto body professionals who have demonstrated excellence in workmanship and service. The *CertifiedFirst* Network is similar to the *PPG PROSTARS* alliance in automotive replacement glass, which we launched in 1998. With more than 725 shops enrolled, the *PPG PROSTARS* initiative has become the largest marketing alliance of independently owned auto glass shops in the United States. We believe the strength of the *CertifiedFirst* Network and *PPG PROSTARS* alliance will increase volume at participant shops, which, in turn, will increase our sales volumes as well. In addition, subsidiary *LYNX Services*, the leading provider of automotive glass claims management, processed a record number of claims in 2001 and is preparing to enter the business of managing vehicular collision damage claims. Growth in the *CertifiedFirst* Network and *PPG PROSTARS* alliance and *LYNX Services* positions us to deliver greater value to our customers in the automotive aftermarket and further enrich our business array.



QUALITY WORK AND CUSTOMER SATISFACTION

For most consumers, identifying an expert source of auto body repairs often requires soliciting recommendations from family, friends or insurance agents. With the introduction in 2001 of PPG's co-brand alliance of auto body repair centers, car owners and insurers can now look for the CertifiedFirst Network symbol to be assured of quality work and customer satisfaction. Participant shops must maintain high standards on the work they perform, as verified by Underwriters Laboratories. In addition, they must achieve high levels of customer satisfaction, as determined by research conducted on a regular basis. And, of course, network shops must use quality materials — PPG refinish paints. More than 800 shops have joined the network, with a goal of 1,200 by the end of 2002.

Creating Breakthrough Products That Improve Our Customers' Results

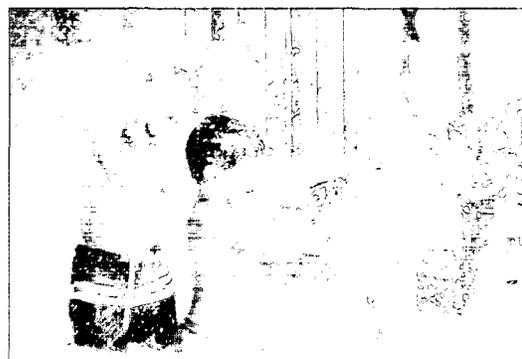
Having the right mix of businesses is important, but it's not enough. To grow those businesses on a sustainable basis requires the discovery of products that improve our customers' results, one of our company's hallmarks. In 2001, sales from products 5 or fewer years old approached 40 percent. Our technologies, which are routinely recognized by the experts, make a world of difference for customers big and small.

Take your car, for example. Like anything of value, you expect it to last and to continue to look good. Among other things, that means the car body should resist corrosion. Since the mid-70s, a coating we pioneered has done just that. And now we've introduced the most environmentally friendly formulation of that coating, winning a Presidential Green Chemistry Award in 2001 from the United States Environmental Protection Agency. This award is an important validation of our work to improve the environmental performance of our products, which is a critical requirement of our customers. In use around the world, *Enviro-Prime* electrodeposition coatings can also be cured at lower temperatures, saving energy and costs for automakers. As a result, carmakers substantially reduce their environmental impact and expense while car owners enjoy the prospect of extending the life of the finish on their automobiles.

Another way PPG is making a world of difference is with the introduction of *Envirocron* XMR powder coatings, offering the potential to improve greatly mar-and-scratch resistance in a broad range of industrial applications, including home appliances, such as washers and dryers, and metal office furniture. Several formulations of this breakthrough product approach the mar performance usually associated with porcelain enamels, the premium but more costly solution. In addition to extending the performance of the coated parts, this new product can reduce handling and packaging costs in the customer's facility and during transportation.

Innovations such as these are why large industrial customers look to us for technologies that make a world of difference for them and their customers. PPG's researchers and engineers generate breakthrough technologies directly aimed at consumer markets as well.

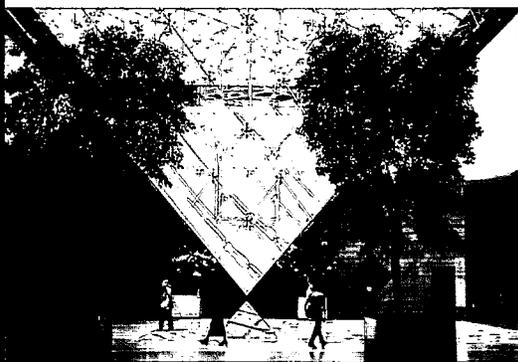
fast vs. slow



PPG helps you make the most of your time. With one call, LYNX Services, a PPG subsidiary, enables policyholders to resolve an automotive glass replacement or repair claim, verifying insurance coverage, arranging service at a time and shop chosen by the consumer and completing the claims process — all in about six minutes. No additional paperwork or calls are required. That allows time for more important things, such as time with family and friends. PPG's calcium hypochlorite products, such as the Accu-Tab system, sanitize the water in residential, municipal and hotel pools as well as water and theme parks.

For the second consecutive year, PPG was named to the Dow Jones Sustainability World Index, which rates companies on their economic, environmental and social performance.

updating classics



When Ford wanted a windshield with a new twist and the Louvre Museum wanted to shed new light on its visitors center, they turned to PPG. Reminiscent of its roadster beginnings in 1955, the 2002 Thunderbird features a windshield that wraps around the front roof pillar and a deep bend from top to bottom — the most difficult windshield to make in the automotive industry. In Paris, an inverted pyramid in the Louvre features Starphire ultra-clear glass, bringing a bright look into the 208-year-old museum. Free of the green cast in ordinary flat glass, Starphire glass offers unequaled clarity and a sparkling edge.

Our latest innovation in residential window glass has the potential to make a difference for homeowners. *SunClean* self-cleaning glass contains a durable transparent coating on its exterior that works to break down and loosen organic dirt slowly. The same coating also causes water to sheet evenly over the glass, helping to rinse away loosened dirt. All of this results in windows that are easier to clean and create a clearer view. I had this glass installed in one of two skylights in my home, and the difference was so noticeable, I had to have *SunClean* glass installed in the other.

For individuals who seek optical lenses that enable them to see clearly and comfortably in virtually any light conditions, we offer *Transitions* variable-tint lenses. Our joint venture with Essilor International is the world leader in photochromic lenses. With the introduction of Next Generation *Transitions* plastic lenses in early 2002, we have developed lenses that indoors are as clear as regular eyeglasses, but outdoors darken as much as necessary, even getting as dark as sunglasses. In addition, Next Generation *Transitions* lenses grow darker six times faster than the previous generation and fade back to clear three-and-a-half times faster.

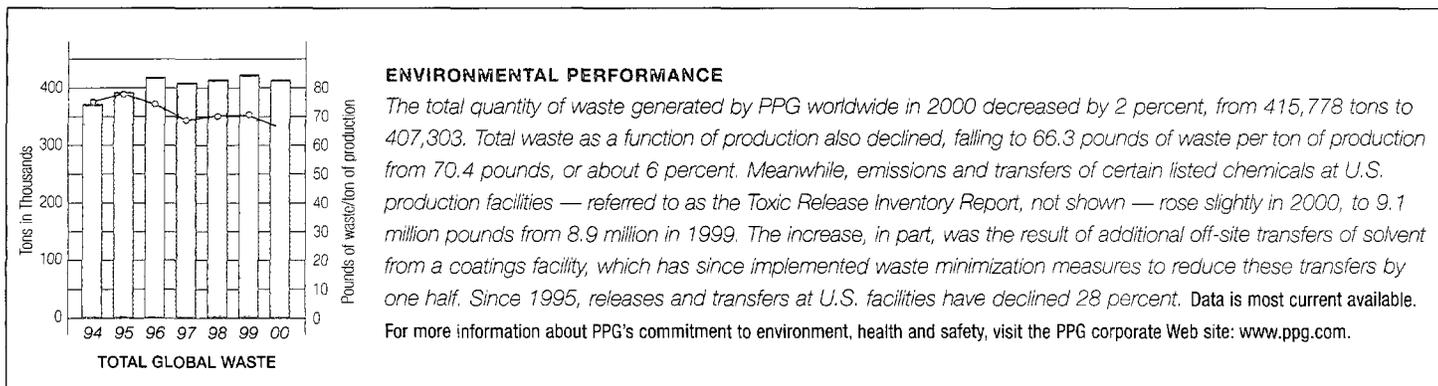
Social Responsibility

PPG's commitment to its core values of safety, environmental stewardship and high ethical standards makes a very real difference, too.

In 2001 we reduced the rate of serious injuries and illnesses to employees by 23 percent, from 1.3 for every 100 employees to 1.0. But as four work-related deaths in 2001 illustrate, we can never let up in our efforts to ensure the safety of our people. Vehicle accidents have been the No. 1 cause of workplace deaths at PPG in recent years, claiming two lives in 2001. As a result, we are implementing more aggressive fleet safety measures to help reduce these tragic losses.

In conjunction with the Pennsylvania Department of Environmental Protection and Ford City officials, we completed a two-year project in 2001 to remediate one of our company's earliest manufacturing sites. The 50-acre, riverfront parcel, which is now suitable for light industrial use, is being turned over to borough officials for economic development purposes.

Efforts such as these are why, for the second consecutive year, PPG Industries was named to the Dow Jones Sustainability World Index, which rates companies on their economic, environmental and social performance. We were among 312 companies from 62 industries in 26 countries selected for this recognition.



ENVIRONMENTAL PERFORMANCE

The total quantity of waste generated by PPG worldwide in 2000 decreased by 2 percent, from 415,778 tons to 407,303. Total waste as a function of production also declined, falling to 66.3 pounds of waste per ton of production from 70.4 pounds, or about 6 percent. Meanwhile, emissions and transfers of certain listed chemicals at U.S. production facilities — referred to as the Toxic Release Inventory Report, not shown — rose slightly in 2000, to 9.1 million pounds from 8.9 million in 1999. The increase, in part, was the result of additional off-site transfers of solvent from a coatings facility, which has since implemented waste minimization measures to reduce these transfers by one half. Since 1995, releases and transfers at U.S. facilities have declined 28 percent. Data is most current available.

For more information about PPG's commitment to environment, health and safety, visit the PPG corporate Web site: www.ppg.com.

Conclusion

Our collective performance is the sum of the individuals within our company. Once again, the spirit of PPG's people shone brightly throughout the year in light of difficult circumstances.

The restructuring actions we took in 2001, and the additional steps we plan to take in 2002, are absolutely vital to ensure our company's competitiveness. Nonetheless, they are difficult. The fact so many people throughout the company support these measures reflects the vested interest they have in their company and its long-term prospects.

The sense of ownership among PPG people is also reflected in their continuing commitment to our Quality Process. Quality-related projects initiated in 2001 had an impact on PPG's bottom line. More important, the majority of those projects resulted in permanent improvements that lowered our costs.

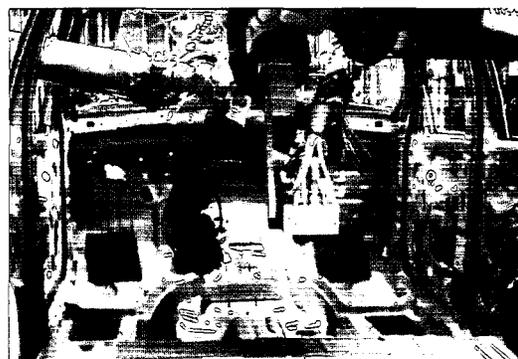
The quality of our people was also displayed in the aftermath of the terrorist attacks in the United States. I take great pride in being a part of this company, and I was never more proud of PPG and its people than I was after Sept. 11. The outpouring of emotion and resolve was inspirational. Throughout the world employees gave generously to aid the victims and showed their support in the war against terrorism.

Reflecting these character traits of PPG and its people is David G. Vice, who is retiring in April from the board of directors, which he joined in 1988. His leadership has played an instrumental role in our company's growth and has been a guiding force in its development.

The year 2001 tested our strategy and the resolve of our people at all levels and locations. We stood the test, and as we have done so often throughout our company's history, we are positioned to emerge from the recession a stronger and better company, capable of continuing our proud legacy of generating sustainable value for customers, shareholders and employees.

Raymond W. LeBoeuf
Chairman and Chief Executive Officer

making a statement



PPG technologies say something about the vehicles to which they are applied. As the world's largest maker of transportation coatings, PPG manufactures the attention-grabbing paints for ambulances and fire trucks. PPG also manufactures Audioguard sound- and vibration-damping coatings, winner of a 2001 Automotive News PACE award for supplier product and process innovation. Robotically applied to the interior of car bodies, these coatings reduce the cost and complexity of manually installed pads and assure a quiet ride, which passengers associate with comfort and value.

Board of Directors



James G. Berges

James G. Berges, 54, is president of Emerson Electric, a global manufacturer providing products, systems and services for industrial automation; process control; heating, ventilating and air conditioning; electronics and communications; and appliances and tools. A PPG director since 2000, he is also a director of Emerson Electric and MKS Instruments.

- Audit Committee
- Nominating and Governance Committee



Erroll B. Davis Jr.

Erroll B. Davis Jr., 57, is chairman, president and chief executive officer of Alliant Energy, an electric, gas and water utility company. A PPG director since 1994, he is also a director of Alliant Energy and BP Amoco.

- Audit Committee
- Investment Committee



Michele J. Hooper

Michele J. Hooper, 50, is former president and chief executive officer of Voyager Expanded Learning, a company that develops and implements learning programs and teacher training for public schools. A PPG director since 1995, she is also a director of Target.

- Audit Committee
- Nominating and Governance Committee



Allen J. Krowe

Allen J. Krowe, 69, is a retired director and vice chairman of Texaco, an international petroleum company. A PPG director since 1987, he is also a director of I.B.J. Whitehall Bank & Trust and Navistar International.

- Nominating and Governance Committee
- Investment Committee



Raymond W. LeBoeuf

Raymond W. LeBoeuf, 55, is chairman of the board and chief executive officer of PPG Industries. A PPG director since 1995, he is also a director of Praxair and ITT Industries.



Steven C. Mason

Steven C. Mason, 66, is retired chairman of the board and chief executive officer of Mead, a forest products company. A PPG director since 1990, he is also a director of Convergys and The Elder-Beerman Stores.

- Audit Committee
- Officers-Directors Compensation Committee



Robert Mehrabian

Robert Mehrabian, 60, is chairman, president and chief executive officer of Teledyne Technologies, a provider of aerospace, electronic and communications products and systems engineering services. A PPG director since 1992, he is also a director of Teledyne Technologies and Mellon Financial.

- Audit Committee
- Officers-Directors Compensation Committee



Thomas J. Usher

Thomas J. Usher, 59, is chairman of the board and chief executive officer of U.S. Steel, a major producer of metal products. A director of PPG since 1996, he is also a director of Marathon Oil, PNC Financial Services Group, Transtar and H.J. Heinz.

- Officers-Directors Compensation Committee
- Investment Committee



David G. Vice

David G. Vice, 68, is retired vice chairman, products and technology, of Northern Telecom, a telecommunications systems company. A PPG director since 1988, he is also a director of Sun Life Assurance of Canada and Stackpole.

- Nominating and Governance Committee
- Investment Committee



David R. Whitwam

David R. Whitwam, 60, is chairman of the board and chief executive officer of Whirlpool, a manufacturer and distributor of household appliances and related products. He has been a director of PPG since 1991.

- Nominating and Governance Committee
- Officers-Directors Compensation Committee

Corporate Directory

EXECUTIVE COMMITTEE

Raymond W. LeBoeuf
Chairman and
Chief Executive Officer

Frank A. Archinaco
Executive Vice President,
Glass and Chemicals

Charles E. Bunch
Executive Vice President,
Coatings

James C. Diggs
Senior Vice President
and General Counsel

William H. Hernandez
Senior Vice President, Finance

OTHER OFFICERS

Douglas B. Atkinson
Vice President, Investor Relations

Richard A. Beuke
Vice President,
Architectural Coatings

David C. Cannon Jr.
Vice President, Environment,
Health and Safety

David B. Church
Vice President, Chlor-Alkali
and Derivatives

Richard C. Elias
Vice President, Optical Products

Benjamin R. Fisher Jr.
Vice President, Corporate
Marketing and Communications

Aziz S. Giga
Vice President,
Strategic Planning

Jeffrey R. Gilbert
Vice President, Government
and Community Affairs

Garry A. Goudy
Vice President,
Automotive Refinish

Gerald W. Gruber
Vice President,
Science and Technology

Ernest A. Hahn
Vice President,
Automotive Glass

Michael C. Hanzel
Secretary and
Corporate Counsel

Douglas C. Hepper
Vice President,
Market Initiatives, Coatings

Dennis A. Kovalsky
Vice President, Aerospace

Susan M. Kreh
Treasurer

Michael A. Ludlow
Vice President,
Industrial Coatings

Barry J. McGee
Vice President, Flat Glass

Margaret H. McGrath
Vice President,
Purchasing and Distribution

Kathleen A. McGuire
Vice President, Silicas

David B. Navikas
Vice President and Controller

Maurice V. Peconi
Vice President,
Corporate Development

David E. Sharick
Vice President,
Automotive Replacement Glass

David W. Smith
Vice President,
Information Technology

Kevin F. Sullivan
Vice President, Fiber Glass

Marc P. Talman
Vice President,
Packaging Coatings

Donna Lee Walker
Vice President,
Tax Administration

Charles W. Wise
Vice President,
Human Resources

Richard Zahren
Vice President,
Automotive Coatings

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Financial and Operating Review

Independent Auditors' Report

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

We have audited the accompanying consolidated balance sheet of PPG Industries, Inc. and subsidiaries as of December 31, 2001 and 2000, and the related consolidated statements of income, shareholders' equity, comprehensive income and cash flows for each of the three years in the period ended December 31, 2001 set forth on pages 10 to 13 and pages 23 to 35. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

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

In our opinion, such consolidated financial statements present fairly, in all material respects, the financial position of PPG Industries, Inc. and subsidiaries as of December 31, 2001 and 2000, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2001 in conformity with accounting principles generally accepted in the United States of America.



Deloitte & Touche LLP
Pittsburgh, Pennsylvania
January 17, 2002

Management Statement

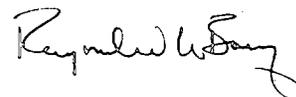
Responsibility for Preparation of the Financial Statements

The management of PPG Industries, Inc. is responsible for the preparation of the financial statements included in this Annual Report.

To ensure the reliability of financial data, PPG has established, and maintains, an internal control system. We believe the internal controls in use give reasonable assurance that financial reports do not contain any material misstatement.

We believe that the financial statements and related notes in this report are accurate in all material respects, and that they were prepared according to accounting principles generally accepted in the United States of America. The financial statements include amounts that are based on the best estimates and judgments of management.

We believe, further, that the other financial information contained in this Annual Report is consistent with the financial statements.



Raymond W. LeBoeuf
Chairman of the Board
and Chief Executive Officer



William H. Hernandez
Senior Vice President, Finance

Statement of Income

(Millions, except per share amounts)	For the Year		
	2001	2000	1999
Net sales	\$8,169	\$8,629	\$7,995
Cost of sales	5,137	5,334	4,957
Gross profit	3,032	3,295	3,038
Other expenses (earnings)			
Selling, general and administrative	1,395	1,364	1,230
Depreciation	375	374	366
Research and development — net (See Note 18)	266	282	284
Interest	169	177	133
Amortization	72	73	49
Business divestitures and realignments (See Note 2)	103	5	42
Purchased in-process research and development (See Note 2)	—	—	40
Other charges	84	141	45
Other earnings (See Note 15)	(98)	(138)	(124)
Total other expenses — net	2,366	2,278	2,065
Income before income taxes and minority interest	666	1,017	973
Income taxes (See Note 9)	247	369	377
Minority interest	32	28	28
Net income	\$ 387	\$ 620	\$ 568
Earnings per common share (See Note 8)	\$ 2.30	\$ 3.60	\$ 3.27
Earnings per common share — assuming dilution (See Note 8)	\$ 2.29	\$ 3.57	\$ 3.23

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

Balance Sheet

December 31

(Millions)	2001	2000
Assets		
Current assets		
Cash and cash equivalents	\$ 108	\$ 111
Receivables (See Note 3)	1,416	1,563
Inventories (See Note 3)	904	1,121
Deferred income taxes (See Note 9)	155	155
Other	120	143
Total current assets	2,703	3,093
Property (See Note 4)	7,153	7,089
Less accumulated depreciation	4,401	4,148
Property — net	2,752	2,941
Investments (See Note 10)	305	320
Goodwill	1,129	1,160
Less accumulated amortization	157	128
Goodwill — net	972	1,032
Identifiable intangible assets	710	718
Less accumulated amortization	140	102
Identifiable intangible assets — net	570	616
Other assets (See Note 10)	1,150	1,123
Total	\$ 8,452	\$ 9,125
Liabilities and Shareholders' Equity		
Current liabilities		
Short-term debt and current portion of long-term debt (See Note 5)	\$ 696	\$ 1,161
Accounts payable and accrued liabilities (See Note 3)	1,259	1,382
Total current liabilities	1,955	2,543
Long-term debt (See Note 5)	1,699	1,810
Deferred income taxes (See Note 9)	552	543
Accrued pensions (See Note 10)	157	131
Other postretirement benefits (See Note 10)	514	529
Other liabilities (See Note 10)	373	344
Total liabilities	5,250	5,900
Commitments and contingent liabilities (See Note 11)		
Minority interest	122	128
Shareholders' equity (See Note 12)		
Common stock	484	484
Additional paid-in capital	109	102
Retained earnings	6,551	6,444
Treasury stock, at cost	(3,496)	(3,508)
Unearned compensation (See Note 14)	(108)	(114)
Accumulated other comprehensive loss (See Note 13)	(460)	(311)
Total shareholders' equity	3,080	3,097
Total	\$ 8,452	\$ 9,125

Shares outstanding were 168,488,256 and 168,222,073 at Dec. 31, 2001 and 2000, respectively.
The accompanying notes to the financial statements are an integral part of this consolidated statement.

Statement of Shareholders' Equity

(Millions)	Total	Common Stock	Additional Paid-In Capital	Retained Earnings	Treasury Stock	Unearned Compensation (See Note 14)	Accumulated Other Comprehensive Loss (See Note 13)
Balance, Jan. 1, 1999	\$2,880	\$484	\$105	\$5,791	\$(3,198)	\$(149)	\$(153)
Net income	568	—	—	568	—	—	—
Other comprehensive loss, net of tax	(25)	—	—	—	—	—	(25)
Cash dividends	(264)	—	—	(264)	—	—	—
Purchase of treasury stock	(82)	—	—	—	(82)	—	—
Issuance of treasury stock	11	—	(1)	—	12	—	—
Loans to ESOP	(24)	—	—	—	—	(24)	—
Repayment of loans by ESOP	39	—	—	—	—	39	—
Other	3	—	—	3	—	—	—
Balance, Dec. 31, 1999	3,106	484	104	6,098	(3,268)	(134)	(178)
Net income	620	—	—	620	—	—	—
Other comprehensive loss, net of tax	(133)	—	—	—	—	—	(133)
Cash dividends	(276)	—	—	(276)	—	—	—
Purchase of treasury stock	(247)	—	—	—	(247)	—	—
Issuance of treasury stock	5	—	(2)	—	7	—	—
Loans to ESOP	(24)	—	—	—	—	(24)	—
Repayment of loans by ESOP	44	—	—	—	—	44	—
Other	2	—	—	2	—	—	—
Balance, Dec. 31, 2000	3,097	484	102	6,444	(3,508)	(114)	(311)
Net income	387	—	—	387	—	—	—
Other comprehensive loss, net of tax	(149)	—	—	—	—	—	(149)
Cash dividends	(283)	—	—	(283)	—	—	—
Purchase of treasury stock	(5)	—	—	—	(5)	—	—
Issuance of treasury stock	24	—	7	—	17	—	—
Loans to ESOP	(32)	—	—	—	—	(32)	—
Repayment of loans by ESOP	38	—	—	—	—	38	—
Other	3	—	—	3	—	—	—
Balance, Dec. 31, 2001	\$3,080	\$484	\$109	\$6,551	\$(3,496)	\$(108)	\$(460)

Statement of Comprehensive Income

(Millions)	For the Year		
	2001	2000	1999
Net income	\$ 387	\$ 620	\$568
Other comprehensive (loss) income, net of tax (See Note 13)			
Currency translation adjustment	(131)	(120)	(40)
Minimum pension liability adjustment	(20)	(16)	18
Unrealized gains (losses) on marketable equity securities	10	(6)	(3)
Transition adjustment on derivatives (See Note 1)	43	—	—
Net change — derivatives (See Note 7)	(51)	—	—
Reclassification adjustment — marketable equity securities	—	9	—
Other comprehensive loss, net of tax	(149)	(133)	(25)
Comprehensive income	\$ 238	\$ 487	\$543

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

Statement of Cash Flows

(Millions)	<i>For the Year</i>		
	2001	2000	1999
Operating activities			
Net income	\$ 387	\$ 620	\$ 568
Adjustments to reconcile to cash from operations			
Depreciation and amortization	447	447	415
Business divestitures and realignments	103	5	42
Purchased in-process research and development	—	—	40
Loss on write-off of equity investment	—	39	—
Reclassification adjustment — marketable equity securities	—	9	—
Increase in pension asset	(63)	(102)	(110)
Decrease (increase) in receivables	74	(44)	(128)
Decrease (increase) in inventories	187	(92)	(7)
(Decrease) increase in accounts payable and accrued liabilities	(126)	(11)	77
Change in other current assets — net	32	(11)	(9)
Other — net	19	10	14
<i>Cash from operating activities</i>	1,060	870	902
Investing activities			
Capital spending			
Additions to property and investments	(291)	(561)	(490)
Business acquisitions, net of cash balances acquired	(10)	(115)	(1,343)
Proceeds from the sale of the Company's headquarters complex	—	—	152
Reductions of other property and investments	56	40	37
<i>Cash used for investing activities</i>	(245)	(636)	(1,644)
Financing activities			
Net change in borrowings with maturities of three months or less	(511)	220	492
Proceeds from other short-term debt	179	268	252
Repayment of other short-term debt	(203)	(244)	(267)
Proceeds from long-term debt	29	32	821
Repayment of long-term debt	(41)	(55)	(203)
Loans to employee stock ownership plan	(32)	(24)	(24)
Repayment of loans by employee stock ownership plan	38	44	39
Purchase of treasury stock	(5)	(247)	(82)
Issuance of treasury stock	13	4	9
Dividends paid	(283)	(276)	(264)
<i>Cash (used for) from financing activities</i>	(816)	(278)	773
Effect of currency exchange rate changes on cash and cash equivalents	(2)	(3)	(1)
Net (decrease) increase in cash and cash equivalents	(3)	(47)	30
Cash and cash equivalents, beginning of year	111	158	128
Cash and cash equivalents, end of year	\$ 108	\$ 111	\$ 158

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

Management's Discussion and Analysis

Performance in 2001 Compared with 2000

Overall Performance

Our sales decreased 5% in 2001 to \$8.2 billion from \$8.6 billion in 2000. The majority of this sales decrease, 4%, is attributable to decreased volumes across all of our business segments. Sales for 2001 also declined 2% from foreign currency translation primarily within our coatings segment due to the strengthening of the U.S. dollar against other currencies. These sales decreases were partially offset by a 1% increase in prices within our coatings and glass segments.

The gross profit percentage decreased to 37.1% in 2001 from 38.2% in 2000. Increased raw material costs, including natural gas, particularly in our glass and chemicals segments, along with unfavorable sales mix across our glass and chemicals segments were offset slightly by the benefits realized from improved manufacturing efficiencies in our coatings and glass segments.

Net income and earnings per share, diluted, in 2001 were \$387 million and \$2.29, respectively, compared to \$620 million and \$3.57, respectively, in 2000. Net income in 2001 included an after-tax charge of \$71 million for restructuring and other related activities. Net income in 2000 included after-tax charges of \$35 million for the write-off of a 50% owned equity investment and \$3 million of restructuring and one-time integration costs associated with PPG Auto Glass L.L.C. (PPG Auto Glass), an automotive replacement glass distribution venture formed during 2000. Excluding these charges, net income and earnings per share, diluted, for 2001 were \$458 million and \$2.71, respectively, and \$658 million and \$3.79, respectively, in 2000. The decrease in earnings is largely attributable to the lower sales volume and gross profit percentage described above. In addition, selling, general and administrative expenses were up \$31 million as the savings from our restructuring actions of about \$35 million were more than offset by the additional overhead costs of businesses acquired during 2000, higher pension and other benefit costs, higher growth related overhead in our architectural coatings business and the impact of inflation. Additional cost reductions of \$25 million related to our restructuring actions are reflected in research and development costs and costs of sales.

Results of Business Segments

Coatings sales decreased 5% to \$4.4 billion in 2001 from \$4.7 billion in 2000. Sales decreased 4% from decreased volumes primarily in our North American automotive original equipment, refinish and industrial businesses. Sales also decreased 2% due to negative effects of foreign currency translation. These decreases were offset slightly by a 1% increase from higher selling prices primarily in our refinish business. Operating income decreased to \$495 million in 2001 compared to \$685 million in 2000. Operating income in 2001 included pretax restructuring and other related costs of \$83 million. Excluding these pretax charges, operating income in 2001 was \$578 million. The decrease in operating income is attributable to lower sales volumes and higher environmental, pension and other benefit costs offset, in part, by improved manufacturing efficiencies and lower research and development costs.

Glass sales decreased 5% to \$2.2 billion in 2001 from \$2.4 billion in 2000. Sales decreased 6% from decreased volumes primarily in our North American automotive original and fiber glass businesses and 1% due to the negative effects of foreign currency translation. These declines were offset by a 2% increase in selling prices, due in part to more profitable product mix, in our flat glass, automotive replacement glass and fiber glass businesses. Operating income decreased to \$255 million in 2001 compared to \$377 million in 2000. Operating income in 2001 included pretax restructuring and other related costs of \$10 million and operating income in 2000 included pretax charges of \$6 million for restructuring and one-time integration costs related to PPG Auto Glass. Excluding these pretax charges, operating income in 2001 was \$265 million compared to \$383 million in 2000. The decrease in operating income is attributable to lower sales volumes primarily in our North American automotive original and fiber glass businesses, the effects of higher natural gas costs and lower equity earnings, partially offset by improved manufacturing efficiencies, higher selling prices and the inclusion of a full year's results of PPG Auto Glass.

Chemicals sales decreased 6% to \$1.5 billion in 2001 from \$1.6 billion in 2000. Sales volumes declined 4% primarily from our chlorine, caustic soda, chlor-alkali derivative and silica products. Sales also decreased 1% due to lower selling prices for our chlor-alkali derivative products and 1% due to the negative effects of foreign currency translation. Operating income decreased to \$91 million in 2001 from \$174 million in 2000. Operating income in 2001 included pretax restructuring and other related costs of \$7 million. Excluding these pretax charges, operating income in 2001 was \$98 million. The decrease in operating income is attributable to lower sales volumes, higher natural gas and environmental costs and decreased manufacturing efficiencies.

Other Significant Factors

Earnings in 2001 and 2000 included pension income of \$53 million and \$86 million, respectively. This decline in pension income is due primarily to a decline in the market value of pension plan assets during 2000. The market value of our pension plan assets continued to decrease during 2001 due primarily to the declines in the U.S. equity markets. As a result of this decline, along with a reduction in the expected return on plan assets and discount rate assumptions, the Company expects to record pension expense of approximately \$50 million in 2002. See Note 10, "Pensions and Other Postretirement Benefits," for information concerning the pension plan assets and the components of pension income.

Other unallocated corporate expense—net, was \$21 million in 2001 as compared to \$54 million in 2000. Included in 2001 is a pretax charge of \$1 million for restructuring and other related costs. Included in 2000 are pretax charges of \$39 million representing the write-off of a 50% owned equity investment in Pittsburgh Corning Corporation, which has filed for reorganization under the federal bankruptcy code and \$14 million representing an other than temporary decline in the market value of an investment in marketable

Management's Discussion and Analysis

equity securities, previously recorded, net of tax, as an unrealized loss in other comprehensive loss.

The tax rate for ongoing operations was 36% in both 2001 and 2000. However, the overall effective tax rate in 2001 was 37.07% as the geographic spread of the restructuring charges taken in the first quarter provided a tax benefit of only 30%. The effective tax rate for ongoing operations for 2002 is expected to approximate 36%.

The decrease in short-term and long-term debt during 2001 is due principally to the repayment of various U.S. and non-U.S. debt obligations.

Outlook

The impact of the recession on our results of operations for 2001 was significant, as we experienced continued weakness in many of our North American markets, including automotive original equipment, aerospace and other transportation products, electronics, construction materials, pulp and paper and aluminum. During 2001 we also saw demand weaken in the key markets we serve in Europe, South America and Asia as the impact of the North American recession broadened.

As we begin 2002, the North American recession and general, global economic weakness continue. There are mixed economic indicators in the U.S.: recent reports on consumer confidence, unemployment and industrial orders suggest that the economy may be strengthening; conversely, the extension of sales incentive programs by the North American automobile manufacturers and the continued decline in U.S. industrial production indicates that the economy continues to be weak. There is also uncertainty related to many aspects of the global economy, particularly the automotive markets. We know that our inventory levels are lower than they have been in past downturns and we believe that our customers have also reduced their inventories. This indicates that industrial production could respond quickly to a strengthening of demand, whenever it occurs.

Although the timing of the recovery is uncertain, we know from past experience that we need to continue to increase our productivity, reduce our cost structure and conserve our capital. We focused on these issues in 2001 and will continue to do so in 2002. Following the restructuring and workforce reductions begun last year, we are developing plans to take additional actions that will result in a restructuring charge against earnings later in the first quarter of 2002 in the range of \$60 million to \$90 million before taxes. These actions will include further workforce reductions and the closing of facilities or portions of facilities no longer needed as a result of the improvements made in our productivity and key business processes. We will also continue our efforts to improve our customers' results through the delivery of cost effective solutions. These efforts will include developing new products and integrated product/service offerings.

We also expect continued consolidation of companies within our customer, supplier and competitor groups in 2002. This will lead to continued downward pressure on our selling prices and to potentially higher raw material prices. In particular, there is a risk that further chemical industry con-

solidation, combined with a profitability horizon that is shorter than has historically been acceptable, could make prices or physical availability of certain raw materials more volatile and could contribute to increases in raw material costs in excess of inflation. The impacts may be dampened by weaker, recession-driven demand but, in a period of economic recovery, demand may outpace supply. These same factors should create favorable market conditions for our chlor-alkali business in terms of its selling prices and demand.

The operating performance of our glass and chemicals segments during the last two years has been adversely impacted by the sharp increase in natural gas prices beginning in the second half of 2000. Each one-dollar change in the price of natural gas per mmbtu (million British thermal units) could have a direct impact of approximately \$60 million on our annual operating costs. The average monthly market price for 2001 was \$4.38 per mmbtu, up from \$3.91 per mmbtu in 2000 to a level which was almost twice the average monthly market price during the 1995-1999 time period. Prices came down significantly in the second half of 2001 and ended the year at \$2.54 per mmbtu. However, natural gas prices are expected to continue to be substantially more volatile over the next few years, making it difficult to predict the future cost of natural gas. In order to reduce the risks associated with volatile prices, we use a number of techniques including hedging, conserving through improved manufacturing technologies and switching to alternative fuels.

Another factor that will impact our operating performance in 2002 is increased employee benefit costs due to rising medical costs and lower returns on pension assets. Growing increases in medical costs, particularly prescription drugs, will give rise to higher costs for postretirement medical benefits in 2002. We will also experience a shift from pension income in 2001 to pension expense in 2002 as a result of a decline in the market value of our pension plan assets, due primarily to a second straight year of negative investment returns in the U.S. equity markets, a reduction in our expected rate of return on pension plan assets and discount rate assumptions for 2002. We expect our pension and other postretirement benefit costs to increase by about \$130 million in 2002, which will reduce earnings per share by about \$0.49 but have only a minor impact on 2002's cash flow.

Newly Adopted Accounting Standards

Note 1, "Summary of Significant Accounting Policies," effective Jan. 1, 2001, describes and quantifies the Company's adoption of the provisions of the Financial Accounting Standards Board's (FASB) standards on accounting for derivative instruments and hedging activities.

Accounting Standards to be Adopted in Future Years

In June 2001, the FASB issued Statement of Financial Accounting Standards (SFAS) No. 141, "Business Combinations," and SFAS No. 142, "Goodwill and Other Intangible Assets." SFAS No. 141 requires that the purchase method of accounting be used for all business combinations initiated after June 30, 2001. All of the Company's acquisitions in recent years were accounted for under the purchase

method. The new standard had no impact on PPG in 2001. SFAS No. 142 changes the accounting for goodwill and certain other intangible assets from an amortization method to an impairment only approach. We will adopt the provisions of SFAS No. 142 effective Jan. 1, 2002. This change in accounting will increase our 2002 net income by approximately \$30 million or \$0.18 per share because goodwill will no longer be amortized. The standard also requires a reassessment of the useful lives of identifiable intangible assets other than goodwill and a test for impairment of goodwill and intangibles with indefinite lives annually, unless events and circumstances indicate that the carrying amounts may not be recoverable. The Company expects to complete its assessment by the end of the first quarter of 2002.

During 2001 the FASB issued two other accounting standards—"Accounting for Asset Retirement Obligations" and "Accounting for the Impairment or Disposal of Long-Lived Assets." See Note 1, "Summary of Significant Accounting Policies" for an expanded description of these new standards.

Performance in 2000 Compared with 1999

Overall Performance

Our sales increased 8% in 2000 to \$8.6 billion from \$8.0 billion in 1999. The majority of this sales increase, 7%, is attributable to several acquisitions made in 1999 and 2000, primarily within our coatings segment. Other improvements in volume in our coatings and glass segments totaled 2%. Sales for 2000 also increased by 2% due to higher selling prices primarily within our chemicals segment. These sales increases were partially offset by a 3% decline from foreign currency translation in all of our business segments due to the strengthening of the U.S. dollar against other currencies, especially the euro and the British pound sterling.

The gross profit percentage increased slightly to 38.2% in 2000 from 38.0% in 1999. Improvements in manufacturing efficiencies across all of our business segments and higher selling prices, primarily in our chemicals segment, were substantially offset by increases in raw material costs, particularly for natural gas.

Net income and earnings per share, diluted, in 2000 were \$620 million and \$3.57, respectively, compared to \$568 million and \$3.23, respectively, in 1999. Net income in 2000 included after-tax charges of \$35 million for the write-off of a 50% owned equity investment and \$3 million of restructuring and one-time integration costs associated with PPG Auto Glass. Net income in 1999 included after-tax charges of \$33 million for purchased in-process research and development, \$31 million related to the integration of packaging coatings acquisitions and ongoing cost reduction efforts and \$15 million for the fair-market-value adjustment of acquired inventories sold. Excluding these charges, net income and earnings per share, diluted, for 2000 were \$658 million and \$3.79, respectively, and \$647 million and \$3.68, respectively, in 1999.

Results of Business Segments

Coatings sales increased 9% to \$4.7 billion in 2000 from \$4.3 billion in 1999. Sales increased 11% from acquisitions

and 2% due to volume improvements primarily in our European automotive original equipment business and our European industrial business. Sales declined 3% from the negative effects of foreign currency translation and 1% from lower selling prices. Operating income was \$685 million in 2000 compared to \$545 million in 1999. Operating income in 1999 included pretax charges of \$40 million for purchased in-process research and development; \$41 million of restructuring charges related to the integration of packaging coatings acquisitions and ongoing cost reduction efforts throughout our coatings businesses and \$23 million representing the fair-market-value adjustment of acquired inventories that had been sold. Excluding these pretax restructuring charges, operating income in 1999 was \$649 million. The increase in operating income is attributable to acquisitions, increased sales volumes and manufacturing efficiencies. These factors were partially offset by higher raw material costs, the effect of inflation and currency.

Glass sales increased 5% to \$2.4 billion in 2000 from \$2.2 billion in 1999. Sales increased 3% from increased volumes across all glass businesses, 2% from acquisitions and 1% from higher selling prices primarily for our fiber glass products. These increases were partially offset by a 1% decline due to foreign currency translation. Operating income was \$377 million in 2000 compared to \$363 million in 1999. Operating income in 2000 also included pretax charges of \$6 million for restructuring and one-time integration costs related to PPG Auto Glass. Excluding these charges, operating income in 2000 was \$383 million. The increase in operating income is attributable to increased selling prices, increased equity affiliate earnings and manufacturing efficiencies, partially offset by higher natural gas costs.

Chemicals sales increased 8% to \$1.6 billion in 2000 from \$1.5 billion in 1999. Sales increased 11% as a result of higher selling prices for our chlorine and caustic soda products. This increase was offset slightly by a 2% decline in sales volume of our chlor-alkali derivative, optical and fine chemicals products and a 1% decline from the negative effect of foreign currency translation. Operating income decreased to \$174 million in 2000 from \$177 million in 1999. The decrease in operating income is attributable to lower sales volumes and higher natural gas costs. These negative factors were partially offset by higher selling prices mentioned previously and improved manufacturing efficiencies.

Other Significant Factors

Earnings in 2000 and 1999 included pension income of \$86 million and \$71 million, respectively, due primarily to returns on U.S. defined benefit pension plan assets.

Interest expense increased due to the issuance of \$800 million aggregate principal amount of debt securities in August 1999 to finance the 1999 acquisitions.

Other unallocated corporate expense—net, was expense of \$54 million in 2000 as compared to income of \$12 million in 1999. Included in 2000 are pretax charges of \$39 million representing the write-off of a 50% owned equity investment in Pittsburgh Corning Corporation, which has filed for reorganization under the federal bankruptcy code, and \$14 million representing an other than temporary

Management's Discussion and Analysis

decline in the market value of an investment in marketable equity securities, previously recorded, net of tax, as an unrealized loss in other comprehensive loss.

The effective tax rate for 2000 was 36.25% compared to 38.80% for 1999. The reduction in the effective tax rate for 2000 was due to an improvement in the regional mix of non-U.S. taxable earnings and a lower effective state tax rate. The 1999 rate reflects the impact of the non-deductibility of certain purchased in-process research and development charges recorded in 1999.

Business Divestitures and Realignments

During the first quarter of 2001, the Company finalized plans to reduce costs, increase efficiencies and accelerate performance improvement and took a charge of \$101 million for restructuring and other related activities, including severance and other costs of \$67 million and asset dispositions of \$34 million. It is expected that substantially all of these amounts will be spent by June 2002. The details of this charge were as follows:

(Millions, except employee amounts)	Severance and Other Costs	Asset Dispositions	Total Charge	Employees Covered
Coatings	\$ 60	\$ 23	\$ 83	1,072
Glass	4	6	10	254
Chemicals	2	5	7	23
Corporate	1	—	1	18
Total	\$ 67	\$ 34	\$ 101	1,367
Activity	(34)	(32)	(66)	(935)
Balance at Dec. 31, 2001	\$ 33	\$ 2	\$ 35	432

In conjunction with this first quarter charge, an additional \$2 million of restructuring costs were recorded in 2001 as incurred.

During 2001, we paid \$17 million related to restructuring reserves accrued in 2000 and 1999. See Note 2, "Acquisitions, Business Divestitures and Realignments," for an expanded description of these restructuring actions.

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 Note 11, "Commitments and Contingent Liabilities," for an expanded description of certain of these lawsuits. As discussed in Note 11, except with respect to any PPG contribution arising out of a possible voluntary settlement of asbestos claims, the amount of which cannot be predicted, management believes that, in the aggregate, the outcome of all lawsuits and claims involving PPG 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 the period in which the costs, if any, are recognized.

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. As of Dec. 31, 2001 and 2000, PPG had reserves for environmental contingencies totaling \$94 million and \$84 million, respectively. Pretax charges against income for environmental remediation costs in 2001, 2000 and 1999 totaled \$29 million, \$18 million and \$10 million, respectively, and are included in "Other charges" in the statement of income. Cash outlays related to such environmental remediation aggregated \$19 million, \$16 million and \$22 million in 2001, 2000 and 1999, respectively.

Management anticipates that the resolution of the Company's environmental contingencies will occur over an extended period of time and could result in charges against income of up to \$50 million in 2002. It is possible, however, that technological, regulatory and enforcement developments, the results of environmental studies and other factors could alter this expectation. 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.

In addition to the amounts currently reserved, the Company may be subject to loss contingencies related to environmental matters estimated to be as much as \$200 million to \$400 million, which range is unchanged from the prior year end. Such unreserved losses are reasonably possible but are not currently considered to be probable of occurrence. Although insurers and other third parties may cover a portion of these costs, to the extent they are incurred, any potential recovery is not included in this unreserved exposure to future loss. The Company's environmental contingencies are expected to be resolved over an extended period of time.

Although the unreserved exposure to future loss relates to all sites, a significant portion of such exposure involves three operating plant sites in our chemicals segment. Initial remedial actions are occurring at these sites. Studies to determine the nature of the contamination are reaching completion and the need for additional remedial actions, if any, is presently being evaluated. The loss contingencies related to the remaining portion of such unreserved exposure include significant unresolved issues such as the nature and extent of contamination, if any, at sites and the methods that may have to be employed should remediation be required.

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.

The impact of evolving programs, such as natural resource damage claims, industrial site reuse initiatives and state voluntary 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.

A major customer of one of the Company's Asian coatings joint ventures is experiencing financial difficulties. Should this customer be unable to pay the amounts owed to our investee or cease operations, our loss would be limited to the value of the Company's investment in the joint venture which was approximately \$20 million at Dec. 31, 2001.

Impact of Inflation

PPG's financial statements are prepared on the historical cost basis, which does not completely account for the effects of inflation.

In 2001, the increase in production costs due to the negative effects of inflation was not fully recovered through price increases and manufacturing efficiencies, which were adversely impacted by lower production volumes. In 2000, the negative effects of inflation, including the impact of higher natural gas costs, were substantially offset in the aggregate by the impact of higher selling prices in our glass and chemicals businesses and manufacturing efficiencies in all of our businesses. In 1999, the decline in selling prices and negative effects of inflation on our production costs were partially offset by improved manufacturing efficiencies. While inflationary and market pressures on costs are expected to be experienced in 2002, we anticipate that ongoing improvements in manufacturing efficiencies and reductions in overhead will mitigate the negative effect of inflation and selling prices on 2002 operating income to a significant extent.

Financial Resources, Capital Spending

During the past three years, we continued to have sufficient financial resources to meet operating requirements, to fund our capital spending, share repurchase programs, and to pay increased dividends to shareholders. Cash from operating activities was \$1,060 million in 2001, \$870 million in 2000 and \$902 million in 1999. Dividends paid to shareholders totaled \$283 million in 2001, \$276 million in 2000 and \$264 million in 1999.

During 2001, 2000 and 1999, the Company repurchased approximately 0.1 million, 5.8 million and 1.2 million shares of common stock at a cost of \$5 million, \$234 million and \$68 million, respectively, under various share repurchase programs. The program initiated in November 1998 authorized the repurchase of 10 million shares of common stock. As of Dec. 31, 2001, 9.1 million shares of common stock had been repurchased under this program at a cost of \$421 million. In October 2000, we authorized a program to repurchase an additional 10 million shares of common stock. The repurchase of common stock was financed principally by cash from operations and proceeds from long-term debt. Additional shares were repurchased from the PPG Employee Savings Plan.

Capital spending in 2001 totaled \$301 million, compared with \$676 million in 2000 and \$1,833 million in 1999. This spending related to business acquisitions totaling \$10 million, \$115 million and \$1,343 million, in 2001, 2000

and 1999, respectively, modernization and productivity improvements, expansion of existing businesses, and environmental control projects. Capital spending in 2000 also included \$83 million for marketable securities relating to the deferred compensation plan. Capital spending, excluding acquisitions, is expected to total about \$300 million during 2002.

We periodically review our array of businesses in comparison to our overall strategic and performance objectives. As part of this review, we routinely acquire or divest of certain businesses. During 2002, we anticipate that any acquisitions completed will be funded through a combination of cash generated from operations or from the sale of other businesses and, to a lesser extent, external funding sources or the issuance of stock.

The ratio of total debt, including capital leases, to total debt and equity was 44% and 49% at Dec. 31, 2001 and 2000, respectively. Cash from operations and the Company's debt capacity are expected to continue to be sufficient to fund capital spending, dividend payments and operating requirements.

See Note 5, "Debt and Bank Credit Agreements and Leases," for details regarding the use and availability of committed and uncommitted lines of credit.

In addition to the lines of credit, the Company may issue up to \$500 million aggregate principal amount of debt securities under a shelf registration statement filed with the Securities and Exchange Commission (SEC) in July 1999.

Critical Accounting Policies

Management has evaluated the accounting policies used in the preparation of the accompanying financial statements and related notes and believes those policies to be reasonable and appropriate. We believe that the most critical accounting policies applied in the preparation of our financial statements relate 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 and other postretirement benefits because of the importance of management judgment in making the estimates necessary to apply these policies.

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 collectibility of accounts receivable (see Note 3), environmental remediation and pending litigation against the Company (see Note 11), and the resolution of matters related to open tax years (see Note 9).

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 (see Note 10).

As part of our ongoing financial reporting process, a collaborative effort is undertaken involving PPG managers

Management's Discussion and Analysis

with functional responsibility for financial reporting, credit, environmental, legal, tax and benefit matters and outside advisors such as consultants, engineers, lawyers and actuaries. The results of this effort provide management with the necessary information on which to base their judgments on these contingencies and develop the estimates used to prepare the financial statements.

We believe that the amounts recorded in the accompanying financial statements related to these contingencies, pensions and postretirement benefits are based on the best estimates and judgments of the appropriate PPG management, although actual outcomes could differ from our estimates.

Currency

On Jan. 1, 1999, eleven of the member countries of the European Monetary Union converted from their sovereign currencies to a common currency, the euro. At that time, fixed conversion rates between the legacy currencies and the euro were set. Greece has since joined the original eleven countries and will adopt the euro in 2002. The legacy currencies will remain legal tender through February 28, 2002. Issuance of euro-denominated currency began as of Jan. 1, 2002. No later than February 28, 2002, the participating countries will withdraw all bills and coins so that their legacy currencies will no longer be considered legal tender.

Conversion to the euro has not had a material impact on PPG's operating results and financial condition.

At Dec. 31, 2001, PPG had net assets in Argentina of \$68 million translated using an exchange rate of 1.7 Argentine pesos to one U.S. dollar. Any reduction in the value of these net assets resulting from a further devaluation of the Argentine peso will result in a direct charge to accumulated other comprehensive loss component of shareholders' equity.

Research and Development

Innovation and technology have been a hallmark of our Company's success throughout its history. Research and development costs totaled about 3% of sales in each of the past three years, representing a level of expenditure that we expect to continue in 2002. These costs include technology-driven improvements to our manufacturing processes and customer technical service, as well as the costs of developing new products. Because of our broad array of products and customers, we are not materially dependent upon any single technology platform.

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.

Forward-looking statements are identified by the use of the words "aim," "believe," "expect," "anticipate," "intend," "estimate" 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. You are advised, however, to consult any further disclosures we make on related subjects in our reports to the SEC. Also, note the following cautionary statements.

Many factors could cause actual results to differ materially from the Company's forward-looking statements. Among these factors are increasing price and product competition by foreign and domestic competitors, fluctuations in the cost and availability of raw materials, the ability to maintain favorable supplier relationships and arrangements, economic and political conditions in international markets, the ability to penetrate existing, developing and emerging foreign and domestic markets, which also depends on economic and political conditions, foreign exchange rates and fluctuations in those rates. Further, it is not possible to predict or identify all such factors. Consequently, while the list of factors presented here 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.

The consequences of material differences in the results as compared to those anticipated in the forward-looking statements could include, among other things, business disruption, operational problems, financial loss, legal liability to third parties and similar risks, any of which could have a material adverse effect on the Company's consolidated financial condition, operations or liquidity.

Market Risk

PPG is exposed to market risks related to changes in foreign currency exchange rates, interest rates and natural gas prices arising from transactions that are entered into in the normal course of business. The Company may enter into derivative financial instrument transactions in order to manage or reduce this market risk. A detailed description of these exposures and the Company's risk management policies are provided in Note 7, "Derivative Financial Instruments," to PPG's financial statements.

The fair value of the foreign currency forward and option contracts outstanding as of Dec. 31, 2001 and 2000, which were used to hedge PPG's exposure to changes in foreign currency cash flows and translation risk, was not material. The potential reduction in PPG's earnings resulting from adverse changes in the exchange rates of its outstanding foreign currency hedge contracts of 10% for European currencies and 20% for Asian and South American currencies would have totaled approximately \$4 million and \$2 million as of Dec. 31, 2001 and 2000, respectively.

PPG had non-U.S. dollar-denominated debt of \$409 million and \$554 million as of Dec. 31, 2001 and 2000, respectively. A weakening of the U.S. dollar by 10% to European currencies and by 20% to Asian and South American currencies would have resulted in unrealized translation losses of approximately \$59 million and \$76 million as of Dec. 31, 2001 and 2000, respectively.

Interest rate swaps are used to manage a portion of PPG's interest rate risk and, as of Dec. 31, 2001, the fair

Management's Discussion and Analysis

value of the interest rate swaps outstanding was a net \$20 million liability. The fair value of these swaps would have increased by \$11 million if variable interest rates changed unfavorably by 10%. As of Dec. 31, 2000, the fair value of interest rate swaps was not material. A 10% increase in interest rates in Canada, Mexico and Europe and a 20% increase in interest rates in Asia and South America would have affected PPG's variable rate debt obligations by increasing interest expense by approximately \$6 million and \$9 million as of Dec. 31, 2001 and 2000, respectively. Further, a 10% reduction in interest rates would have increased the present value of the Company's fixed rate debt by approxi-

mately \$62 million and \$84 million as of Dec. 31, 2001 and 2000, respectively. Such changes would not have had a material effect on PPG's earnings or cash flows.

The fair value of commodity swap and option contracts as of Dec. 31, 2001 and 2000 was a \$12 million liability and a \$62 million asset, respectively, which were entered into to reduce PPG's exposure to rising prices in natural gas. As a result of a 10% reduction in the price of natural gas, the Company would have experienced a loss in the fair value of the underlying commodity swap and option contracts outstanding as of Dec. 31, 2001 and 2000 of approximately \$12 million at both dates.

Business Segment Information

Segment Organization and Products

PPG is a multinational manufacturer with three reportable segments: coatings, glass and chemicals. The Company's segments are organized based on differences in products. The glass and fiber glass operations have been aggregated into a single reportable segment. The coatings segment supplies a variety of protective and decorative coatings and finishes along with adhesives, sealants and metal pretreatment products for automotive original equipment and aftermarket refinishing, aerospace, industrial, packaging and architectural applications. In addition to specific products, the coatings segment supplies technical expertise, engineering and purchasing services to the automotive original, industrial and aerospace portions of the business. The glass segment supplies flat glass and continuous-strand fiber glass for residential and commercial construction, automotive original and replacement markets and industrial applications. The chemicals segment supplies chlor-alkali and specialty chemicals products. The primary chlor-alkali products are chlorine, caustic soda, vinyl chloride monomer, chlorinated solvents and chlorinated benzenes. The primary specialty chemicals products are *Transitions* lenses, optical monomers, silicas and fine chemicals. Production facilities and markets for the

coatings and glass segments are predominantly in North America and Europe, while the chemicals segment operates primarily in North America. Our businesses are also pursuing opportunities to develop markets in Asia and South America. Each of the businesses in which PPG is engaged is highly competitive. However, the diversification of product lines and worldwide markets served tends to minimize the impact on total sales and earnings of changes in demand for a particular product line or in a particular geographic area.

The accounting policies of the segments are the same as those described in the summary of significant accounting policies. The Company allocates resources to segments and evaluates the performance of segments based upon reported segment income before interest expense—net, income taxes and minority interest. Substantially all corporate administrative expenses are allocated to the segments. Net periodic pension income and expense is allocated to the segments; however, prepaid pension assets for defined benefit plans that cover certain U.S. employees are not allocated to the segments and are included in corporate assets. Intersegment sales and transfers are recorded at selling prices that approximate market prices.

(Millions) Segments	Coatings ⁽¹⁾	Glass ⁽²⁾	Chemicals ⁽³⁾	Corporate ⁽⁴⁾	Consolidated Totals
2001					
Net sales to external customers	\$4,410	\$2,236	\$1,523	\$ —	\$8,169
Intersegment net sales	2	1	8	(11)	—
<i>Total net sales</i>	\$4,412	\$2,237	\$1,531	\$ (11)	\$8,169
Operating income (loss)	\$ 495	\$ 255	\$ 91	\$ (21)	\$ 820
Interest—net					(154)
<i>Income before income taxes and minority interest</i>					\$ 666
Depreciation and amortization	\$ 193	\$ 137	\$ 97	\$ 20	\$ 447
Share of net earnings of equity affiliates	\$ —	\$ 9	\$ 1	\$ 5	\$ 15
Segment assets ⁽⁵⁾	\$4,160	\$1,596	\$1,105	\$1,591	\$8,452
Investments in equity affiliates	\$ 24	\$ 94	\$ 26	\$ 13	\$ 157
Expenditures for long-lived assets	\$ 109	\$ 85	\$ 58	\$ 31	\$ 283

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Business Segment Information

(continued)

(Millions) Segments	Coatings ⁽¹⁾	Glass ⁽²⁾	Chemicals ⁽³⁾	Corporate ⁽⁴⁾	Consolidated Totals
2000					
Net sales to external customers	\$4,658	\$2,350	\$1,621	\$ —	\$8,629
Intersegment net sales	3	1	11	(15)	—
<i>Total net sales</i>	\$4,661	\$2,351	\$1,632	\$ (15)	\$8,629
Operating income (loss)	\$ 685	\$ 377	\$ 174	\$ (54)	\$1,182
Interest—net					(165)
<i>Income before income taxes and minority interest</i>					\$1,017
Depreciation and amortization	\$ 193	\$ 140	\$ 95	\$ 19	\$ 447
Share of net earnings of equity affiliates	\$ 5	\$ 25	\$ 3	\$ 6	\$ 39
Segment assets ⁽⁵⁾	\$4,592	\$1,791	\$1,221	\$1,521	\$9,125
Investments in equity affiliates	\$ 24	\$ 106	\$ 29	\$ 13	\$ 172
Expenditures for long-lived assets	\$ 240	\$ 140	\$ 79	\$ 37	\$ 496
1999					
Net sales to external customers	\$4,266	\$2,228	\$1,501	\$ —	\$7,995
Intersegment net sales	3	1	8	(12)	—
<i>Total net sales</i>	\$4,269	\$2,229	\$1,509	\$ (12)	\$7,995
Operating income	\$ 545	\$ 363	\$ 177	\$ 12	\$1,097
Interest—net					(124)
<i>Income before income taxes and minority interest</i>					\$ 973
Depreciation and amortization	\$ 153	\$ 148	\$ 91	\$ 23	\$ 415
Share of net earnings of equity affiliates	\$ 3	\$ 14	\$ 3	\$ 8	\$ 28
Segment assets ⁽⁵⁾	\$4,451	\$1,728	\$1,252	\$1,483	\$8,914
Investments in equity affiliates	\$ 21	\$ 87	\$ 33	\$ 54	\$ 195
Expenditures for long-lived assets	\$1,415	\$ 144	\$ 125	\$ 54	\$1,738

(Millions) Geographic Information	2001	2000	1999
Net sales⁽⁶⁾			
United States	\$5,469	\$5,754	\$5,358
Europe	1,507	1,599	1,569
Canada	545	595	542
Other	648	681	526
<i>Total</i>	\$8,169	\$8,629	\$7,995
Operating income			
United States ⁽⁷⁾	\$ 664	\$ 934	\$ 888
Europe ⁽⁸⁾	103	185	121
Canada	38	74	63
Other	36	43	13
<i>Total⁽⁹⁾</i>	\$ 841	\$1,236	\$1,085
Interest — net	(154)	(165)	(124)
Other unallocated corporate (expense) income — net	(21)	(54)	12
<i>Income before income taxes and minority interest</i>	\$ 666	\$1,017	\$ 973

(continued on next page)

Business Segment Information

(continued)

(Millions)

Geographic Information

	2001	2000	1999
Long-lived assets⁽¹⁰⁾			
United States	\$3,764	\$3,862	\$3,676
Europe	964	1,031	1,082
Canada	191	211	235
Other	473	553	545
Total	\$5,392	\$5,657	\$5,538

Identifiable assets

United States ⁽¹¹⁾	\$5,606	\$5,977	\$5,625
Europe	1,646	1,752	1,943
Canada	314	366	390
Other	886	1,030	956
Total	\$8,452	\$9,125	\$8,914

- (1) Coatings segment income in 2001 includes a pretax charge of \$83 million for restructuring and other related activities. Coatings segment income in 1999 includes a pretax restructuring charge of \$41 million related to the integration of the packaging coatings acquisition and ongoing cost reduction efforts throughout our coatings businesses. Also included in 1999 coatings segment income is a \$40 million pretax charge for purchased in-process research and development and a \$23 million pretax charge for the fair-market-value adjustment of acquired inventories that have been sold.
- (2) Glass segment income in 2001 includes a pretax charge of \$10 million for restructuring and other related activities. Glass segment income in 2000 includes pretax restructuring and one-time integration costs of \$6 million related to PPG Auto Glass.
- (3) Chemicals segment income in 2001 includes a pretax charge of \$7 million for restructuring and other related activities.
- (4) Corporate intersegment net sales represent intersegment net sales eliminations. Corporate income (loss) represents unallocated corporate income and expenses. The corporate loss in 2001 includes a pretax charge of \$1 million for restructuring and other related activities. The corporate loss in 2000 includes a pretax charge of \$39 million representing the write-off of a 50% owned equity investment in Pittsburgh Corning Corporation, which has filed for reorganization under the federal bankruptcy code. Also included in 2000 is a pretax charge of \$14 million due to an other than temporary decline in the market value of an investment in marketable equity securities, previously recorded net of tax as an unrealized loss in other comprehensive loss.
- (5) Segment assets are the total assets used in the operation of each segment. Corporate assets are principally cash and cash equivalents, income tax assets and prepaid pensions. See Note 10.
- (6) Net sales to external customers are attributed to individual countries based upon the location of the operating unit shipping the product.
- (7) Operating income in 2000 includes pretax charges of \$39 million, \$14 million and \$6 million, respectively, related to the write-off of a 50% owned equity investment in Pittsburgh Corning Corporation which has filed for reorganization under the federal bankruptcy code, an other than temporary decline in the market value of an investment in marketable equity securities, and restructuring and one-time integration costs related to PPG Auto Glass. Operating income in 1999 includes pretax charges (credit) of \$40 million, \$18 million, \$6 million and \$(5) million, respectively, related to purchased in-process research and development, cost reduction initiatives, the fair-market-value adjustment of acquired inventories that have been sold and the reversal of previously established restructuring reserves.
- (8) Operating income in 1999 includes pretax charges of \$29 million and \$13 million, respectively, related to cost reduction initiatives and the fair-market-value adjustment of acquired inventories that have been sold.
- (9) Operating income in 2001 includes a pretax charge of \$101 million for restructuring and other related activities, including severance and other costs of \$67 million and asset dispositions of \$34 million.
- (10) Long-lived assets include property, goodwill and identifiable intangible assets, net of accumulated depreciation and amortization, and other assets except for non-current trade and notes receivable.
- (11) Includes corporate assets which are principally cash and cash equivalents, income tax assets and prepaid pensions.

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 significant subsidiaries, both U.S. and non-U.S., that we control. In substantially all cases, we own more than 50% of the voting stock of the subsidiaries that we control.

Investments in companies of which we own 20% to 50% of the voting stock and have the ability to exercise significant influence over operating and financial policies of the investee are accounted for using the equity method of accounting and, as a result, our share of the earnings or losses of such equity affiliates is included in the statement of income.

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 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. Actual outcomes could differ from those estimates.

Revenue recognition

Revenue from sales is recognized when goods are shipped and title to inventory passes to the customer.

Foreign currency translation

For all significant non-U.S. operations, the functional currency is the 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. Translation adjustments are deferred in accumulated other comprehensive income (loss), a separate component of shareholders' equity.

Inventories

Most U.S. inventories are stated at cost, using the last-in, first-out (LIFO) method, which does not exceed market. All other inventories are stated at cost, using the first-in, first-out (FIFO) method, which does not exceed market. We determine cost using either average or standard factory costs, which approximate actual costs, excluding certain fixed costs such as depreciation and property taxes.

Property

Property is recorded at cost. We compute 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 cost and related accumulated depreciation are removed from the accounts and any related gains or losses are included in income. Amortization of the cost of capitalized leased assets is included in depreciation expense.

Identifiable intangible assets and goodwill

Identifiable intangible assets acquired in business combinations accounted for by the purchase method are recorded based upon fair market value at the date of acquisition. Identifiable intangible assets are amortized on a straight-line basis over their estimated useful lives (3 to 40 years) and primarily consist of core developed technology, trademarks and tradenames and customer lists.

Goodwill, representing the excess of the cost over the net tangible and identified intangible assets of acquired businesses, is stated at cost and amortized on a straight-line basis over the estimated future periods to be benefited, principally 40 years.

Identified intangible assets and goodwill are reviewed for impairment whenever events or circumstances indicate that the carrying amounts may not be recoverable.

Employee Stock Ownership Plan

We account for our employee stock ownership plan (ESOP) in accordance with Statement of Position (SOP) No. 93-6 for PPG common stock purchased after Dec. 31, 1992 (new ESOP shares). As permitted by SOP No. 93-6, shares purchased prior to Dec. 31, 1992 (old ESOP shares), continue to be accounted for in accordance with SOP No. 76-3. ESOP shares are released for future allocation to participants based on the ratio of debt service paid during the year on loans used by the ESOP to purchase the shares to the remaining debt service on these loans. These loans are a combination of borrowings guaranteed by PPG and borrowings by the ESOP directly from PPG. Borrowings from third parties are included in debt in our balance sheet (see Note 5). Unearned compensation, reflected as a reduction of shareholders' equity, principally represents the unpaid balance of all of the ESOP's loans. Dividends received by the ESOP are used to pay debt service.

For old ESOP shares, compensation expense is equal to amounts contributed to the ESOP by the Company less the ESOP interest expense element of such contributions. Dividends on old ESOP shares are deducted from retained earnings. Old ESOP shares are considered to be outstanding in computing earnings per common share. For new ESOP shares, compensation expense is equal to the Company's matching contribution (see Note 14). Dividends on released new ESOP shares are deducted from retained earnings, and dividends on unreleased shares are reported as a reduction of debt or accrued interest. Only new ESOP shares that have been released are considered outstanding in computing earnings per common share.

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.

Derivative financial instruments

Effective Jan. 1, 2001, the Company adopted the provisions of Statement of Financial Accounting Standards (SFAS) No. 133, "Accounting for Derivative Instruments and Hedging Activities," as amended by SFAS No. 138, "Accounting for Certain Derivative Instruments and Certain Hedging Activities." These standards require the Company to recognize all derivative instruments as either assets or liabilities at fair value most of which were previously not recorded on the balance sheet. The accounting for changes in the fair value of a derivative depends on the use of the derivative. To the extent that a derivative is effective as a cash flow hedge of an exposure to future changes in value, the change in fair value of the derivative is deferred in other comprehensive income. Any portion considered to be ineffective will be reported in earnings immediately. To the extent that a derivative is effective as a hedge of an exposure to future changes in fair value, the change in the derivative's fair value will be offset in the statement of income by the change in fair value of the item being hedged.

Adoption of these new accounting standards on Jan. 1, 2001 resulted in an increase in current assets, current liabilities and other comprehensive income of \$70 million, \$26 million and \$43 million, respectively, with a cumulative after-tax increase in net income of less than \$1 million. This increase to other comprehensive income principally represents the deferred gain on outstanding natural gas option and swap contracts as of Jan. 1, 2001. Since the issuance of SFAS No. 133 and SFAS No. 138, the Financial Accounting Standards Board (FASB), through its Derivatives Implementation Group, continues to issue additional requirements. On an ongoing basis, the Company evaluates the potential impact of these new requirements on PPG's consolidated results of operations, financial position and cash flows. None of the changes with effective dates in 2002 are expected to have a material impact on the Company.

Prior to adoption of the provisions of SFAS No. 133, gains and losses on derivative financial instruments that were used to hedge foreign currency, interest rate, and natural gas price changes were not recognized until the hedged transaction was reflected in the statement of income. Premiums paid on foreign currency option contracts were amortized over the lives of the contracts. Unrealized gains and losses from forward currency contracts that hedged anticipated transactions did not previously qualify for deferral accounting treatment.

Accounting Standards to be Adopted in Future Years

In June 2001, the FASB issued SFAS No. 141, "Business Combinations," and SFAS No. 142, "Goodwill and Other Intangible Assets." SFAS No. 141 requires that the purchase method of accounting be used for all business combinations

initiated after June 30, 2001. All of the Company's acquisitions in recent years were accounted for under the purchase method. The new standard had no impact on PPG in 2001. SFAS No. 142 changes the accounting for goodwill and certain other intangible assets from an amortization method to an impairment only approach. We will adopt the provisions of SFAS No. 142 effective Jan. 1, 2002. This change in accounting will increase our 2002 net income by approximately \$30 million or \$0.18 per share because goodwill will no longer be amortized. The standard also requires a reassessment of the useful lives of identifiable intangible assets other than goodwill and a test for impairment of goodwill and intangibles with indefinite lives annually, unless events and circumstances indicate that the carrying amounts may not be recoverable. The Company expects to complete its assessment by the end of the first quarter of 2002.

In August 2001, the FASB issued SFAS No. 143, "Accounting for Asset Retirement Obligations" which is effective Jan. 1, 2003. We are currently in the process of evaluating the effect the adoption of this standard will have on PPG's consolidated results of operations, financial position and cash flows.

In October 2001, the FASB issued SFAS No. 144, "Accounting for the Impairment or Disposal of Long-Lived Assets" which is effective Jan. 1, 2002. The adoption of this new standard in 2002 will not have a material effect on PPG's consolidated results of operations, financial position and cash flows.

Reclassifications

Certain amounts in the 2000 and 1999 financial statements have been reclassified to be consistent with the 2001 presentation.

2. Acquisitions, Business Divestitures and Realignments

During the past three years, we have acquired a number of businesses, all of which were recorded using the purchase method of accounting. Accordingly, the results of operations of the acquired companies have been included in our consolidated results from their respective acquisition dates.

The cost of the acquisitions was \$10 million in 2001, \$115 million in 2000 and \$1,343 million in 1999 plus the assumption of indebtedness of \$1 million in 2000 and \$5 million in 1999.

In July 2000, PPG and Apogee Enterprises, Inc. (Apogee) combined their U.S. automotive replacement glass distribution businesses, creating a new entity, PPG Auto Glass L.L.C. (PPG Auto Glass). PPG contributed net assets with a basis of \$39 million and has a 66 percent ownership interest in PPG Auto Glass. Apogee contributed net assets with a fair value of \$31 million in exchange for its 34 percent ownership interest. In February 2000, we acquired Monarch Paint Co., an architectural coatings producer. Additionally, throughout 2001 and 2000, we acquired several smaller businesses.

In October 1999, we acquired a majority interest in privately held powder coatings maker Bellaria S.p.A. In July 1999, we acquired the global automotive refinish, automotive and industrial coatings businesses of Imperial Chemical Industries PLC (the ICI business), except for the businesses in the Indian subcontinent, for approximately \$677 million, and aerospace coatings and sealant maker PRC-DeSoto International, Inc. (PRC-DeSoto) from Akzo Nobel N.V. (Akzo) for approximately \$524 million. Although included as part of the original purchase price, the majority of the ICI business in Asia was not acquired until the fourth quarter of 1999 and the PRC-DeSoto and ICI businesses in France were not acquired until November 1999. We also acquired the U.S. architectural coatings business of Australian based Wattyl, Ltd. and we completed the acquisition of the German-based specialty coatings business of the ICI business in July 1999. In February 1999, we acquired the commercial transport refinish coatings business of Sigma Coatings B.V., a subsidiary of Belgian refiner PetroFina S.A. Finally, in January 1999, we completed the acquisition of the remaining portion of the global packaging coatings business formerly owned by Courtaulds plc from Akzo and the purchase of certain leased assets associated with our 1998 acquisition of the technical coatings business of Orica Ltd.

In connection with the acquisitions of PRC-DeSoto and the ICI business, a portion of the purchase price for each acquisition was allocated to purchased in-process research and development (IPR&D) which totaled \$21 million and \$19 million, respectively. The amounts attributed to IPR&D were expensed at the dates of acquisition as the IPR&D projects had not reached technological feasibility nor had any alternative future use.

The IPR&D projects, which totaled more than 40, primarily related to developing improved environmentally compliant product offerings, such as high solids (low solvents) or waterborne products, were valued through the application of the income approach by independent valuation specialists. The income approach includes an analysis of the markets, projected net cash flows, and technical and commercial risks associated with achieving such cash flows. With respect to the IPR&D projects of PRC-DeSoto and the ICI business, the estimated cash flows were projected over periods ranging from ten to twenty years after the date of the acquisitions, and were discounted at rates ranging from 15% to 30% (the average discount rate utilized was approximately 20%). The discount rates were selected on a project-by-project basis and were based on the Company's weighted average cost of capital adjusted for the risks associated with the estimated growth, profitability, and technical and commercial risks of the acquired IPR&D projects. The nature of the efforts to develop the acquired IPR&D into commercially viable products consists principally of planning, designing and testing activities necessary to determine that the products can meet market expectations, including functionality, technical and performance requirements and specifications. The financial assumptions utilized in the valuation of the IPR&D were consistent with the acquired businesses' historical results,

PPG's specific experience and expectations, and general industry levels. Anticipated cost savings and other synergies were not included in the valuation analysis of the IPR&D. The Company expected that the products incorporating the acquired technology will generally be completed and begin to generate cash flows over the three to twenty-four month period after the acquisitions. However, development of these technologies remains a significant risk due to the remaining effort to achieve technical viability, evolving customer markets, uncertain standards and performance specifications for new products, and significant competitive threats from numerous companies.

The valuation of the acquired IPR&D also gave consideration to the stage of completion of the projects at the time of the acquisition and the degree to which the projects relied on prior, existing technology. With respect to the stage of completion, the PRC-DeSoto and the ICI business IPR&D projects were, on average, approximately 46% and 56% complete, respectively, at the dates of acquisition. Similarly, the IPR&D projects' degree of leverage from the applicable developed technologies was approximately 33% for PRC-DeSoto and 36% for the ICI business.

During 2000 and 2001 work continued on these projects. At Dec. 31, 2001, half of the acquired projects had achieved technological feasibility and have been incorporated into products marketed to customers. About 20% of the acquired projects have been abandoned or reprioritized, none of which are material to the acquired businesses. Most of the remaining projects are expected to be incorporated into products marketed to customers.

Pro forma information reflecting the 2001 and 2000 acquisitions is not presented as the impact would not be material. The following table reflects the results of our operations on a pro forma basis as if the 1999 acquisitions had been completed on Jan. 1, 1999. The pro forma results of operations do not include 1999 after-tax charges of \$33 million for IPR&D and \$15 million for the fair-market-value adjustment of acquired inventories sold, both of which are associated with the 1999 acquisitions of the ICI business and PRC-DeSoto. The following unaudited pro forma information also excludes the effects of synergies and cost reduction initiatives directly related to all acquisitions.

<i>(Millions, except per share amounts)</i>	1999
Net sales	\$8,416
Earnings before interest, income taxes and minority interest	\$1,191
Net income	\$ 597
Earnings per common share	\$ 3.44
Earnings per common share— assuming dilution	\$ 3.40

The pro forma financial information is not necessarily indicative of the operating results that would have occurred had the acquisitions been consummated as of Jan. 1, 1999, nor are they necessarily indicative of future operating results.

In July 1999, we completed the sale of our Pittsburgh headquarters complex for \$186 million and concurrently entered into a long-term operating lease for the portion of the complex occupied by the Company. The pretax gain of \$7 million on the sale was deferred and will be amortized over the term of the long-term operating lease.

During the first quarter of 2001, the Company finalized plans to reduce costs, increase efficiencies and accelerate performance improvement and took a charge of \$101 million for restructuring and other related activities, including severance and other costs of \$67 million and asset dispositions of \$34 million. It is expected that substantially all of these amounts will be spent by June 2002. The details of this charge were as follows:

(Millions, except employee amounts)	Severance and Other Costs	Asset Dispositions	Total Charge	Employees Covered
Coatings	\$ 60	\$ 23	\$ 83	1,072
Glass	4	6	10	254
Chemicals	2	5	7	23
Corporate	1	—	1	18
Total	\$ 67	\$ 34	\$101	1,367
Activity	(34)	(32)	(66)	(935)
Balance at Dec. 31, 2001	\$ 33	\$ 2	\$ 35	432

In conjunction with this first quarter charge, an additional \$2 million of restructuring costs were recorded in 2001 as incurred.

During 2000, we finalized restructuring plans for certain locations related to the integration of the ICI business and PRC-DeSoto. These restructuring plans were originally developed at the acquisition date (principally July 1999). The plans covered severance benefits for 618 employees, as well as other costs, and resulted in an increase to goodwill of \$24 million and a pretax charge of \$1 million in 2000. As of Dec. 31, 2001, \$21 million has been paid including \$20 million to 618 employees. The remaining reserve of \$4 million will cover remaining lease costs and other exit costs.

During 2000, PPG Auto Glass accrued severance and other restructuring related costs of \$10 million, resulting in an increase to goodwill of \$6 million and a pretax charge of \$4 million. In addition, PPG Auto Glass incurred one-time integration costs of \$2 million. The restructuring plans included severance benefits for 133 employees and other exit costs. As of Dec. 31, 2001, \$9 million of the reserve has been paid. The remaining reserve of \$1 million will cover remaining lease costs.

In the fourth quarter of 2000, we took charges of \$3 million related to work force reductions in our coatings business for 65 people. These actions were completed in 2001.

During 1999, we approved restructuring plans associated with the integration of the packaging coatings acquisitions and cost reduction activities across all of our

businesses that resulted in pretax charges of \$47 million. The components of the plans included severance benefits for 519 employees and estimated losses of \$17 million on the disposal of a redundant European facility and the disposition of the assets of a U.S. coatings facility. Additionally, in 2000, severance reserves for 121 people totaling \$5 million were reversed due to changes in estimates. These actions were completed in 2001. In 1999, we also reversed \$5 million related to changes in estimates of reserves originally recorded in 1999, 1998 and 1997.

3. Working Capital Detail

(Millions)	2001	2000
Receivables		
Customers	\$1,339	\$1,478
Other	121	122
Allowance for doubtful accounts	(44)	(37)
Total	\$1,416	\$1,563
Inventories⁽¹⁾		
Finished products and work in process	\$ 622	\$ 807
Raw materials	166	198
Supplies	116	116
Total	\$ 904	\$1,121
Accounts payable and accrued liabilities		
Trade creditors	\$ 610	\$ 764
Accrued payroll	208	235
Other postretirement and pension benefits	79	72
Income taxes	22	12
Other	340	299
Total	\$1,259	\$1,382

(1) Inventories valued using the LIFO method comprised 63% and 65% of total gross inventory values at Dec. 31, 2001 and 2000, respectively. If the first-in, first-out method of inventory valuation had been used, inventories would have been \$180 million and \$183 million higher at Dec. 31, 2001 and 2000, respectively. During the year ended Dec. 31, 2001, 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 net effect on earnings of these liquidations was not material.

4. Property

(Millions)	Useful Lives (years)	2001	2000
Property⁽¹⁾			
Land and land improvements	10-30	\$ 301	\$ 303
Buildings	20-50	1,099	1,076
Machinery and equipment	5-25	5,192	5,020
Other	3-20	384	371
Construction in progress		177	319
Total		\$7,153	\$7,089

(1) Interest capitalized in 2001, 2000 and 1999 was \$13 million, \$16 million and \$11 million, respectively.

5. Debt and Bank Credit Agreements and Leases

(Millions)	2001	2000
6¼% non-callable notes, due 2002	\$ 100	\$ 100
6¾% non-callable notes, due 2004	299	299
6⅞% non-callable debentures, due 2005 ⁽¹⁾	100	100
6½% notes, due 2007 ⁽¹⁾	150	150
7.05% notes, due 2009 ⁽¹⁾	298	298
6⅞% notes, due 2012	100	100
7¾% notes, due 2016	149	149
6⅞% notes, due 2017	74	74
7.4% notes, due 2019	199	199
9% non-callable debentures, due 2021	148	148
ESOP notes ⁽²⁾		
Fixed-rate notes, weighted average 8.5%	36	46
Variable-rate notes, weighted average 1.9% at Dec. 31, 2001	60	68
Various other U.S. debt, weighted average 3.1% at Dec. 31, 2001	55	54
Various other non-U.S. debt, weighted average 5.7% at Dec. 31, 2001	46	44
Capital lease obligations	9	10
Total	1,823	1,839
Less payments due within one year	124	29
Long-term debt	\$1,699	\$1,810

(1) In November 2001, PPG entered into several interest rate swaps which had the effect of converting \$400 million of these fixed rate notes to variable rates, based on three-month London Interbank Offered Rate (LIBOR). The weighted average effective interest rate for these borrowings, including the effects of the outstanding swaps was 6.6%.

(2) See Note 14 for discussion of ESOP borrowings. The fixed- and variable-rate notes mature in 2009 and require annual principal payments from 2002 to 2008.

Aggregate maturities during the next five years are (in millions) \$124 in 2002, \$33 in 2003, \$335 in 2004, \$120 in 2005 and \$15 in 2006.

During 2001 the Company renegotiated \$1.2 billion in credit lines which support its commercial paper programs in the United States, Europe and Canada. The new facility is comprised of a \$600 million portion having a 5-year term and a \$600 million portion having a 364-day term. The facility fee paid on the committed amount is 7½ basis points on the 5-year portion and six basis points on the 364-day portion. There is also a \$25 million credit line, relating to a subsidiary, that will expire in October 2002 and requires payment of annual fees equal to 10 basis points on the unused portion of the line. At Dec. 31, 2001, we had \$2 million outstanding on these credit lines.

Our non-U.S. operations have other uncommitted lines of credit totaling \$282 million of which \$74 million was used at Dec. 31, 2001. These uncommitted lines of credit are subject to cancellation at any time and are not subject to any commitment fees.

PPG is in compliance with the restrictive covenants under its various credit agreements, loan agreements and indentures.

The Dec. 31, 2001 and 2000, balances for "Short-term debt and current portion of long-term debt" include, respectively, \$451 million and \$947 million of commercial paper and \$121 million and \$185 million of short-term notes. Of the \$451 million in commercial paper, \$281 million relates to our euro-denominated commercial paper program. The weighted-average interest rates of short-term borrowings as of Dec. 31, 2001 and 2000, were 3.7% and 6.4%, respectively.

Interest payments in 2001, 2000 and 1999 totaled \$180 million, \$195 million and \$123 million, respectively.

Rental expense for operating leases was \$118 million, \$120 million and \$92 million in 2001, 2000 and 1999, respectively. Minimum lease commitments for operating leases that have initial or remaining lease terms in excess of one year at Dec. 31, 2001, are (in millions) \$65 in 2002, \$49 in 2003, \$36 in 2004, \$27 in 2005, \$22 in 2006 and \$76 thereafter.

Outstanding letters of credit and other guarantees at Dec. 31, 2001 and 2000 totaled \$109 million and \$108 million, respectively. These letters of credit and guarantees secure the Company's performance to third parties under certain self-insurance programs and other commitments made in the ordinary course of business. The Company does not believe any loss related to these letters of credit or guarantees is likely.

6. Financial Instruments, Excluding Derivative Financial Instruments

Included in PPG's financial instrument portfolio are cash and cash equivalents, marketable equity securities, company-owned life insurance and short- and long-term debt instruments. The most significant instrument, long-term debt (excluding capital lease obligations), had carrying and fair values totaling \$1,814 million and \$1,827 million, respectively, at Dec. 31, 2001. The corresponding amounts at Dec. 31, 2000, were \$1,829 million and \$1,819 million, respectively. The fair values of the other financial instruments approximated their carrying values, in the aggregate.

The fair values of the debt instruments were based on discounted cash flows and interest rates available to the Company for instruments of the same remaining maturities.

7. Derivative Financial Instruments

PPG is exposed to certain market risks arising from transactions that are entered into in the normal course of business. The Company may enter into derivative financial instrument transactions in order to manage or reduce this market risk. PPG's policies do not permit speculation in 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 has not experienced any credit losses on derivatives during the three-year period ended Dec. 31, 2001.

PPG manages its foreign currency transaction risk to minimize the volatility of cash flows caused by currency fluctuations by forecasting foreign currency-denominated cash flows of each subsidiary for a 12-month period and aggregating these cash inflows and outflows in each currency to determine the overall net transaction exposures. The expanding use of the euro has reduced our transaction risk because cash flows between our businesses in the twelve Euroland countries are now occurring, effectively, in one currency. Decisions on whether to use derivative financial instruments to hedge the net transaction exposures are made based on the amount of those exposures, by currency, and an assessment of the near-term outlook for each currency. The Company's policy permits the use of foreign currency forward and option contracts to hedge up to 70% of its anticipated net foreign currency cash flows over the next 12-month period. These contracts do not qualify for hedge accounting. Therefore, the change in the fair value of these instruments is recorded in "Other charges" in the statement of income in the period of change. Such amount was not material for the year ended Dec. 31, 2001. The fair value of these contracts was not material as of Jan. 1, 2001 and Dec. 31, 2001.

The sales, costs, assets and liabilities of our non-U.S. operations must be reported in U.S. dollars in order to prepare consolidated financial statements which gives rise to translation risk. The Company monitors its exposure to translation risk and enters into derivative foreign currency contracts to hedge its exposure, as deemed appropriate. This risk management strategy does not qualify for hedge accounting under the provisions of SFAS No. 133; therefore, the change in the fair value of these instruments is recorded in "Other charges" in the statement of income in the period of change. Such amount was not material for the year ended Dec. 31, 2001. The fair value of these contracts was not material as of Jan. 1, 2001 and Dec. 31, 2001.

PPG designates forward currency contracts as hedges against the Company's exposure to variability in exchange rates on short-term intercompany borrowings denominated in foreign currencies. To the extent effective, changes in the fair value of these instruments are deferred in other comprehensive income and subsequently reclassified to "Other charges" in the statement of income as foreign exchange gains and losses are recognized on the related intercompany borrowings. The portion of the change in fair value considered to be ineffective is recognized in "Other charges" in the statement of income. Such amount was not material for the

year ended Dec. 31, 2001. The fair value of these contracts was not material as of Jan. 1, 2001 and Dec. 31, 2001.

The Company manages its interest rate risk by balancing its exposure to fixed and variable rates while attempting to minimize its interest costs. Generally, the Company maintains variable interest rate debt at a level of 25% to 50% of total borrowings. PPG principally manages its fixed and variable interest rate risk by retiring and issuing debt from time to time. PPG also manages its interest rate risk through the use of interest rate swaps. Currently, these swaps convert \$400 million of fixed rate debt to variable rate debt and are designated as fair value hedges. As such, the swaps are carried at fair value. As of Dec. 31, 2001 the fair value of interest rate swaps was a liability of \$20 million, and as of Jan. 1, 2001, the fair value of interest rate swaps was not material. Changes in the fair value of these swaps and that of the related debt are recorded in "Interest expense" in the statement of income.

The Company uses derivative instruments to manage its exposure to fluctuating natural gas prices through the use of natural gas swap and option contracts. These instruments mature over the next 24 months, with a significant portion maturing in the next twelve months. To the extent that these instruments are effective in hedging PPG's exposure to price changes, changes in the fair values of the hedge contracts are deferred in other comprehensive income and reclassified to cost of sales as the natural gas is purchased. As of Jan. 1, and Dec. 31, 2001, the fair value of these contracts was an asset of \$62 million and a liability of \$12 million, respectively. Of the contracts outstanding at Dec. 31, 2001, \$11 million are to mature in the next twelve months. Changes in the time value of option contracts are excluded from the Company's assessment of hedge effectiveness and reported in earnings immediately. The amount of ineffectiveness, which is reported in "Other charges" in the statement of income for the year ended Dec. 31, 2001, was not material.

No derivative instrument initially designated as a hedge instrument was undesignated or discontinued as a hedging instrument during the year ended Dec. 31, 2001. During the year ended Dec. 31, 2001, the net change in other comprehensive loss related to derivatives totaled \$51 million, excluding the transition adjustment. This was comprised of \$7 million of accumulated gain on derivatives, net of tax, which was reclassified from accumulated other comprehensive income to earnings, and a decrease in other comprehensive loss of \$44 million, due to changes in the fair value and composition of derivatives held, net of tax. The fair values of all outstanding derivative instruments were determined using quoted market prices.

8. Earnings Per Common Share

The earnings per common share calculations for the three years ended Dec. 31, 2001 are as follows:

(Millions, except per share amounts)	2001	2000	1999
<i>Earnings per common share</i>			
Net income	\$ 387	\$ 620	\$ 568
Weighted average common shares outstanding	168.3	172.3	173.8
<i>Earnings per common share</i>	\$ 2.30	\$ 3.60	\$ 3.27
<i>Earnings per common share — assuming dilution</i>			
Net income	\$ 387	\$ 620	\$ 568
Weighted average common shares outstanding	168.3	172.3	173.8
Effect of dilutive securities			
Stock options	0.2	0.1	0.5
Other stock compensation plans	0.7	1.2	1.2
Potentially dilutive common shares	0.9	1.3	1.7
Adjusted weighted average common shares outstanding	169.2	173.6	175.5
<i>Earnings per common share — assuming dilution</i>	\$ 2.29	\$ 3.57	\$ 3.23

There were 11.5 million, 12.0 million and 7.4 million stock options excluded in 2001, 2000 and 1999, respectively, from the computation of diluted earnings per common share due to their anti-dilutive effect.

9. Income Taxes

The following is a reconciliation of the statutory U.S. corporate federal income tax rate to our effective income tax rate.

(Percent of Pre-Tax Income)	2001	2000	1999
U.S. federal income tax rate	35.00%	35.00%	35.00%
Changes in rate due to:			
State and local taxes — U.S.	1.07	1.08	1.85
Taxes on non-U.S. earnings net of related tax credits	3.94	2.41	3.52
ESOP dividends	(1.98)	(1.26)	(1.24)
Other	(0.96)	(0.98)	(0.33)
<i>Effective income tax rate</i>	37.07%	36.25%	38.80%

The following table gives details of income tax expense reported in the statement of income.

(Millions)	2001	2000	1999
<i>Current income taxes</i>			
U.S. federal	\$149	\$210	\$ 310
Non-U.S.	82	85	87
State and local — U.S.	10	20	28
<i>Total current</i>	241	315	425
<i>Deferred income taxes</i>			
U.S. federal	33	39	(43)
Non-U.S.	(29)	23	(2)
State and local — U.S.	2	(8)	(3)
<i>Total deferred</i>	6	54	(48)
<i>Total</i>	\$247	\$369	\$ 377

Net deferred income tax assets and liabilities as of Dec. 31, 2001 and 2000, are as follows:

(Millions)	2001	2000
<i>Deferred income tax assets related to</i>		
Employee benefits	\$329	\$321
Environmental	31	28
Operating loss and other carryforwards	75	60
Inventories	36	35
Property	26	23
Restructuring	7	8
Intangibles	6	14
Other	52	47
Valuation allowance	(50)	(42)
<i>Total</i>	512	494
<i>Deferred income tax liabilities related to</i>		
Property	400	406
Employee benefits	336	315
Intangibles	143	138
Other	37	25
<i>Total</i>	916	884
<i>Deferred income tax liabilities — net</i>	\$404	\$390

The 2001 overall effective tax rate was unfavorably impacted as the geographic spread of the restructuring charges taken in the first quarter provided a tax benefit of only 30%.

In 2000, the overall effective tax rate was favorably impacted by an improvement in the regional mix of non-U.S. taxable earnings and a lower effective state tax rate. In addition, the rate impact of the write-off of a 50% owned equity investment, a significant portion of which was not deductible for tax purposes, was offset by the recognition of a U.S. income tax benefit associated with the losses of exiting our Asian glass operations. The 1999 effective tax rate was higher due to the non-deductibility of certain purchased in-process research and development charges recorded in 1999.

At Dec. 31, 2001, subsidiaries of the Company had available net operating loss (NOL) carryforwards of approximately \$254 million for income tax purposes, of which approximately \$190 million has an indefinite expiration. The remaining \$64 million expires between the years 2002 and 2020. A valuation allowance has been established for carryforwards where the ability to utilize them is not likely.

Income before income taxes of our non-U.S. operations for 2001, 2000 and 1999 was \$140 million, \$280 million and \$190 million, respectively.

No deferred U.S. income taxes have been provided on certain undistributed earnings of non-U.S. subsidiaries, which amounted to \$715 million at Dec. 31, 2001 and \$875 million at Dec. 31, 2000. These earnings are considered to be reinvested for an indefinite period of time or will be repatriated when it is tax effective to do so. It is not practicable to determine the deferred tax liability on these earnings.

The determination of annual income tax expense takes into consideration amounts which may be needed to cover exposures for open tax years. The Internal Revenue Service (IRS) has examined our U.S. federal income tax returns through 1993, and we have paid all tax claims. In addition the IRS has examined our U.S. federal income tax returns for the years 1994 through 1996. The final resolution of these returns is currently under appeal. The Company does not expect any material impact on earnings to result from the resolution of matters related to open tax years, however, actual settlements may differ from amounts accrued.

Income tax payments in 2001, 2000 and 1999 totaled \$232 million, \$319 million and \$394 million, respectively.

10. Pensions and Other Postretirement Benefits

We have defined benefit pension plans that cover certain employees worldwide. PPG also sponsors defined benefit plans that provide postretirement medical and life insurance benefits for certain U.S. and Canadian employees and dependents. The Company has the right to modify or terminate certain of these defined benefit plans in the future. In general, U.S. salaried and certain wage employees hired after Jan. 31, 1993, were not, as of Dec. 31, 2000, entitled to postretirement medical benefits. At Dec. 31, 2000, the U.S. plans had provisions that capped the cost of postretirement medical benefits at 2003 levels for certain current and future retirees covered by bargaining plans and non-bargaining plans.

Effective August 1, 2001, the Company adopted new medical and prescription drug programs in the U.S. with cost sharing provisions that generally replaced the cap of postretirement medical benefits at 2003 levels. These programs require retiree contributions based on selected coverage levels and provide for the equal sharing of future cost increases between PPG and retirees. Other plan modifications were also implemented. Additionally, as of that date, salaried and certain wage employees hired after

Jan. 31, 1993 became entitled to postretirement medical benefits at retirement, after ten years of service.

The following table sets forth the changes in projected benefit obligations, plan assets, the funded status and the amounts recognized in our balance sheet for our defined benefit pension and other postretirement benefit plans.

(Millions)	Pensions		Other Postretirement Benefits	
	2001	2000	2001	2000
Projected benefit obligation, Jan. 1	\$2,247	\$2,012	\$ 601	\$ 637
Service cost	48	43	12	5
Interest cost	159	154	48	45
Plan amendments	11	35	26	(2)
Actuarial losses (gains)	103	113	210	(15)
Benefits paid	(152)	(145)	(72)	(68)
Businesses acquired	6	50	—	—
Businesses disposed	—	(1)	—	—
Foreign currency translation adjustments	(16)	(19)	(2)	(1)
Other	8	5	—	—
<i>Projected benefit obligation, Dec. 31</i>	<i>\$2,414</i>	<i>\$2,247</i>	<i>\$ 823</i>	<i>\$ 601</i>
Fair value of plan assets, Jan. 1	\$2,637	\$2,730		
Actual return on plan assets	(80)	(21)		
Contributions	15	15		
Benefits paid	(142)	(133)		
Businesses acquired	6	66		
Plan expenses and other — net	3	—		
Foreign currency translation adjustments	(16)	(20)		
<i>Fair value of plan assets, Dec. 31</i>	<i>\$2,423</i>	<i>\$2,637</i>		
Funded status	\$ 9	\$ 390	\$(823)	\$(601)
Accumulated unrecognized:				
Actuarial losses	801	355	213	6
Prior service cost	99	103	24	—
Transition asset	(4)	(8)	—	—
Minimum pension liability	(80)	(52)	—	—
<i>Net prepaid (accrued) benefit cost</i>	<i>\$ 825</i>	<i>\$ 788</i>	<i>\$(586)</i>	<i>\$(595)</i>

The accumulated unrecognized actuarial losses for pensions relate primarily to the actual return on plan assets being less than the expected return on plan assets. The accumulated unrecognized actuarial losses for other postretirement benefits in 2001 relate primarily to the use of higher medical healthcare cost trend rate assumptions in the valuation of the year end 2001 projected benefit obligation. To the extent that the accumulated unrecognized actuarial losses exceed 10% of the higher of the fair value of plan assets or the projected benefit obligation at the beginning of the year, amortization of such excess over a period of 11 to 13 years will occur and be included in net pension cost.

The following summarizes the amounts recognized in the balance sheet:

(Millions)	Pensions		Other Postretirement Benefits	
	2001	2000	2001	2000
Prepaid benefit cost	\$ 982	\$ 919	\$ —	\$ —
Accrued benefit cost	(157)	(131)	(586)	(595)
<i>Net prepaid (accrued) benefit cost</i>	<i>\$ 825</i>	<i>\$ 788</i>	<i>\$(586)</i>	<i>\$(595)</i>

The minimum pension liability impacted the following balance sheet captions:

(Millions)	2001	2000
Other assets	\$ 5	\$ 6
Accumulated other comprehensive loss	\$49	\$29
Deferred income taxes	\$26	\$17
<i>Minimum pension liability</i>	<i>\$80</i>	<i>\$52</i>

The projected benefit obligation, accumulated benefit obligation and fair value of plan assets for the pension plans with benefit obligations in excess of plan assets were \$266 million, \$231 million and \$89 million, respectively, at Dec. 31, 2001, and were \$249 million, \$218 million and \$92 million, respectively, at Dec. 31, 2000.

The accrued pension benefit cost reflected in the balance sheet includes \$7 million and \$6 million, at Dec. 31, 2001 and 2000, for defined contribution plans.

Net periodic benefit (income) cost includes the following:

(Millions)	Pensions			Other Postretirement Benefits		
	2001	2000	1999	2001	2000	1999
Service cost	\$ 48	\$ 43	\$ 48	\$12	\$ 5	\$ 8
Interest cost	159	154	140	48	45	45
Expected return on plan assets	(279)	(296)	(271)	—	—	—
Amortization of transition assets	(5)	(5)	(5)	—	—	—
Amortization of prior service cost	17	16	12	3	12	5
Amortization of actuarial losses (gains)	7	2	5	1	(2)	5
<i>Net periodic benefit (income) cost</i>	<i>\$ (53)</i>	<i>\$ (86)</i>	<i>\$ (71)</i>	<i>\$64</i>	<i>\$60</i>	<i>\$63</i>

In determining net periodic benefit (income) cost, unrecognized prior service costs are amortized over periods ranging from 5 to 14 years.

The following weighted average assumptions were used to determine the benefit obligations and net periodic benefit (income) cost for our defined benefit pension and other postretirement benefit plans:

	2001	2000	1999
Discount rate ⁽¹⁾	7.0%	7.3%	7.8%
Expected return on assets ⁽²⁾	10.9%	10.9%	10.9%
Rate of compensation increase	4.1%	4.1%	4.1%

(1) Net periodic benefit (income) cost is determined using the previous year's discount rate.

(2) Applies only to defined benefit pension plans.

The weighted-average medical healthcare cost trend rate used was 5.3% for 2001 declining ratably to 3.5% in the year 2007. For 2002, the weighted-average medical healthcare cost trend rate used will be 10.0% declining gradually to 4.0% in the year 2007. If these 2002 trend rates were increased or decreased by one percentage point per year, such increases or decreases would have the following effects:

(Millions)	One-Percentage Point	
	Increase	Decrease
Increase (decrease) in the aggregate of service and interest cost components	\$ 6	\$ (4)
Increase (decrease) in the benefit obligation	\$58	\$(51)

The Company also incurred costs for multi-employer pension plans of \$1 million in each of the years 2001, 2000 and 1999. Multi-employer healthcare costs totaled \$1 million in each of the years 2001, 2000 and 1999.

The Company has a deferred compensation plan for certain key managers which allows them to defer a portion of their annual 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 or termination of employment, the compensation deferred and related accumulated earnings are distributed in cash or in PPG stock, based on the accounts selected by the participant.

Effective Oct. 1, 2000, the plan was amended to provide participants with expanded investment alternatives and the ability to transfer amounts between the phantom non-PPG stock investment accounts. Concurrent with the plan amendment and to mitigate the impact on compensation expense of changes in the market value of the liability, the Company purchased a portfolio of marketable securities that mirror the phantom non-PPG stock investment accounts selected by the participants except the money market accounts. The changes in market value of these securities are also included in earnings. Trading will occur 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, in 2001 and 2000, the change in market value of the liability, was income of \$6 million and \$1 million in 2001 and 2000, respectively, and expense of \$5 million in 1999. These amounts are reflected in selling, general and administrative expenses in the accompanying statement of income. The change in market value of the investment portfolio in 2001 and 2000 was a loss of \$7 million and \$5 million, respectively, and is also reflected in selling, general and administrative expenses.

The Company's obligations under this plan were \$89 million and \$94 million at Dec. 31, 2001 and 2000, respectively, and the investments in marketable securities, which are included in investments in the accompanying balance sheet, were \$61 million and \$79 million at Dec. 31, 2001 and 2000, respectively.

11. 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, some of which are described below, relate to product liability, contract, patent, environmental, antitrust and other matters arising out of the conduct of PPG's business. Except with respect to any PPG contribution arising out of a possible voluntary settlement of asbestos claims as discussed below, the amount of which cannot be predicted, management believes that, in the aggregate, the outcome of all lawsuits and claims involving PPG 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 the period in which the costs, if any, are recognized.

The Company has been named in a number of antitrust lawsuits alleging that PPG acted with competitors to fix prices and allocate markets in the automotive refinish industry and for certain glass products. The automotive refinish claims have been consolidated, but the proceedings are still at an early stage. All of the initial defendants in the glass antitrust cases other than PPG, have settled. PPG believes it has meritorious defenses to these claims.

The Company has been a defendant since April 1994 in a suit filed by Marvin Windows and Doors (Marvin) alleging numerous claims, including breach of warranty. All of the plaintiff's claims, other than breach of warranty, have been dismissed. However, on Feb. 14, 2002, a federal jury awarded Marvin \$136 million on the remaining claim. PPG believes it has meritorious defenses to the plaintiff's claims and intends to appeal the jury's decision.

For over thirty years, PPG has been a defendant in lawsuits involving claims alleging personal injury from exposure to asbestos. Aggregate settlements by PPG to date have been immaterial. At Dec. 31, 2001, PPG was one of many defendants in numerous asbestos-related lawsuits involving about 116,000 claims. In many of the cases, the plaintiffs allege that PPG should be liable for injuries involving asbestos-containing thermal insulation products

manufactured and distributed by Pittsburgh Corning Corporation ("PC"). PPG and Corning Incorporated are each 50% shareholders in PC. PPG believes that it is not responsible for any injuries caused by PC products and intends to defend against such claims. Prior to 2000, PPG had never been found liable for any such claims, and in numerous cases PPG had been dismissed on motions prior to trial. In January 2000, in a trial in a state court in Texas involving six plaintiffs, the jury found PPG not liable. However, a week later in a separate trial also in state court in Texas, another jury found PPG, for the first time, partly responsible for injuries to five plaintiffs alleged to be caused by PC products. PPG intends to appeal the adverse verdict.

On April 16, 2000, PC filed for Chapter 11 Bankruptcy in the Federal Bankruptcy Court in Pittsburgh, Pennsylvania. 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 the various motions and orders in that proceeding, the asbestos litigation against PPG (and against PC and Corning Incorporated) related to PC products has been stayed and the filing of additional asbestos suits against them has been enjoined, until March 1, 2002. During the pendency of the stay, interested parties, including PC and PPG, among others, have been engaged in discussions to determine whether a settlement of current and potential asbestos claims can be agreed on within the context of the PC bankruptcy proceeding. The court has extended the stay several times with the parties' consent in order to facilitate settlement discussions. These settlement discussions involve numerous, complex issues. Accordingly, it is impossible to predict whether, when, or on what terms a voluntary settlement, if any, on the part of PPG might be reached.

Although PPG believes it has adequate insurance for the personal injury and property damage claims against PPG described above, certain of PPG's insurers are contesting coverage with respect to some of these claims. 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.

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. As of Dec. 31, 2001 and 2000, PPG had reserves for environmental contingencies totaling \$94 million and \$84 million, respectively. Pretax charges against income for environmental remediation costs in 2001, 2000 and 1999 totaled \$29 million, \$18 million and \$10 million, respectively, and are included in "Other charges" in the statement of income. Cash outlays related to such environmental remediation aggregated \$19 million, \$16 million and \$22 million in 2001, 2000 and 1999, respectively.

Management anticipates that the resolution of the Company's environmental contingencies will occur over an extended period of time and could result in charges against

income of up to \$50 million in 2002. It is possible, however, that technological, regulatory and enforcement developments, the results of environmental studies and other factors could alter this expectation. 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.

In addition to the amounts currently reserved, the Company may be subject to loss contingencies related to environmental matters estimated to be as much as \$200 million to \$400 million, which range is unchanged from the prior year end. Such unreserved losses are reasonably possible but are not currently considered to be probable of occurrence. Although insurers and other third parties may cover a portion of these costs, to the extent they are incurred, any potential recovery is not included in this unreserved exposure to future loss. The Company's environmental contingencies are expected to be resolved over an extended period of time.

Although the unreserved exposure to future loss relates to all sites, a significant portion of such exposure involves three operating plant sites in our chemicals segment. Initial remedial actions are occurring at these sites. Studies to determine the nature of the contamination are reaching completion and the need for additional remedial actions, if any, is presently being evaluated. The loss contingencies related to the remaining portion of such unreserved exposure include significant unresolved issues such as the nature and extent of contamination, if any, at sites and the methods that may have to be employed should remediation be required.

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.

The impact of evolving programs, such as natural resource damage claims, industrial site reuse initiatives and state voluntary 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.

A major customer of one of the Company's Asian coatings joint ventures is experiencing financial difficulties. Should this customer be unable to pay the amounts owed to our investee or cease operations, our loss would be limited to the value of the Company's investment in the joint venture which was approximately \$20 million at Dec. 31, 2001.

12. 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 and 290,573,068 were issued at Dec. 31, 2001, 2000 and 1999. Shares outstanding at Dec. 31, 2001 and 2000, exclude unreleased new ESOP shares (see Note 14).

PPG has a Shareholders' Rights Plan, under which each share of the Company's outstanding common stock has an associated preferred share purchase right. The rights are exercisable only under certain circumstances and allow holders of such rights to purchase common stock of PPG or an acquiring company at a discounted price, which would generally be 50% of the respective stocks' current fair market value.

Treasury shares held at Dec. 31, 2001 and 2000, were 121,859,854 shares and 122,350,519 shares, respectively. Purchases of treasury stock totaled 109,400, 6,126,000 and 1,452,600 shares in 2001, 2000 and 1999, respectively. Issuances of treasury stock totaled 600,065, 248,100 and 428,510 shares in 2001, 2000 and 1999, respectively.

Per share cash dividends paid were \$1.68 in 2001, \$1.60 in 2000 and \$1.52 in 1999.

13. Accumulated Other Comprehensive Loss

(Millions)	Currency Translation Adjustment	Minimum Pension Liability Adjustment	Unrealized (Losses) Gains on Marketable Securities	Accumulated Derivative Loss	Accumulated Other Comprehensive Loss
Balance,					
Jan. 1, 2000	\$(162)	\$(13)	\$(3)	\$—	\$(178)
Net change	(120)	(16)	3	—	(133)
Balance,					
Dec. 31, 2000	(282)	(29)	—	—	(311)
Net change	(131)	(20)	10	(8)	(149)
Balance,					
Dec. 31, 2001	\$(413)	\$(49)	\$10	\$(8)	\$(460)

Foreign currency translation adjustments exclude income tax expense (benefit) given that the earnings of non-U.S. subsidiaries are deemed to be reinvested for an indefinite period of time. The income tax benefit associated with the minimum pension liability adjustment was \$9 million in 2001 and \$11 million in 2000.

The 2000 net change in unrealized losses on marketable securities includes the reclassification to "Other charges" in the statement of income for unrealized losses of \$14 million, \$9 million net of tax, due to an other than temporary decline in the market value of an investment in marketable equity securities.

14. Employee Stock Ownership Plan

Our employee stock ownership plan (ESOP) covers substantially all U. S. employees. The Company makes matching contributions to the ESOP based upon participants' savings, subject to certain limitations, the matching percentage being based upon our return on average capital for the previous year.

Compensation expense related to the ESOP for 2001, 2000 and 1999 totaled \$6 million, \$11 million and \$18 million, respectively. Interest expense totaled \$7 million, \$9 million and \$9 million for 2001, 2000 and 1999, respectively. Dividends on PPG shares held by the ESOP, to service ESOP debt, totaled \$42 million for 2001 and 2000 and \$40 million for 1999. The fair value of unreleased new ESOP shares was \$12 million and \$22,000 at Dec. 31, 2001 and 2000, respectively. The average cost of the unreleased old ESOP shares was \$21 per share. Shares held by the ESOP as of Dec. 31, 2001 and 2000, are as follows:

	2001		2000	
	Old Shares	New Shares	Old Shares	New Shares
Allocated shares	9,970,943	3,749,488	9,255,641	3,390,372
Unreleased shares	3,429,391	224,958	4,144,693	476
<i>Total</i>	13,400,334	3,974,446	13,400,334	3,390,848

15. Other Earnings

(Millions)	2001	2000	1999
Interest income	\$15	\$12	\$8
Royalty income	26	27	26
Share of net earnings of equity affiliates	15	39	28
Other	42	60	62
<i>Total</i>	\$98	\$138	\$124

PPG's share of undistributed net earnings of equity affiliates was \$52 million and \$66 million at Dec. 31, 2001 and 2000, respectively. Dividends received from equity affiliates were \$26 million, \$20 million and \$16 million in 2001, 2000 and 1999, respectively.

16. Stock Option Plans

Under PPG's stock option 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 option was granted. Options are exercisable beginning from six to 12 months after granting and have a maximum term of 10 years. Shares available for future grants were 3,751,911 and 5,562,305 at Dec. 31, 2001 and 2000, respectively.

On July 1, 1998, the Company granted to substantially all active employees of the Company and its majority owned subsidiaries the option to purchase 100 shares of common stock at its then fair market value of \$70 per share. Options are exercisable beginning July 1, 2003 and expire on June 30, 2008.

PPG applies Accounting Principles Board Opinion No. 25, "Accounting for Stock Issued to Employees," and related interpretations in accounting for its stock-based compensation. Accordingly, no compensation cost for PPG's

stock option plan has been recognized in the accompanying financial statements. Had compensation cost been determined based upon the fair value at the grant date for awards granted in 2001, 2000 and 1999 consistent with the methodology prescribed in SFAS No. 123, "Accounting for Stock-Based Compensation," net income and earnings per common share, assuming dilution, would have been reduced by \$24 million and \$0.14 in 2001, \$23 million and \$0.13 in 2000 and \$26 million and \$0.14 in 1999. The weighted average fair value of options granted was \$11.93 per share in 2001, \$13.08 per share in 2000 and \$10.20 per share in 1999. The fair value of stock options is estimated at the grant date using the Black-Scholes option pricing model with the following weighted average assumptions.

	2001	2000	1999
Risk-free interest rate	5.2%	6.1%	5.4%
Expected life of option in years	5.3	5.7	5.2
Expected dividend yield	2.7%	2.6%	2.6%
Expected volatility	26.3%	24.5%	22.2%

The following table summarizes stock option activity under all plans for the three years ended Dec. 31, 2001:

Stock option activity	Number of shares subject to options	Weighted average exercise price per share
Outstanding, Jan. 1, 1999	10,761,030	\$59.13
Granted	3,117,845	57.40
Exercised	(1,711,732)	51.21
Terminated	(374,022)	66.58
Outstanding, Dec. 31, 1999	11,793,121	59.58
Granted	2,048,445	52.99
Exercised	(301,432)	43.00
Terminated	(353,405)	64.30
Outstanding, Dec. 31, 2000	13,186,729	58.81
Granted	2,697,920	51.52
Exercised	(871,389)	45.99
Terminated	(502,581)	62.66
<i>Outstanding, Dec. 31, 2001</i>	<i>14,510,679</i>	<i>\$58.09</i>

The following table summarizes information about stock options outstanding and exercisable at Dec. 31, 2001:

Range of exercise price per share	Options outstanding		Options exercisable	
	Number of shares	Weighted average remaining contractual life (years)	Number of shares	Weighted average exercise price per share
\$29.37-\$39.75	518,679	2.09	518,679	\$36.10
\$40.68-\$60.00	7,829,444	6.89	5,588,728	\$53.71
\$60.06-\$76.31	6,162,556	4.85	3,717,356	\$64.48
	<u>14,510,679</u>		<u>9,824,763</u>	

At Dec. 31, 2000, options were exercisable for 8.8 million shares at a weighted average exercise price of \$56.80 per common share. The corresponding amounts at Dec. 31, 1999, were 7.0 million and \$57.17 per common share, respectively.

17. Advertising Costs

Advertising costs are expensed as incurred and totaled \$62 million, \$75 million and \$101 million in 2001, 2000 and 1999, respectively.

18. Research and Development

(Millions)	2001	2000	1999
Research and development — total	\$283	\$301	\$301
Less depreciation	17	19	17
<i>Research and development — net</i>	\$266	\$282	\$284

19. Quarterly Financial Information (unaudited)

	Net Sales (Millions)	Gross Profit (Millions)	Net Income (Millions)	Earnings Per Common Share	Earnings Per Common Share— Assuming Dilution
<i>2001 quarter ended</i>					
March 31 ⁽¹⁾	\$2,099	\$ 775	\$ 56	\$.33	\$.33
June 30	2,164	822	155	.92	.92
September 30	1,999	738	93	.56	.55
December 31	1,907	697	83	.49	.49
<i>Total</i>	\$8,169	\$3,032	\$387	\$2.30	\$2.29
<i>2000 quarter ended</i>					
March 31 ⁽²⁾	\$2,152	\$ 833	\$139	\$.80	\$.79
June 30	2,275	883	205	1.18	1.17
September 30 ⁽³⁾	2,144	807	150	.87	.86
December 31 ⁽⁴⁾	2,058	772	126	.75	.75
<i>Total</i>	\$8,629	\$3,295	\$620	\$3.60	\$3.57

- (1) First quarter 2001 earnings were reduced by pretax charges of \$101 million for restructuring and other related activities, including severance and other costs of \$67 million and asset dispositions of \$34 million.
- (2) First-quarter 2000 earnings were reduced by pretax charges of \$39 million for the write-off of a 50% owned equity investment in Pittsburgh Corning Corporation which has filed for reorganization under the federal bankruptcy code.
- (3) Third-quarter 2000 earnings were reduced by a pretax charge of \$7 million for restructuring and one-time integration costs related to PPG Auto Glass.
- (4) Fourth-quarter 2000 earnings were reduced by a pretax charge of \$14 million due to an other than temporary decline in the market value of an investment in marketable equity securities, previously recorded net of tax as an unrealized loss in other comprehensive loss.

20. Business Segment Information

Refer to pages 20 through 22 for information on our business segments for 2001, 2000 and 1999.

Douglas B. Atkinson was named vice president of investor relations. He had been director of investor relations. Also, Susan M. Kreh was elected treasurer. She succeeds Daniel W. Kiener, who left the company. Kreh had been general manager of PPG's optical monomers and coatings business.

During the year, Garry Goudy was named vice president of automotive refinish. He had been vice president of automotive replacement glass. Douglas C. Hepper was named vice president of market initiatives, coatings. He had been vice president of automotive refinish. Maurice V. Peconi was named vice president of corporate development. He had been vice president of electronic commerce. David E. Sharick was named vice president of automotive replacement glass. He had been vice president of corporate development. Also, Thomas M. Von Lehman, former vice president of specialty chemicals, left the company.

Eleven-Year Digest

	2001	2000	1999	1998	1997	1996	1995	1994	1993	1992	1991
Statement of Income											
Net sales	8,169	8,629	7,995	7,751	7,631	7,466	7,311	6,570	5,980	6,042	5,889
Gross profit (%)	37.1	38.2	38.0	39.1	39.1	38.5	38.9	37.5	35.5	35.1	33.9
Income before income taxes	634	989	945	1,267	1,149	1,215	1,248	840	531	538	348
Income taxes	247	369	377	466	435	471	480	325	236	218	147
Income before accounting changes	387	620	568	801	714	744	768	515	295	319	201
Cumulative effect of accounting changes ⁽¹⁾	—	—	—	—	—	—	—	—	(273)	—	75
Net income	387	620	568	801	714	744	768	515	22	319	276
Return on average capital (%) ⁽²⁾⁽³⁾	8.4	12.1	12.7	19.6	19.1	20.3	21.6	15.3	2.2/8.9	9.7	8.7/7.0
Return on average equity (%) ⁽²⁾	12.6	19.7	19.3	29.4	28.8	29.5	28.8	20.1	.9/10.7	11.8	10.7/8.0
Earnings per common share before accounting changes	2.30	3.60	3.27	4.52	3.97	3.96	3.80	2.43	1.39	1.51	.95
Cumulative effect of accounting changes on earnings per common share	—	—	—	—	—	—	—	—	(1.29)	—	.35
Earnings per common share	2.30	3.60	3.27	4.52	3.97	3.96	3.80	2.43	.10	1.51	1.30
Average number of common shares	168.3	172.3	173.8	177.0	179.8	187.8	202.0	211.9	212.6	212.2	212.4
Earnings per common share — assuming dilution	2.29	3.57	3.23	4.48	3.94	3.93	3.78	2.42	.10	1.50	1.29
Dividends	283	276	264	252	239	237	239	238	221	200	183
Per share	1.68	1.60	1.52	1.42	1.33	1.26	1.18	1.12	1.04	.94	.86
Balance Sheet											
Current assets	2,703	3,093	3,062	2,660	2,584	2,296	2,275	2,168	2,026	1,951	2,173
Current liabilities	1,955	2,543	2,384	1,912	1,662	1,769	1,629	1,425	1,281	1,253	1,341
Working capital	748	550	678	748	922	527	646	743	745	698	832
Property (net)	2,752	2,941	2,933	2,905	2,855	2,913	2,835	2,742	2,787	2,972	3,183
Total assets	8,452	9,125	8,914	7,387	6,868	6,441	6,194	5,894	5,652	5,662	6,056
Long-term debt	1,699	1,810	1,836	1,081	1,257	834	736	773	774	905	1,190
Shareholders' equity	3,080	3,097	3,106	2,880	2,509	2,483	2,569	2,557	2,473	2,699	2,655
Per share	18.28	18.41	17.86	16.46	14.11	13.57	13.23	12.35	11.57	12.71	12.50
Other Data											
Capital spending ⁽⁴⁾	301	676	1,833	877	829	489	454	356	293	283	335
Depreciation expense	375	374	366	354	348	340	332	318	331	352	351
Quoted market price											
High	59.75	65.06	70.75	76.63	67.50	62.25	47.88	42.13	38.13	34.13	29.63
Low	38.99	36.00	47.94	49.13	48.63	42.88	34.88	33.75	29.63	25.00	20.75
Year-end	51.72	46.31	62.56	58.19	57.13	56.13	45.75	37.13	37.88	32.88	25.25
Price/earnings ratio⁽⁵⁾											
High	26	18	22	17	17	16	13	17	27	23	31
Low	17	10	15	11	12	11	9	14	21	17	22
Average number of employees	34,900	36,000	33,800	32,500	31,900	31,300	31,200	30,800	31,400	32,300	33,700

All amounts are in millions of dollars except per share data and number of employees.

Data was adjusted, as appropriate, to reflect the two-for-one stock split payable on June 10, 1994.

(1) The 1993 changes in methods of accounting relate to the adoption of SFAS No. 106, "Employers' Accounting for Postretirement Benefits Other Than Pensions"; SFAS No. 109, "Accounting for Income Taxes," and SFAS No. 112, "Employers' Accounting for Postemployment Benefits." The 1991 change in the method of accounting relates to the cost of rebuilding glass and fiber glass melting facilities. The effect of all the changes on net income in the years of change, exclusive of the cumulative effect to Jan. 1 of the year of change and the pro forma effect on individual prior years' net income, was not material.

(2) Return on average capital and return on average equity for 1993 and 1991 were calculated and presented inclusive and exclusive of the cumulative effect of the accounting changes.

(3) Return on average capital is calculated using pre-interest, after-tax earnings and average debt and equity during the year.

(4) Includes the cost of businesses acquired.

(5) Price/earnings ratios were calculated based on high and low market prices during the year and the respective year's earnings per common share. The 1993 and 1991 ratios were calculated and presented exclusive of the cumulative effect of the accounting changes.

PPG Shareholder Information

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Annual Meeting

Thursday, April 18, 2002, 11:00 A.M.
Pittsburgh Marriott Hotel, City Center
112 Washington Place
Pittsburgh, PA 15219

Transfer Agent & Registrar

Mellon Investor Services LLC
Overpeck Centre
85 Challenger Road
Ridgefield Park, NJ 07660

PPG-dedicated phone 1-800-648-8160

Internet inquiries: www.mellon-investor.com

As a convenience to shareholders, account information, address changes, requests for replacement checks, and Form 1099's can be accessed by way of the Internet. Log on to Investor ServiceDirect™ at www.mellon-investor.com. Shareholders with specific questions regarding dividend checks, transfer or replacement of stock certificates or dividend tax information should contact Mellon Investor Services.

Publications Available to Shareholders

Copies of the following publications will be furnished without charge upon written request to Corporate Communications, 7W, PPG Industries, One PPG Place, Pittsburgh, PA 15272.

Form 10-K — the Company's Annual Report filed with the Securities and Exchange Commission.

PPG Industries Blueprint — a booklet summarizing PPG's mission, values, strategy and goals.

PPG's Global Code of Ethics — an employee guide to corporate conduct policies, including those concerning personal conduct, relationships with customers, suppliers and competitors, protection of corporate assets, responsibilities to the public, and PPG as a global organization.

PPG's Environment, Health and Safety Policy — a statement describing the Company's commitment, worldwide, to manufacturing, selling and distributing products in a manner that is safe and healthful for its employees, neighbors and customers, and that protects the environment.

PPG's Environment, Health and Safety Progress Report — a report of progress during the year with respect to the Company's environment, health and safety commitment.

PPG's Responsible Care Commitment — a brochure outlining the Company's voluntary activities under the *Responsible Care* initiative of the Chemical Manufacturers Association for safe and ethical management of chemicals.

Dividend Information

PPG has paid uninterrupted dividends since 1899. The latest quarterly dividend of 42 cents per share, voted by the board of directors on Jan. 17, 2002, results in an annual dividend rate of \$1.68 per share.

Stock Exchange Listings

PPG common stock is traded on the New York, Pacific and Philadelphia stock exchanges (symbol: PPG).

Direct Purchase Plan with Dividend Reinvestment Option

This plan is offered as a service and convenience to shareholders. It allows purchase of shares of PPG stock directly through the plan, as well as dividend reinvestment, direct deposit of dividends, and safekeeping of PPG stock certificates.

For more information, call Mellon Investor Services at 1-800-648-8160.

Investor Relations

General PPG shareholder information may be obtained by calling (412) 434-3312, or by writing PPG Industries, Investor Relations, One PPG Place, 40E, Pittsburgh, PA 15272.

Quarterly Stock Market Price

Quarter Ended	2001			2000		
	High	Low	Close	High	Low	Close
March 31	\$55.50	\$43.00	\$46.09	\$65.06	\$44.38	\$52.31
June 30	59.75	45.55	52.57	58.13	41.56	44.31
Sept. 30	55.78	38.99	45.75	46.50	36.00	39.69
Dec. 31	55.56	44.15	51.72	47.44	37.19	46.31

The number of holders of record of PPG common stock as of Jan. 31, 2002, was 29,005, as shown on the records of the Company's transfer agent.

Dividends

Month of Payment	2001		2000	
	Amount (Millions)	Per Share	Amount (Millions)	Per Share
March	\$ 70	\$.42	\$ 70	\$.40
June	71	.42	70	.40
September	71	.42	69	.40
December	71	.42	67	.40
Total	\$283	\$1.68	\$276	\$1.60



PPG Industries

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