Our purpose.
Our potential.

Annual report 2019

BD

BD associates have a passion and commitment to help improve outcomes by advancing clinical therapy for patients, optimizing clinical processes for healthcare providers and enhancing safety for patients and healthcare workers.

More than
65,000
associates

Serving
190+
countries

Vincent A. Forlenza
Chairman and
Chief Executive Officer

Thomas E. Polen
President and Chief
Operating Officer

To our shareholders, customers and associates

"Potential" might not be a word you often associate with companies that have been in business for nearly 125 years. But we can only attain our purpose of *advancing the world of health™* if we continue to push ourselves forward, evolving and adapting in a rapidly changing healthcare industry in order to stay in the best possible position to solve healthcare's biggest problems.

In recent years, we've assembled a leading portfolio of solutions to better serve the entire healthcare continuum—from discovery to diagnosis, to the process of care, to the treatment of disease. Our evolution has been driven by the successful integration of two transformative acquisitions—but integrating CareFusion and C. R. Bard to simply get bigger is not what we set out to do. To truly achieve our purpose and fulfill our potential, we are leveraging our broad new capabilities to accelerate innovation, seeking new and better solutions that address our customers' unmet needs, improve patient outcomes, reduce the cost of care and expand access. Our performance in FY19 provides a solid foundation for our next phase of growth, putting us in an even better position to solve current and future healthcare challenges. We believe our potential to make an even bigger global impact is unlimited.

FY19 results

For FY19, we had solid revenue growth, expanded margins and delivered double-digit adjusted earnings per share growth before the impact of currency. Growth was broad-based across businesses and regions, reflecting the breadth and diversity of our portfolio. We achieved all of this while overcoming significant headwinds and the impact of divestitures, while continuing to make strategic business investments to drive sustainable growth. We are pleased to have continued our long-standing record—47 consecutive years—of dividend increases.

We continue to deliver on our Bard deal commitments and are pleased with our progress as we head into the third year of the deal period. Our core has grown stronger and we are delivering more impactful solutions to our customers as we also realize revenue synergies. The integration of the two companies and cost synergy capture are also on track, helping to generate strong underlying margin expansion and earnings growth. In addition, we are well on our way to quickly reducing our gross debt leverage to below 3X over the 3-year Bard deal period.

Innovating on purpose

What do we mean by "innovating on purpose"? It means that our purpose—*advancing the world of health™*—and innovating to solve major health problems are mutually reinforcing goals. When we innovate to increase access to quality healthcare, it benefits people and societies throughout the world *and* drives our business performance.

Our investments in research and development led to 25 major product launches in FY19, including:

- Venovo™ Venous Stent, the first stent indicated to treat iliofemoral venous occlusive disease;
- Purewick™ Female External Catheter, a simple, non-invasive option for managing female urinary incontinence;
- WavelinQ™ 4F Arteriovenous Fistula Creation Device, which offers an alternative to open surgery for patients being treated for end-stage renal disease;
- BD HealthSight™ Data Manager 1.1, which was introduced as part of a suite of technologies and services that are helping make medication management safer, simpler and smarter;
- BD Cor™ System, a high-throughput solution for infectious disease diagnostics, which launched in Europe and sets a new standard in automation for molecular testing in core laboratories and other large centralized laboratories; and,
- BD FACSDuet™, an automated sample processing system for flow cytometry that enables clinical laboratories to improve their efficiency by reducing errors and limiting manual user interactions.

In FY20, we'll continue to invest and develop a robust pipeline of new products, each with the potential to make an impact on the delivery of healthcare. That includes a new generation of active safety peripheral IV catheters, new applications for our BD HealthSight™ Platform, and the BD FACSymphony™ S6 High Parameter Cell Sorter. We're looking forward to introducing a new generation of our Arctic Sun™ Targeted Temperature Management Solution that leverages our informatics capabilities, as well as the Caterpillar™ Embolization Device and the Elevation™ Breast Biopsy Device.

Our work to fulfill our purpose goes well beyond our innovation and new product development. We also collaborate for positive global impact, working to address societal challenges that are relevant to our business, such as climate change and antimicrobial resistance. We remain focused on supporting healthy communities, strengthening health systems throughout the world, and advancing environmental stewardship and sustainability. We are making progress to minimize our environmental impact and maintain resilient global operations, reducing our greenhouse gas emissions by 75%, water consumption by 47% and waste generation by 33% compared to our 2008 baseline. This, combined with a purpose-driven culture that supports an inclusive and diverse workplace and community engagement, is why BD was named to *Corporate Responsibility Magazine*'s 100 Best Corporate Citizens list for the fourth consecutive year.

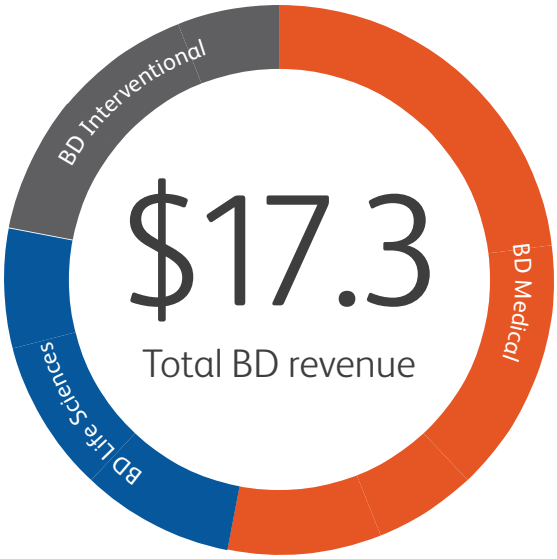
This year, we were also recognized by *Fortune* magazine on its annual list of companies who "Change the World." We earned this honor for our work helping to combat the threat of antimicrobial resistance through programs that raise awareness and mobilize and activate the healthcare industry—as well as leaders and communities around the world—to take action to extend the useful life of medications. This is the third time BD has made this prestigious list since its inception—something only 17 companies can claim.

Leadership appointments

We had several key appointments to our Executive Leadership team in FY19, strengthening our talent and capabilities in a number of areas that will be important in our next phase of growth and impact. Alex Conroy, who most recently led our BD Medical–Medication Delivery Solutions business, was named executive vice president and chief integrated supply chain officer. In three decades with BD, Alex has gained a unique perspective for the cross-company partnerships that are required to effectively serve customers and patients, making him an ideal leader for our global Operations and Supply Chain teams. We also welcomed Jerry Flasz as executive vice president, Global Services, and chief information officer. He brings more than 25 years of IT and business consulting experience to BD across multiple industries, with a successful track record of driving meaningful change and leveraging information technology to deliver business value. We were also proud to promote Ami Simunovich, who joined BD through the Bard acquisition, to the role of senior vice president and chief regulatory officer.

In September, we announced that I will be retiring as CEO on January 28, 2020, while continuing to serve as chairman of the board of directors. As we begin the final year of the BD-Bard integration, we're looking ahead at our next phase of value creation, including how we leverage the capabilities we've built to better serve customers. This will be a multi-year journey, and that's why the time is right to appoint my successor to lead BD in this next era of growth and impact. I'm pleased that the board, after a thoughtful and deliberate succession planning process, unanimously elected Tom Polen, current president and COO, to serve as our next CEO and president. Tom's vision, energy and drive—and his genuine passion for our purpose and strong customer focus—make him the right leader to continue to deliver on our strategic and cultural evolution. Over the past several years, Tom and I have built a very strong partnership, which I look forward to maintaining as we move into our new roles.

Revenue by segment



BD Medical	**$9.1**
Medication Delivery Solutions	$3.9
Medication Management Solutions	$2.6
Diabetes Care	$1.1
Pharmaceutical Systems	$1.5
BD Life Sciences	**$4.3**
Diagnostic Systems	$1.5
Preanalytical Systems	$1.6
Biosciences	$1.2
BD Interventional	**$3.9**
Peripheral Intervention	$1.4
Surgery	$1.4
Urology and Critical Care	$1.1

Values in this exhibit reflect rounded numbers in billions of dollars.

The potential to change the world

We often say BD is a place where you can fulfill your life's work through your work life, and that has been my experience—every day—for the past four decades. You only stay in one company that long if you have a passion for the people you work with and a shared sense of purpose. I am proud of the way our global team has come together to serve our customers and improve the lives of patients through constant innovation.

We will carry our FY19 momentum forward, motivated by the knowledge that there will always be patients and clinicians around the world who are counting on BD to help advance their care. As we continue to fulfill our purpose and our potential, I expect BD to lead the effort to find the most innovative solutions to the world's most pressing healthcare challenges.

Thank you for your continued investment in our company,

Vincent A. Forlenza
Chairman and Chief Executive Officer

A note from our incoming CEO

I've had the privilege to work alongside—and learn from—Vince for more than 15 years. He is an authentic, humble and purpose-driven leader, committed to doing what is right for customers, associates, shareholders and our communities. He led BD during the most transformative period in our history, making a lasting impact on our team, our company and the entire industry.

It is an honor to follow Vince as our next CEO and to lead this great company into our next phase of growth and impact. No industry is changing as rapidly as healthcare—from how and where care is delivered to the expansion of global access and the impact of new technologies. Thanks to Vince's leadership as CEO during the past 8 years, BD is incredibly well positioned to not just navigate these changes, but to lead the way in redefining the future of healthcare.

We have a strong portfolio of market-leading solutions and unmatched capabilities—from informatics and automation to world-class scaled manufacturing—with a broad global presence and trusted partnerships with key stakeholders. We support healthcare wherever it occurs—in the hospital, retail, pharmacy or home—with a strong and talented team of more than 65,000 associates around the world.

We have an exciting opportunity to unleash the potential of the new BD to further accelerate our impact. I am confident we have the right strategy to innovate and drive growth, to simplify how we operate and improve both the customer and associate experience, and to empower our associates around the world to continue our track record of success.

I'm looking forward to the journey ahead.

Thomas E. Polen
President and Chief Operating Officer

Corporate Officers

Vincent A. Forlenza
Chairman and Chief Executive Officer

Thomas E. Polen
President and Chief Operating Officer

Pierre A. Boisier
Executive Vice President and Chief Quality Officer

Simon D. Campion
Executive Vice President and President, Interventional Segment

Gary M. Cohen
Executive Vice President, Global Health and President, BD Foundation

Alexandre Conroy
Executive Vice President and Chief Integrated Supply Chain Officer

Gary M. DeFazio
Senior Vice President, Corporate Secretary and Associate General Counsel

John A. DeFord
Executive Vice President, Chief Technology Officer, Research and Development

Jerry Flasz
Executive Vice President, Global Services and Chief Information Officer

John E. Gallagher
Senior Vice President, Treasurer and Chief Financial Officer, Medical Segment

Roland Goette
Executive Vice President and President, EMEA

Patrick K. Kaltenbach
Executive Vice President and President, Life Sciences Segment

Samrat S. Khichi
Executive Vice President, General Counsel, Public Policy and Regulatory Affairs

Betty D. Larson
Executive Vice President and Chief Human Resources Officer

James Lim
Executive Vice President and President, Greater Asia

Alberto Mas
Executive Vice President and President, Medical Segment

Michelle Quinn
Senior Vice President and Chief Ethics and Compliance Officer

Christopher R. Reidy
Executive Vice President, Chief Financial Officer and Chief Administrative Officer

Antoinette F. Segreto
Senior Vice President, Taxes

William R. Sigmund
Executive Vice President and Chief Medical Officer

Ami E. Simunovich
Senior Vice President and Chief Regulatory Officer

Thomas J. Spoerel
Vice President, Controller and Chief Accounting Officer

Linda M. Tharby
Executive Vice President, Customer Experience

Board of Directors

Catherine M. Burzik [3,5,6]
Former President and Chief Executive Officer —Kinetic Concepts, Inc.

R. Andrew Eckert [1,6]
Former President and Chief Executive Officer—Acelity L.P. Inc.

Vincent A. Forlenza [4]
Chairman and Chief Executive Officer

Claire M. Fraser, PhD [3,5,6]
Director—Institute for Genome Sciences, University of Maryland School of Medicine

Jeffrey W. Henderson [1,2]
Advisory Director—Berkshire Partners LLC

Christopher Jones [2–5]
Retired Chief Executive Officer—JWT Worldwide

Marshall O. Larsen [2–5]
Retired Chairman, President and Chief Executive Officer—Goodrich Corporation

David F. Melcher [1,2]
Retired President and Chief Executive Officer —Aerospace Industries Association

Claire Pomeroy, MD [3,5,6]
President—The Albert and Mary Lasker Foundation

Rebecca W. Rimel [1,6]
President and Chief Executive Officer—The Pew Charitable Trusts

Timothy M. Ring [5,6]
Former Chairman and Chief Executive Officer —C. R. Bard, Inc.

Bertram L. Scott [1,2,4]
Retired Senior Vice President of Population Health—Novant Health

Committees appointed by the Board of Directors

1 Audit Committee
2 Compensation and Management Development Committee
3 Corporate Governance and Nominating Committee
4 Executive Committee
5 Quality and Regulatory Committee
6 Science, Marketing, Innovation and Technology Committee

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form 10-K

(Mark One)

☑ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the fiscal year ended September 30, 2019

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the transition period from _____ to _____

COMMISSION FILE NUMBER 001-4802

BECTON, DICKINSON AND COMPANY

(Exact name of registrant as specified in its charter)

New Jersey	**22-0760120**
(State or other jurisdiction of incorporation or organization)	*(I.R.S. Employer Identification No.)*
1 Becton Drive, Franklin Lakes, New Jersey	**07417-1880**
(Address of principal executive offices)	*(Zip code)*

Registrant's telephone number, including area code **(201) 847-6800**

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

Title of Each Class	Trading Symbol	Name of Each Exchange on Which Registered
Common stock, par value $1.00	BDX	New York Stock Exchange
Depositary Shares, each representing 1/20th of a share of 6.125% Cumulative Preferred Stock Series A	BDXA	New York Stock Exchange
1.000% Notes due December 15, 2022	BDX22A	New York Stock Exchange
1.900% Notes due December 15, 2026	BDX26	New York Stock Exchange
1.401% Notes due May 24, 2023	BDX23A	New York Stock Exchange
3.020% Notes due May 24, 2025	BDX25	New York Stock Exchange
0.174% Notes due June 4, 2021	BDX/21	New York Stock Exchange
0.632% Notes due June 4, 2023	BDX/23A	New York Stock Exchange
1.208% Notes due June 4, 2026	BDX/26A	New York Stock Exchange

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

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

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

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

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☑ No ☐

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

Large accelerated filer	☑	Accelerated filer	☐	Non-accelerated filer	☐
Smaller reporting company	☐	Emerging growth company	☐		

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

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

As of March 31, 2019, the aggregate market value of the registrant's outstanding common stock held by non-affiliates of the registrant was approximately $67,278,853,280.

As of October 31, 2019, 270,459,892 shares of the registrant's common stock were outstanding.

Documents Incorporated by Reference Portions of the registrant's Proxy Statement for the Annual Meeting of Shareholders to be held January 28, 2020 are incorporated by reference into Part III hereof.

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PART I

Item 1. *Business.*

General

Becton, Dickinson and Company (also referred to herein as “BD”) was incorporated under the laws of the State of New Jersey in November 1906, as successor to a New York business started in 1897. BD’s executive offices are located at 1 Becton Drive, Franklin Lakes, New Jersey 07417-1880, and its telephone number is (201) 847-6800. All references in this Form 10-K to "BD", "the Company", "we", "our" or "us" refer to Becton, Dickinson and Company and its domestic and foreign subsidiaries, unless otherwise indicated by the context.

BD is a global medical technology company engaged in the development, manufacture and sale of a broad range of medical supplies, devices, laboratory equipment and diagnostic products used by healthcare institutions, physicians, life science researchers, clinical laboratories, the pharmaceutical industry and the general public. We provide customer solutions that are focused on improving medication management and patient safety; supporting infection prevention practices; equipping surgical and interventional procedures; improving drug delivery; aiding anesthesiology care; enhancing the diagnosis of infectious diseases and cancers; advancing cellular research and applications; and supporting the management of diabetes.

Business Segments

BD’s operations consist of three worldwide business segments: BD Medical, BD Life Sciences and BD Interventional. As is further described below, BD completed its acquisition of C.R. Bard, Inc. ("Bard") on December 29, 2017, and BD Interventional includes the majority of Bard’s product offerings, along with certain product offerings formerly within BD Medical. Additionally, certain of Bard's product offerings are included within BD Medical as part of the Medication Delivery Solutions unit (formerly Medication and Procedural Solutions). Information with respect to BD’s business segments and the Bard acquisition is included in Note 7 and Note 10, respectively, to the consolidated financial statements contained in Item 8. Financial Statements and Supplementary Data, and is incorporated herein by reference.

BD Medical

BD Medical produces a broad array of medical technologies and devices that are used to help improve healthcare delivery in a wide range of settings. The primary customers served by BD Medical are hospitals and clinics; physicians' office practices; consumers and retail pharmacies; governmental and nonprofit public health agencies; pharmaceutical companies; and healthcare workers. BD Medical consists of the following organizational units:

Organizational Unit	*Principal Product Lines*
Medication Delivery Solutions	Peripheral intravenous ("IV") catheters (conventional, safety); advanced peripheral catheters (guidewire assisted peripherally inserted venous catheters, midline catheters, port access); central lines (peripherally inserted central catheters); acute dialysis catheters; vascular access technology (ultrasonic imaging); vascular care (lock solutions, prefilled flush syringes, disinfecting caps); vascular preparation (skin antiseptics, dressings, securement); needle-free IV connectors and extensions sets; closed-system drug transfer devices; hazardous drug detection; conventional and safety hypodermic syringes and needles, anesthesia needles (spinal, epidural) and trays; enteral syringes, sharps disposal systems.
Medication Management Solutions	IV medication safety and infusion therapy delivery systems, including infusion pumps, dedicated disposables, and IV fluids; medication compounding workflow systems; automated medication dispensing; automated supply management systems; medication inventory optimization and tracking systems; and informatics and analytics solutions for enterprise medication management.
Diabetes Care	Syringes, pen needles and other products related to the injection or infusion of insulin and other drugs used in the treatment of diabetes.
Pharmaceutical Systems	Prefillable drug delivery systems - prefillable syringes, safety, shielding and self-injection systems and support services - provided to pharmaceutical companies for use as containers for injectable pharmaceutical products, which are then placed on the market as drug/device combinations.

BD Life Sciences

BD Life Sciences provides products for the safe collection and transport of diagnostics specimens, and instruments and reagent systems to detect a broad range of infectious diseases, healthcare-associated infections ("HAIs") and cancers. In addition, BD Life Sciences produces research and clinical tools that facilitate the study of cells, and the components of cells, to gain a better understanding of normal and disease processes. That information is used to aid the discovery and development of new drugs and vaccines, and to improve the diagnosis and management of diseases. The primary customers served by BD Life Sciences are hospitals, laboratories and clinics; blood banks; healthcare workers; public health agencies; physicians' office practices; retail pharmacies; academic and government institutions; and pharmaceutical and biotechnology companies. BD Life Sciences consists of the following organizational units:

Organizational Unit	*Principal Product Lines*
Preanalytical Systems	Integrated systems for specimen collection; and safety-engineered blood collection products and systems.
Diagnostic Systems	Automated blood culturing and tuberculosis culturing systems; molecular testing systems for infectious diseases and women's health; microorganism identification and drug susceptibility systems; liquid-based cytology systems for cervical cancer screening; rapid diagnostic assays for testing of respiratory infections; microbiology laboratory automation; and plated media for clinical and industrial applications.
Biosciences	Fluorescence-activated cell sorters and analyzers; antibodies and kits for performing cell analysis; reagent systems for life science research; solutions for high-throughput single-cell gene expression analysis; and clinical oncology, immunological (HIV) and transplantation diagnostic/monitoring reagents and analyzers.

Effective October 1, 2019, BD Life Sciences joined its Preanalytical Systems and Diagnostic Systems organizational units to create a new Integrated Diagnostic Solutions organizational unit which will focus on driving growth and innovation around integrated specimen management to diagnostic solutions. The new Integrated Diagnostic Solutions organizational unit will consist of the following principal product lines:

Organizational Unit	*Principal Product Lines*
Integrated Diagnostic Solutions	Integrated systems for specimen collection; safety-engineered blood collection products and systems; automated blood culturing and tuberculosis culturing systems; molecular testing systems for infectious diseases and women's health; microorganism identification and drug susceptibility systems; liquid-based cytology systems for cervical cancer screening; rapid diagnostic assays for testing of respiratory infections; microbiology laboratory automation; and plated media for clinical and industrial applications.

BD Interventional

BD Interventional provides vascular, urology, oncology and surgical specialty products that are intended, with the exception of the V. Muller™ surgical and laparoscopic instrumentation products, to be used once and then discarded or are either temporarily or permanently implanted. The primary customers served by BD Interventional are hospitals, individual healthcare professionals, extended care facilities, alternate site facilities, and patients via our Homecare business. BD Interventional consists of the following organizational units:

Organizational Unit	*Principal Product Lines*
Surgery	Hernia and soft tissue repair, biological grafts, bioresorbable grafts, biosurgery, and other surgical products; BD ChloraPrep™ surgical infection prevention products, and V. Mueller™ surgical and laparoscopic instrumentation products.
Peripheral Intervention	Percutaneous transluminal angioplasty ("PTA") balloon catheters, peripheral vascular stents, self-expanding and balloon-expandable stent grafts, vascular grafts, drug coated balloons, ports, biopsy, chronic dialysis, feeding, IVC filters, endovascular fistula creation devices and drainage products.
Urology and Critical Care	Urine management devices, urological drainage products, intermittent catheters, kidney stone management devices, Targeted Temperature Management, and fecal management devices.

Acquisitions

TVA Medical, Inc.

In July 2018, BD acquired TVA Medical, Inc., a company that develops minimally invasive vascular access solutions for patients with chronic kidney disease requiring hemodialysis.

C. R. Bard, Inc.

On December 29, 2017, BD completed the acquisition of Bard, a global medical technology company in the fields of vascular, urology, oncology and surgical specialty products. Under the terms of the transaction, Bard common shareholders received approximately $222.93 in cash and 0.5077 shares of BD stock per Bard share. BD financed the cash portion of the total consideration transferred with available cash, which included net proceeds raised in the third quarter of fiscal year 2017 through registered public offerings of securities and debt transactions. Additional information regarding the Bard acquisition is contained in Note 10 to the consolidated financial statements contained in Item 8. Financial Statements and Supplementary Data, which is incorporated herein by reference.

CareFusion Corporation

On March 17, 2015, BD completed the acquisition of CareFusion Corporation ("CareFusion"), a global medical technology company with a comprehensive portfolio of products in the areas of medication management, infection prevention, operating room and procedural effectiveness, and respiratory care.

Remaining interest in Caesarea Medical Electronics

Upon its acquisition of CareFusion, BD acquired a 40% ownership interest in Caesarea Medical Electronics ("CME"), an Israeli-based global infusion pump systems manufacturer. On April 3, 2017, BD acquired the remaining 60% ownership interest in CME.

Additional information regarding the Bard acquisition is contained in Note 10 to the consolidated financial statements contained in Item 8. Financial Statements and Supplementary Data, which is incorporated herein by reference.

Divestitures

Advanced Bioprocessing

In October 2018, BD completed the sale of its Advanced Bioprocessing business pursuant to a definitive agreement that was signed in September 2018.

Respiratory Solutions and Vyaire Medical

On October 3, 2016, BD sold a 50.1% controlling financial interest in its Respiratory Solutions business, a component of the Medical segment, to form a venture, Vyaire Medical. BD retained a 49.9% non-controlling interest in the new standalone entity. BD agreed to various contract manufacturing and certain logistical and transition services agreements with the new entity for a period of up to two years after the sale. In April 2018, BD completed the sale of its remaining interest in Vyaire Medical. BD received gross cash proceeds of approximately $435 million and recognized a pre-tax gain on the sale of approximately $303 million.

Additional information regarding these divestitures is contained in Note 11 to the consolidated financial statements contained in Item 8. Financial Statements and Supplementary Data, which is incorporated herein by reference.

International Operations

BD's products are manufactured and sold worldwide. For reporting purposes, we organize our operations outside the United States as follows: Europe, EMA (which includes the Commonwealth of Independent States, the Middle East and Africa); Greater Asia (which includes countries in East Asia, South Asia, Southeast Asia and the Oceania region); Latin America (which includes Mexico, Central America, the Caribbean and South America); and Canada. The principal products sold by BD outside the United States are hypodermic needles and syringes; insulin syringes and pen needles; BD Hypak™ brand prefillable syringe systems; infusion therapy products, including Alaris™ infusion pumps; pharmacy automation equipment, including Pyxis™ systems; devices and services for the treatment of peripheral arterial and venous disease, cancer detection, and end-stage renal disease and maintenance; synthetic and resorbable mesh, biologic implants and fixation systems to complement innovative techniques for inguinal, ventral and other hernia repair procedures; medical devices for urine drainage in the acute care hospital and home care settings; BD Vacutainer™ brand blood collection products; diagnostic systems and laboratory equipment and products; and flow cytometry instruments and reagents. BD has manufacturing operations outside the United States in Bosnia and Herzegovina, Brazil, Canada, China, Dominican Republic, France, Germany, Hungary, India, Ireland, Israel, Italy, Japan, Malaysia, Mexico, the Netherlands, Singapore, Spain, and the United Kingdom. Geographic information with respect to BD's operations is included under the heading "Geographic Information" in Note 7 to the consolidated financial statements included in Item 8. Financial Statements and Supplementary Data.

Foreign economic conditions and exchange rate fluctuations have caused the profitability related to foreign revenues to fluctuate more than the profitability related to domestic revenues. BD believes its activities in some countries outside the United States involve greater risk than its domestic business due to the factors cited herein, as well as the economic environment, local commercial and economic policies and political uncertainties. See further discussion of these risks in Item 1A. Risk Factors.

Distribution

BD's products are marketed and distributed in the United States and internationally through independent distribution channels, and directly to hospitals and other healthcare institutions by BD and independent sales representatives. BD uses acute care, non-acute care, laboratory and drug wholesaler distributors to broadly support our overall disposable product demand from our end user customers in the United States. In international markets, products are distributed either directly or through distributors, with the practice varying by country. Order backlog is not material to BD's business inasmuch as orders for BD products generally are received and filled on a current basis, except for items temporarily out of stock. BD's worldwide sales are not generally seasonal, with the exception of certain medical devices in the Medication Delivery Solutions business unit, and flu diagnostic products in the Diagnostic Systems business unit, which relate to seasonal diseases such as influenza. In order to service its customers, optimize logistics, lower facilities costs and reduce finished goods inventory levels, BD operates consolidated distribution facilities in both the United States and Europe. Orders are normally shipped within a matter of days after receipt.

Raw Materials and Components

BD purchases many different types of raw materials and components, including plastics, glass, metals, textiles, paper products, agricultural products, electronic and mechanical sub-assemblies and various biological, chemical and petrochemical products. BD seeks to ensure continuity of supply by securing multiple options for sourcing. However, there are situations where raw materials and components are only available from one supplier, which are referred to as sole sourced. The use of sole sourced materials and components may be due to sourcing of proprietary and/or patented technology and processes that are intended to provide a unique market differentiation to our product. In other cases, while a raw material or component can be sourced from multiple manufacturers, only one supplier is qualified due to quality assurance, cost or other considerations. In order to provide alternate sources, BD must complete a rigorous qualification process, which most often includes completion of regulatory registration and approval. If clinical trials are not required, this qualification process can take 3-18 months depending on the criticality of the change. When clinical trials are required, this process may lengthen the qualification phase from one to three years. BD continuously assesses its sole sourced raw materials and components, and maintains business continuity plans with its suppliers. BD's continuity plans may include securing secondary supply with alternate suppliers, qualification of alternate manufacturing facilities, maintaining contingency stock, internal development of supply and establishment of technology escrow accounts. While BD works closely with its suppliers, no assurance can be given that these efforts will be successful, and there may be events that cause supply interruption, reduction or termination that adversely impacts BD's ability to manufacture and sell certain products.

Research and Development

BD conducts its research and development ("R&D") activities at its operating units and at BD Technologies in Research Triangle Park, North Carolina. The majority of BD's R&D activities are conducted in North America. Outside North America, BD primarily conducts R&D activities in China, France, India, Ireland and Singapore. BD also collaborates with certain universities, medical centers and other entities on R&D programs and retains individual consultants and partners to support its efforts in specialized fields.

Intellectual Property and Licenses

BD owns significant intellectual property, including patents, patent applications, technology, trade secrets, know-how, copyrights and trademarks in the United States and other countries. BD is also licensed under domestic and foreign patents, patent applications, technology, trade secrets, know-how, copyrights and trademarks owned by others. In the aggregate, these intellectual property assets and licenses are of material importance to BD's business. BD believes, however, that no single patent, technology, trademark, intellectual property asset or license is material in relation to BD's business as a whole, or to any business segment.

Competition

BD operates in the increasingly complex and challenging medical technology marketplace. Technological advances and scientific discoveries have accelerated the pace of change in medical technology, the regulatory environment of medical products is becoming more complex and vigorous, and economic conditions have resulted in a challenging market. Companies of varying sizes compete in the global medical technology field. Some are more specialized than BD with respect to particular markets, and some have greater financial resources than BD. New companies have entered the field, particularly in the areas of molecular diagnostics, safety-engineered devices and in the life sciences, and established companies have diversified their business activities into the medical technology area. Other firms engaged in the distribution of medical technology products have become manufacturers of medical devices and instruments as well. Acquisitions and collaborations by and among companies seeking a competitive advantage also affect the competitive environment. In addition, the entry into the market of low-cost manufacturers has created increased pricing pressures. BD competes in this evolving marketplace on the basis of many factors, including price, quality, innovation, service, reputation, distribution and promotion. The impact of these factors on BD's competitive position varies among BD's various product offerings. In order to remain competitive in the industries in which it operates, BD continues to make investments in research and development, quality management, quality improvement, product innovation and productivity improvement in support of its core strategies. See further discussion of the risks relating to competition in the medical technology industry in Item 1A. Risk Factors.

Third-Party Reimbursement

Reimbursement remains an important strategic consideration in the development and marketing of medical technology. Difficulty in obtaining coverage, coding and payment resulting in decreased market access can be a significant barrier to the commercial success of a new product or procedure. The consequences can include slow adoption in the marketplace and inadequate payment levels that can continue for months or even years.

A majority of BD's customers rely on third-party payers, including government programs and private health insurance plans, to reimburse some or all of the cost of the procedures, products and services they provide. Vertical integration has created a very concentrated market among payers. Global payers are increasingly focused on strategies to control spending on healthcare and reward improvements in quality and patient outcomes.

BD is actively engaged in identifying and communicating value propositions of its products for payer, provider, and patient stakeholders, and it employs various efforts and resources to attempt to positively impact coverage, coding and payment pathways. However, BD has no direct control over payer decision-making with respect to coverage and payment levels for BD products. The manner and level of reimbursement in any given case may depend on the site of care, the procedure(s) performed, the final patient diagnosis, the device(s) and/or drug(s) utilized, the available budget, or a combination of these factors, and coverage and payment levels are determined at each payer's discretion. As BD's product offerings are diverse across a variety of healthcare settings, they are affected to varying degrees by the many payment pathways that impact the decisions of healthcare providers regarding which medical products they purchase and the prices they are willing to pay for those products. Therefore, changes in reimbursement levels or methods may either positively or negatively impact sales of BD products in any given country for any given product.

As government programs seek to expand healthcare coverage for their citizens, they have at the same time sought to control costs by limiting the amount of reimbursement they will pay for particular procedures, products or services. Many payers have developed specific payment and delivery mechanisms to support these cost control efforts and to focus on paying for value. These mechanisms include payment reductions, pay for performance measures, quality-based performance payments, restrictive coverage policies, bidding and tender mechanics, studies to compare the effectiveness of therapies and use of technology assessments. These changes, whether the result of legislation, new strategic alliances or market consolidations, have created an increased emphasis on the delivery of more cost-effective and quality-driven healthcare.

For example, as a result of the Patient Protection and Affordable Care Act ("PPACA"), the U.S. is implementing value-based payment methodologies and seeking to create alternative payment models such as bundled payments to continue to drive improved value. We see other governments around the world considering similar bundling reform measures, with the utilization of the Diagnosis Related Group ("DRG") as a payment mechanism to drive toward quality and resource based reimbursement becoming more common in regions outside the US.

In addition, most payers are seeking price predictability in order to mitigate future exposure to manufacturer price increases. This is coupled with an increase in high deductible private insurance plans, which transfer more pricing exposure and burden directly to the patient.

Regulation

General

BD's operations are global and are affected by complex state, federal and international laws relating to healthcare, environmental protection, antitrust, anti-corruption, marketing, fraud and abuse (including anti-kickback and false claims laws), export control, employment, privacy and other areas.

BD's medical technology products and operations are subject to regulation by the U.S. Food and Drug Administration ("FDA") and various other federal and state agencies, as well as by foreign governmental agencies. These agencies enforce laws and regulations that govern the development, testing, manufacturing, labeling, advertising, marketing and distribution, and market surveillance of BD's medical products. The scope of the activities of these agencies, particularly in the Europe, Japan, and Asia Pacific regions in which BD operates, has been increasing.

BD actively maintains FDA/ISO Quality Systems that establish standards for its product design, manufacturing, and distribution processes. Prior to marketing or selling most of its products, BD must secure approval from the FDA and counterpart non-U.S. regulatory agencies. Following the introduction of a product, these agencies engage in periodic reviews and inspections of BD's quality systems, as well as product performance and advertising and promotional materials. These regulatory controls, as well as any changes in FDA policies, can affect the time and cost associated with the development, introduction and continued availability of new products. Where possible, BD anticipates these factors in its product development and planning processes. These agencies possess the authority to take various administrative and legal actions against BD, such as product recalls, product seizures and other civil and criminal sanctions. BD also undertakes voluntary compliance actions, such as voluntary recalls.

BD also is subject to various federal and state laws, and laws outside the United States, concerning healthcare fraud and abuse (including false claims laws and anti-kickback laws), global anti-corruption, transportation, safety and health, and customs and exports. Many of the agencies enforcing these laws have increased their enforcement activities with respect to medical device manufacturers in recent years. This appears to be part of a general trend toward increased regulation and enforcement activity within and outside the United States.

In addition, as part of PPACA, the federal government has enacted the Sunshine Act provisions requiring BD to publicly report gifts and payments made to physicians and teaching hospitals. Failure to comply with these provisions could result in a range of fines, penalties and/or other sanctions.

Consent Decree with FDA

Our infusion pump organizational unit is operating under an amended consent decree entered into by CareFusion with the FDA in 2007. CareFusion's consent decree with the FDA related to its Alaris™ SE infusion pumps. In February 2009, CareFusion and the FDA amended the consent decree to include all infusion pumps manufactured by or for CareFusion 303, Inc., the organizational unit that manufactures and sells infusion pumps in the United States. The amended consent decree does not apply to intravenous administration sets and accessories.

While this BD organizational unit remains subject to the amended consent decree, which includes the requirements of the original consent decree, it has made substantial progress in its compliance efforts. However, we cannot predict the outcome of this matter, and the amended consent decree authorizes the FDA, in the event of any violations in the future, to order us to cease manufacturing and distributing infusion pumps, recall products and take other actions. We may be required to pay damages of $15,000 per day per violation if we fail to comply with any provision of the amended consent decree, up to $15 million per year.

We also cannot currently predict whether additional monetary investment will be incurred to resolve this matter or the matter's ultimate impact on our business. We may be obligated to pay more costs in the future because, among other things, the FDA may determine that we are not fully compliant with the amended consent decree and therefore impose penalties under the amended consent decree, and/or we may be subject to future proceedings and litigation relating to the matters addressed in the amended consent decree. As of September 30, 2019, we do not believe that a loss is probable in connection with the amended consent decree, and accordingly, we have no accruals associated with compliance with the amended consent decree.

FDA Warning Letter

In May 2017, the FDA conducted inspections at BD's Preanalytical Systems ("PAS") facility in Franklin Lakes, New Jersey. In July 2017, the FDA issued a Form 483 to BD PAS in connection with these inspections that contained observations of non-conformance relating to quality system regulations and medical device reporting relating to certain of our BD Vacutainer™ EDTA blood collection tubes. On January 11, 2018, BD received a Warning Letter from the FDA, citing certain alleged violations of quality system regulations and of law. The Warning Letter states that, until BD resolves the outstanding issues covered by the Warning Letter, the FDA will not clear or approve any premarket submissions for Class III devices to which the non-conformances are reasonably related or grant requests for certificates to foreign governments. We submitted our response to the Warning Letter on January 31, 2018.

BD is working closely with the FDA and intends to fully implement corrective actions to address the concerns identified in the Warning Letter. However, BD cannot give any assurances that the FDA will be satisfied with its responses to the Warning Letter or as to the expected date of resolution of matters included in the Warning Letter. While BD does not believe that the issues identified in the Warning Letter will have a material impact on BD's operation, no assurances can be given that the resolution of this matter will not have a material adverse effect on BD's business, results of operations, financial conditions and/or liquidity.

Consent order - Covington, Georgia

On October 28, 2019, BD entered into a consent order with the Environmental Protection Division of the Georgia Department of Natural Resources (the "EPD"), following the filing of a complaint and motion for temporary restraining order by the EPD seeking to enjoin BD from continuing sterilization operations at its Covington, Georgia facility. Under the terms of the consent order, BD voluntarily agreed to a number of operational changes at its Covington and Madison, Georgia facilities designed to further reduce ethylene oxide emissions, including but not limited to operating at a reduced capacity. BD does not believe that the consent order will have a material impact on its operations. Violation of the consent order, though, could subject us to additional restrictions on the sterilization operations at our Covington and Madison facilities. BD has business continuity plans in place to mitigate the impact of any additional restrictions on our operations at these facilities, although it is possible that these plans will not be able to fully offset such impact.

For further discussion of risks relating to the regulations to which we are subject, see Item 1A. Risk Factors.

Employees

As of September 30, 2019, BD had 70,093 employees, of which 24,191 were employed in the U.S. (including Puerto Rico). BD believes that its employee relations are satisfactory.

Available Information

BD maintains a website at www.bd.com. BD also makes available its Annual Reports on Form 10-K, its Quarterly Reports on Form 10-Q, and its Current Reports on Form 8-K (and amendments to those reports) as soon as reasonably practicable after those reports are electronically filed with, or furnished to, the Securities and Exchange Commission ("SEC"). These filings may be obtained and printed free of charge at www.bd.com/investors. In addition, the written charters of the Audit Committee; the Compensation and Management Development Committee; the Corporate Governance and Nominating Committee; the Executive Committee; the Quality and Regulatory Committee; and the Science, Marketing, Innovation and Technology Committee of the Board of Directors, BD's Corporate Governance Principles and its Code of Conduct, are available and may be printed free of charge at BD's website at www.bd.com/investors/corporate_governance/. Printed copies of these materials, this 2019 Annual Report on Form 10-K, and BD's reports and statements filed with, or furnished to, the SEC, may also be obtained, without charge, by contacting the Corporate Secretary, BD, 1 Becton Drive, Franklin Lakes, New Jersey 07417-1880, telephone 201-847-6800. In addition, the SEC maintains an internet site that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC at www.sec.gov.

BD also routinely posts important information for investors on its website at www.bd.com/investors. BD may use this website as a means of disclosing material, non-public information and for complying with its disclosure obligations under Regulation FD adopted by the SEC. Accordingly, investors should monitor the Investor Relations portion of BD's website noted above, in addition to following BD's press releases, SEC filings, and public conference calls and webcasts. Our website and the information contained therein or connected thereto shall not be deemed to be incorporated into this Annual Report.

Forward-Looking Statements

BD and its representatives may from time-to-time make certain forward-looking statements in publicly-released materials, both written and oral, including statements contained in filings with the SEC and in its reports to shareholders. Additional information regarding BD's forward-looking statements is contained in Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

Item 1A. ***Risk Factors.***

An investment in BD involves a variety of risks and uncertainties. The following describes some of the significant risks that could adversely affect BD's business, financial condition, operating results or cash flows. We may also be adversely impacted by other risks not presently known to us or that we currently consider immaterial.

A downturn in economic conditions could adversely affect our operations.

Deterioration in the domestic or international economic environment, particularly in emerging markets and countries with government-sponsored healthcare systems, may cause decreased demand for our products and services and increased competition, which could result in lower sales volume and lower prices for our products, longer sales cycles, and slower adoption of new technologies. A weakening of macroeconomic conditions may also adversely affect our suppliers, which could result in interruptions in supply. We have previously experienced delays in collecting government receivables in certain countries in Western Europe due to economic conditions, and we may experience similar delays in the future in these and other countries or regions experiencing financial problems.

The medical technology industry is very competitive.

We are a global company that faces significant competition from a wide range of companies. These include large medical device companies with multiple product lines, some of which may have greater financial and marketing resources than we do, as well as firms that are more specialized than we are with respect to particular markets or product lines. Non-traditional entrants, such as technology companies, are also entering into the healthcare industry, some of which may have greater financial and marketing resources than we do. We face competition across all our product lines and in each market in which our products are sold on the basis of product features, clinical or economic outcomes, product quality, availability, price, services and other factors. Our ability to compete is also impacted by changing customer preferences and requirements, such as increased demand for more environmentally-friendly products and for products incorporating digital capabilities, as well as changes in the ways health care services are delivered (including the transition of more care from acute to non-acute settings and increased focus on chronic disease management). Cost containment efforts by governments and the private sector are also resulting in increased emphasis on products that reduce costs, improve clinical results and expand patient access. Our ability to remain competitive will depend on how well we meet these changing market demands in terms of our product offerings and marketing approaches.

The medical technology industry is also subject to rapid technological change and discovery and frequent product introductions. The development of new or improved products, processes or technologies by other companies (such as needle-free injection technology) that provide better features, pricing, clinical outcomes or economic value may render our products or proposed products obsolete or less competitive. In some instances, competitors, including pharmaceutical companies, also offer, or are attempting to develop, alternative therapies for disease states that may be delivered without a medical device. Lower cost producers have also created pricing pressure, particularly in developing markets.

The medical technology industry has also experienced a significant amount of consolidation, resulting in companies with greater scale and market presence than BD. Traditional distributors are also manufacturers of medical devices, providing another source of competition. In addition, health care systems and other providers are consolidating, resulting in greater purchasing power for these companies. As a result, competition among medical device suppliers to provide goods and services has increased. Group purchasing organizations and integrated health delivery networks have also served to concentrate purchasing decisions for some customers, which has led to downward pricing pressure for medical device suppliers. Further consolidation in the industry could intensify competition among medical device suppliers and exert additional pressure on the demand for and prices of our products.

We are subject to foreign currency exchange risk.

A substantial amount of our revenues are derived from international operations, and we anticipate that a significant portion of our sales will continue to come from outside the U.S. in the future. The revenues we report with respect to our operations outside the United States may be adversely affected by fluctuations in foreign currency exchange rates. A discussion of the financial impact of exchange rate fluctuations and the ways and extent to which we may attempt to address any impact is contained in Item 7. Management's Discussion of Financial Condition and Results of Operations. Any hedging activities we engage in may only offset a portion of the adverse financial impact resulting from unfavorable changes in foreign currency exchange rates. We cannot predict with any certainty changes in foreign currency exchange rates or the degree to which we can mitigate these risks.

Changes in reimbursement practices of third-party payers or other cost containment measures could affect the demand for our products and the prices at which they are sold.

Our sales depend, in part, on the extent to which healthcare providers and facilities are reimbursed by government authorities (including Medicare, Medicaid and comparable foreign programs) and private insurers for the costs of our products. The coverage policies and reimbursement levels of third-party payers, which can vary among public and private sources and by country, may affect which products customers purchase and the prices they are willing to pay for those products in a particular jurisdiction. Reimbursement rates can also affect the market acceptance rate of new technologies and products. Reforms to reimbursement systems in the United States or abroad, changes in coverage or reimbursement rates by private payers, or adverse decisions relating to our products by administrators of these systems could significantly reduce reimbursement for procedures using our products or result in denial of reimbursement for those products, which would adversely affect customer demand or the price customers are willing to pay for such products. See "Third-Party Reimbursement" under Item 1. Business.

Initiatives to limit the growth of healthcare costs in the U.S. and other countries where we do business may also put pressure on medical device pricing. In the U.S., these include, among others, value-based purchasing and managed care arrangements. Governments in China and other countries are also using various mechanisms to control healthcare expenditures, including increased use of competitive bidding and tenders, and price regulation.

The reinstatement of the PPACA's medical device tax may adversely affect our results of operations.

The PPACA imposes on medical device manufacturers, such as BD, a 2.3% excise tax on U.S. sales of certain medical devices. While the excise tax has been suspended until the end of 2019, absent further legislative action, it will be reinstated in 2020, which would adversely affect our results of operation.

Cost volatility could adversely affect our operations.

Our results of operations could be negatively impacted by volatility in the cost of raw materials, components, freight and energy that, in turn, increases the costs of producing and distributing our products. New laws or regulations adopted in response to climate change could also increase energy and transportation costs, as well as the costs of certain raw materials and components. In particular, we purchase supplies of resins, which are oil-based components used in the manufacture of certain products, and any significant increases in resin costs could adversely impact future operating results. Increases in oil prices can also increase our packaging and transportation costs. We may not be able to offset any increases in our operational costs.

Breaches of our information technology systems could have a material adverse effect on our operations.

We rely on information technology systems to process, transmit, and store electronic information in our day-to-day operations, including sensitive personal information and proprietary or confidential information. In addition, some of our products include information technology that collects data regarding patients and patient therapy on behalf of our customers and some connect to our systems for maintenance purposes. Our information technology systems have been subjected to attack via malicious code execution, and cyber- or phishing- attacks, and we have experienced instances of unauthorized access to our systems in the past and expect to be subject to similar attacks in the future. In addition to our own information, in the course of doing business, we sometimes store information with third parties that could be subject to these types of attacks.

Cyber-attacks could result in our intellectual property and other confidential information being accessed or stolen, which could adversely affect our competitive position in the market. Likewise, we could suffer disruption of our operations and other significant negative consequences, including increased costs for security measures or remediation, diversion of management attention, litigation and damage to our relationships with vendors, business partners and customers. Unauthorized tampering, adulteration or interference with our products may also create issues with product functionality that could result in a loss of data, risk to patient safety, and product recalls or field actions. Cyber-attacks could result in unauthorized access to our systems and products which could also impact our compliance with privacy and other laws and regulations, and result in actions by regulatory bodies or civil litigation. While we will continue to dedicate significant resources to protect against unauthorized access to our systems and products, and work with government authorities and third party providers to detect and reduce the risk of future cyber incidents, cyber-attacks are becoming more sophisticated, frequent and adaptive. There can be no assurances that these protective measures will prevent future attacks that could have a material adverse impact on our business.

Our future growth is dependent in part upon the development of new products, and there can be no assurance that such products will be developed.

A significant element of our strategy is to increase revenue growth by focusing on innovation and new product development. New product development requires significant investment in research and development, clinical trials and regulatory approvals. The results of our product development efforts may be affected by a number of factors, including our ability to anticipate customer needs, innovate and develop new products and technologies, successfully complete clinical trials, obtain regulatory approvals and reimbursement in the United States and abroad, manufacture products in a cost-effective manner, obtain appropriate intellectual property protection for our products, and gain and maintain market acceptance of our products. In addition, patents attained by others can preclude or delay our commercialization of a product. There can be no assurance that any products now in development or that we may seek to develop in the future will achieve technological feasibility, obtain regulatory approval or gain market acceptance.

We cannot guarantee that any of our strategic acquisitions, investments or alliances will be successful.

We may seek to supplement our internal growth through strategic acquisitions, investments and alliances. Such transactions are inherently risky, and the integration of any newly-acquired business requires significant effort and management attention. The success of any acquisition, investment or alliance may be affected by a number of factors, including our ability to properly assess and value the potential business opportunity or to successfully integrate any business we may acquire into our existing business. There can be no assurance that any past or future transaction will be successful.

Our international operations subject us to certain business risks.

A substantial amount of our sales come from our operations outside the United States, and we intend to continue to pursue growth opportunities in foreign markets, especially in emerging markets. Our foreign operations subject us to certain risks relating to, among other things, fluctuations in foreign currency exchange (discussed above), local economic and political conditions, competition from local companies, increases in trade

protectionism, U.S. relations with the governments of the foreign countries in which we operate, foreign regulatory requirements or changes in such requirements, changes in local health care payment systems and health care delivery systems, local product preferences and requirements, longer payment terms for account receivables than we experience in the U.S., difficulty in establishing, staffing and managing foreign operations, changes to international trade agreements and treaties, changes in tax laws, weakening or loss of the protection of intellectual property rights in some countries, and import or export licensing requirements. The success of our operations outside the United States also depends, in part, on our ability to make necessary infrastructure enhancements to, among other things, our production facilities and sales and distribution networks. These and other factors may adversely impact our ability to pursue our growth strategy in these markets.

In addition, our international operations are governed by the U.S. Foreign Corrupt Practices Act and similar anti-corruption laws outside the U.S. Global enforcement of anti-corruption laws has increased substantially in recent years, with more enforcement proceedings by U.S. and foreign governmental agencies and the imposition of significant fines and penalties. While we have implemented policies and procedures to enhance compliance with these laws, our international operations, which often involve customer relationships with foreign governments, create the risk that there may be unauthorized payments or offers of payments made by employees, consultants, sales agents or distributors. Any alleged or actual violations of these laws may subject us to government investigations and significant criminal or civil sanctions and other liabilities, and negatively affect our reputation.

Changes in U.S. policy regarding international trade, including import and export regulation and international trade agreements, could also negatively impact our business. The U.S. has imposed tariffs on steel and aluminum as well as on goods imported from China and certain other countries, which has resulted in retaliatory tariffs by China and other countries. Additional tariffs imposed by the U.S. on a broader range of imports, or further retaliatory trade measures taken by China or other countries in response, could result in an increase in supply chain costs that we may not be able to offset or that otherwise adversely impact our results of operations.

The June 2016 referendum in the United Kingdom ("UK") to exit the European Union ("EU") (commonly known as "Brexit") has created uncertainties affecting business operations in the UK and the EU, and possibly other countries, including with respect to compliance with the regulatory regimes regarding the labeling and registration of the products we sell in these markets. The possibility that the U.K. may exit the EU without a formal withdrawal agreement in place has increased the uncertainty around Brexit. While we have taken proactive steps to mitigate any disruption to our operations, we could face increased regulatory costs, volatility in exchange rates, market instability and other risks, depending on the final terms of the U.K.'s exit from the EU.

Reductions in customers' research budgets or government funding may adversely affect our business.

We sell products to researchers at pharmaceutical and biotechnology companies, academic institutions, government laboratories and private foundations. Research and development spending of our customers can fluctuate based on spending priorities and general economic conditions. A number of these customers are also dependent for their funding upon grants from U.S. government agencies, such as the U.S. National Institutes of Health ("NIH") and agencies in other countries. The level of government funding of research and development is unpredictable. For instance, there have been instances where NIH grants have been frozen or otherwise unavailable for extended periods. The availability of governmental research funding may be adversely affected by economic conditions and governmental spending reductions. Any reduction or delay in governmental funding could cause our customers to delay or forego purchases of our products.

A reduction or interruption in the supply of certain raw materials and components could adversely affect our operating results.

We purchase many different types of raw materials and components used in our products. Certain raw materials and components are not available from multiple sources. In addition, for quality assurance, cost-effectiveness and other reasons, certain raw materials and components are purchased from sole suppliers. The price and supply of these materials and components may be impacted or disrupted for reasons beyond our control. While we work with suppliers to ensure continuity of supply, no assurance can be given that these efforts will be successful. In addition, due to regulatory requirements relating to the qualification of suppliers, we may not be able to establish additional or replacement sources on a timely basis or without excessive cost. The termination, reduction or interruption in supply of these raw materials and components could adversely impact our ability to manufacture and sell certain of our products.

Interruption of our manufacturing or sterilization operations could adversely affect our business.

We have manufacturing sites all over the world. In some instances, however, the manufacturing of certain of our product lines is concentrated in one or more of our plants. Interruption to our manufacturing operations resulting from weather or natural disasters, regulatory requirements or issues in our manufacturing process, equipment failure or other factors, could adversely affect our ability to manufacture our products. In some instances, we may not be able to transition manufacturing to other BD sites or a third party to replace the lost production. A significant interruption of our manufacturing operations could result in lost revenues and damage to our relationships with customers.

In addition, many of our products require sterilization prior to sale, and we utilize both BD facilities and third-parties for this process. In some instances, only a few facilities are qualified under applicable regulations to conduct this sterilization. To the extent we or third-parties are unable to sterilize our products, whether due to lack of capacity, regulatory requirements or otherwise, we may be unable to transition sterilization to other sites or modalities in a timely or cost effective manner, or at all, which could have an adverse impact on our operating results.

We are subject to lawsuits.

We are or have been a defendant in a number of lawsuits, including, among others, purported class action lawsuits for alleged antitrust violations, product liability claims (which may involve lawsuits seeking class action status or seeking to establish multi-district litigation proceedings, including claims relating to our hernia repair implant products, surgical continence and pelvic organ prolapse products for women and vena cava filter products), and suits alleging patent infringement. We have also been subject to government subpoenas seeking information with respect to alleged violations of law, including in connection with federal and/or state healthcare programs (such as Medicare or Medicaid) and/or sales and marketing practices (such as the civil investigative demands). A more detailed description of certain litigation to which we are a party is contained in Note 5 to the consolidated financial statements included in Item 8. Financial Statements and Supplementary Data. We could be subject to additional lawsuits or governmental investigations in the future.

Reserves established for estimated losses with respect to legal proceedings do not represent an exact calculation of our actual liability, but instead represent our estimate of the probable loss at the time the reserve is established. Due to the inherent uncertainty of litigation and our underlying loss reserve estimates, additional reserves may be established or current reserves may be significantly increased from time-to-time. Also, in some instances, we are not able to estimate the amount or range of loss that could result from an unfavorable outcome of the litigation to which we are a party. In view of these uncertainties, we could incur charges materially in excess of any currently established accruals and, to the extent available, excess liability insurance. Any such future charges, individually or in the aggregate, could have a material adverse effect on our results of operations, financial condition and/or liquidity.

With respect to our existing product liability litigation, we believe that some settlements and judgments, as well as legal defense costs, may be covered in whole or in part under our product liability insurance policies with a limited number of insurance companies, or, in some circumstances, indemnification obligations to us from other

parties. However, amounts recovered under these arrangements may be less than the stated coverage limits or less than otherwise expected and may not be adequate to cover damages and/or costs. In addition, there is no guarantee that insurers or other parties will pay claims or that coverage or indemnity will be otherwise available. For certain product liability claims or lawsuits, BD does not maintain or has limited remaining insurance coverage, and we may not be able to obtain additional insurance on acceptable terms or at all that will provide adequate protection against potential liabilities.

We are subject to extensive regulation.

Our operations are global and are affected by complex state, federal and international laws relating to healthcare, environmental protection, antitrust, anti-corruption, marketing, fraud and abuse (including anti-kickback and false claims laws), export control, employment, privacy and other areas. Violations of these laws can result in criminal or civil sanctions, including substantial fines and, in some cases, exclusion from participation in health care programs such as Medicare and Medicaid. Environmental laws, particularly with respect to the emission of greenhouse gases, are also becoming more stringent throughout the world, which may increase our costs of operations or necessitate closures of or changes to our manufacturing plants or processes or those of our suppliers, or result in liability to BD. The enactment of additional laws in the future may increase our compliance costs or otherwise adversely impact our operations.

We are also subject to extensive regulation by the FDA pursuant to the Federal Food, Drug and Cosmetic Act, by comparable agencies in foreign countries, and by other regulatory agencies and governing bodies. Most of our products must receive clearance or approval from the FDA or counterpart regulatory agencies in other countries before they can be marketed or sold. The process for obtaining marketing approval or clearance may require us to incur significant costs in terms of time and resources, and these costs have been increasing due to increased requirements from the FDA for supporting data for submissions. The regulatory process may also require changes to our products or result in limitations on the indicated uses of our products. Governmental agencies may also impose new requirements regarding registration, labeling or prohibited materials that require us to modify or re-register products already on the market or otherwise impact our ability to market our products in those countries.

Following the introduction of a product, these agencies also periodically review our manufacturing processes and product performance. Our failure to comply with the applicable good manufacturing practices, adverse event reporting, and other requirements of these agencies could delay or prevent the production, marketing or sale of our products and result in fines, delays or suspensions of regulatory clearances, warning letters or consent decrees, closure of manufacturing sites, import bans, seizures or recalls of products and damage to our reputation. More stringent oversight by the FDA and other agencies in recent years has resulted in increased enforcement activity, which increases our compliance risk.

We are operating under a consent decree with the FDA, entered into by CareFusion in 2007 and amended in 2009, that affects our Alaris™ infusion pump business in the United States. We are also currently operating under a warning letter issued by the FDA. For more information regarding the consent decree and warning letter, see “Regulation” under Item 1. Business.

In March 2019, the FDA issued a letter to healthcare professionals regarding the use of paclitaxel-coated devices in the treatment of peripheral artery disease, advising clinicians to consider using alternative treatments. The FDA letter resulted in decreased sales of BD’s drug-coated balloons in fiscal year 2019 compared to the prior year. The extent and duration of the impact from the FDA letter beyond fiscal year 2019, and the likelihood of FDA approval of new drug-coated devices, is difficult to predict, and no assurance can be given that it will not have a material impact on our results of operations in future periods.

In addition, the European Union (“EU”) has adopted the EU Medical Device Regulation (the “EU MDR”) and the In Vitro Diagnostic Regulation (the “EU IVDR”), each of which impose stricter requirements for the marketing and sale of medical devices, including in the area of clinical evaluation requirements, quality systems and post-market surveillance. Manufacturers of currently approved medical devices will have until May 2020 to meet the requirements of the EU MDR and until May 2022 to meet the EU IVDR. Complying with these regulations will require us to incur significant expenditures. Failure to meet these requirements could adversely

impact our business in the EU and other regions that tie their product registrations to EU requirements.

We are also subject to complex and frequently changing laws in the U.S. and elsewhere regarding privacy and the collection, use, storage and protection of personal information, and noncompliance with these laws could result in substantial fines or litigation. For instance, the EU has also adopted the General Data Protection Regulation ("GDPR"), which will apply to personal data involved in our operations in the EU or products and services that we offer to EU users involving personal data. The GDPR creates a range of new compliance obligations that could require us to change our existing business practices policies, and significantly increases financial penalties for noncompliance.

Defects or quality issues associated with our products could adversely affect the results of our operations.

The design, manufacture and marketing of medical devices involve certain inherent risks. Manufacturing or design defects, component failures, unapproved or improper use of our products, or inadequate disclosure of risks or other information relating to the use of our products can lead to injury or other serious adverse events. These events could lead to recalls or safety alerts relating to our products (either voluntary or as required by the FDA or similar governmental authorities in other countries), and could result, in certain cases, in the removal of a product from the market. A recall could result in significant costs and lost sales and customers, enforcement actions and/or investigations by state and federal governments or other enforcement bodies, as well as negative publicity and damage to our reputation that could reduce future demand for our products. Personal injuries relating to the use of our products can also result in significant product liability claims being brought against us. In some circumstances, such adverse events could also cause delays in regulatory approval of new products or the imposition of post-market approval requirements.

Our operations are dependent in part on patents and other intellectual property assets.

Many of our businesses rely on patent, trademark and other intellectual property assets. These intellectual property assets, in the aggregate, are of material importance to our business. We can lose the protection afforded by these intellectual property assets through patent expirations, legal challenges or governmental action. Patents attained by competitors, particularly as patents on our products expire, may also adversely affect our competitive position. In addition, competitors may seek to invalidate patents on our products or claim that our products infringe upon their intellectual property, which could result in a loss of competitive advantage or the payment of significant legal fees, damage awards and past or future royalties, as well as injunctions against future sales of our products. We also operate in countries that do not protect intellectual property rights to the same extent as in the U.S., which could make it easier for competitors to compete with us in those countries. The loss of a significant portion of our portfolio of intellectual property assets may have an adverse effect on our earnings, financial condition or cash flows.

Natural disasters, war and other events could adversely affect our future revenues and operating income.

Natural disasters (including pandemics), war, terrorism, labor disruptions and international conflicts, and actions taken by the United States and other governments or by our customers or suppliers in response to such events, could cause significant economic disruption and political and social instability in the United States and areas outside of the United States in which we operate. These events could result in decreased demand for our products, adversely affect our manufacturing and distribution capabilities, or increase the costs for or cause interruptions in the supply of materials from our suppliers.

We need to attract and retain key employees to be competitive.

Our ability to compete effectively depends upon our ability to attract and retain executives and other key employees, including people in technical, marketing, sales and research positions. Competition for experienced employees, particularly for persons with specialized skills, can be intense. Our ability to recruit such talent will depend on a number of factors, including compensation and benefits, work location and work environment. If we cannot effectively recruit and retain qualified executives and employees, our business could be adversely affected.

We may not realize all of the anticipated benefits and cost savings resulting from our acquisition of Bard.

While we have realized significant cost savings to date in connection with our acquisition of Bard, achieving additional cost synergies may prove more difficult than expected, and it is possible that the anticipated cost synergies of the merger may not be realized fully, or may take longer to realize than expected.

In connection with the Bard acquisition, we incurred significant additional indebtedness, which could adversely affect us, including by decreasing our business flexibility, and will increase our interest expense.

We have substantially increased our indebtedness in connection with the Bard acquisition through the incurrence of new indebtedness to finance the acquisition and the assumption of Bard's existing indebtedness, in comparison to our indebtedness on a recent historical basis. This could have the effect of, among other things, reducing our flexibility to respond to business challenges and opportunities, and increasing our interest expense.

The amount of cash required to pay interest on our increased indebtedness levels following completion of the Bard acquisition, and thus the demands on our cash resources, are greater than the amount of cash flows required to service our indebtedness prior to the Bard acquisition. The increased levels of indebtedness following completion of the Bard acquisition may also reduce funds available for working capital, capital expenditures, acquisitions, the repayment or refinancing of our indebtedness as it becomes due and other general corporate purposes, and may create competitive disadvantages for us relative to other companies with lower debt levels. In addition, certain of the indebtedness incurred in connection with the Bard acquisition bears interest at variable interest rates. If interest rates increase, variable rate debt will create higher debt service requirements, which could further adversely affect our cash flows. If we do not achieve the expected benefits and cost savings from the Bard acquisition, or if the financial performance as a combined company does not meet current expectations, then our ability to service our indebtedness may be adversely impacted.

In addition, our credit ratings affect the cost and availability of future borrowings and, accordingly, our cost of capital. Our ratings reflect each rating organization's opinion of our financial strength, operating performance and ability to meet our debt obligations. There can be no assurance that we will achieve a particular rating or maintain a particular rating in the future or that we will be able to maintain our current rating. Furthermore, our combined company's credit ratings were lowered following the Bard acquisition, including below "investment grade" by Moody's Investors Service, Inc., which may further increase our future borrowing costs and reduce our access to capital.

Moreover, in the future we may be required to raise substantial additional financing to fund working capital, capital expenditures, the repayment or refinancing of our indebtedness, acquisitions or other general corporate requirements. Our ability to arrange additional financing or refinancing will depend on, among other factors, our financial position and performance, as well as prevailing market conditions and other factors beyond our control. No assurance can be provided that we will be able to obtain additional financing or refinancing on terms acceptable to us or at all.

We may not be able to service all of our indebtedness.

We depend on cash on hand and cash flows from operations to make scheduled debt payments. However, our ability to generate sufficient cash flow from operations of the combined company and to utilize other methods to make scheduled payments will depend on a range of economic, competitive and business factors, many of which are outside of our control. There can be no assurance that these sources will be adequate. If we are unable to service our indebtedness and fund our operations, we will be forced to reduce or delay capital expenditures, seek additional capital, sell assets or refinance our indebtedness. Any such action may not be successful and we may be unable to service our indebtedness and fund our operations, which could have a material adverse effect on our business, financial condition or results of operations.

The agreements that govern the indebtedness incurred in connection with the Bard acquisition impose restrictions that may affect our ability to operate our businesses.

The agreements that govern the indebtedness incurred in connection with the Bard acquisition contain various affirmative and negative covenants that may, subject to certain significant exceptions, restrict the ability of certain of our subsidiaries to incur debt and the ability of us and certain of our subsidiaries to, among other things, have liens on our property, and/or merge or consolidate with any other person or sell or convey certain of our assets to any one person, engage in certain transactions with affiliates and change the nature of our business. In addition, the agreements also require us to comply with certain financial covenants, including financial ratios. Our ability and the ability of our subsidiaries to comply with these provisions may be affected by events beyond our control. Failure to comply with these covenants could result in an event of default, which, if not cured or waived, could accelerate our repayment obligations and could result in a default and acceleration under other agreements containing cross-default provisions. Under these circumstances, we might not have sufficient funds or other resources to satisfy all of our obligations.

Item 1B. ***Unresolved Staff Comments.***

None.

Item 2. ***Properties.***

BD's executive offices are located in Franklin Lakes, New Jersey. As of October 28, 2019, BD owned or leased 362 facilities throughout the world, comprising approximately 25,296,582 square feet of manufacturing, warehousing, administrative and research facilities. The U.S. facilities, including those in Puerto Rico, comprise approximately 8,428,226 square feet of owned and 4,458,036 square feet of leased space. The international facilities comprise approximately 8,971,758 square feet of owned and 3,438,562 square feet of leased space. Sales offices and distribution centers included in the total square footage are also located throughout the world.

Operations in each of BD's business segments are conducted at both U.S. and international locations. Particularly in the international marketplace, facilities often serve more than one business segment and are used for multiple purposes, such as administrative/sales, manufacturing and/or warehousing/distribution. BD generally seeks to own its manufacturing facilities, although some are leased.

BD believes that its facilities are of good construction and in good physical condition, are suitable and adequate for the operations conducted at those facilities, and are, with minor exceptions, fully utilized and operating at normal capacity.

The U.S. facilities are located in Alabama, Arizona, California, Connecticut, Florida, Georgia, Illinois, Indiana, Maryland, Massachusetts, Minnesota, Missouri, Montana, Nebraska, New Jersey, New York, North Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, Tennessee, Texas, Utah, Virginia, Washington, D.C., Washington, and Puerto Rico.

The international facilities are as follows:

- *Europe, Middle East, Africa*, which includes facilities in Austria, Belgium, Bosnia, the Czech Republic, Denmark, England, Finland, France, Germany, Ghana, Greece, Hungary, Ireland, Israel, Italy, Kenya, Luxembourg, Netherlands, Norway, Pakistan, Poland, Portugal, Russia, Saudi Arabia, South Africa, Spain, Sweden, Switzerland, Turkey, the United Arab Emirates and Zambia.

- *Greater Asia*, which includes facilities in Australia, Bangladesh, China, India, Indonesia, Japan, Malaysia, New Zealand, the Philippines, Singapore, South Korea, Taiwan, Thailand and Vietnam.

- *Latin America*, which includes facilities in Argentina, Brazil, Chile, Colombia, Mexico, Peru and the Dominican Republic.

- *Canada*.

Item 3. ***Legal Proceedings.***

Information with respect to certain legal proceedings is included in Note 5 to the consolidated financial statements contained in Item 8. Financial Statements and Supplementary Data, and is incorporated herein by reference.

Item 4. ***Mine Safety Disclosures.***

Not applicable.

Information about our Executive Officers

The following is a list of the executive officers of BD, their ages and all positions and offices held by each of them during the past five years. There is no family relationship between any executive officer or director of BD.

Name	Age	Position
Vincent A. Forlenza	66	Chairman since July 2012; Chief Executive Officer since 2011; and President from January 2009 to April 2017. Mr. Forlenza will become executive Chairman, effective January 28, 2020.
Thomas E. Polen	46	Chief Operating Officer since October 2018; President since April 2017; and Executive Vice President and President - Medical Segment from October 2014 to April 2017. The BD Board of Directors has elected Mr. Polen to serve as BD's Chief Executive Officer and President, effective January 28, 2020.
Simon D. Campion	48	Executive Vice President and President, Interventional Segment since September 2018; Worldwide President, BD Interventional - Surgery from December 2017 to September 2018; President, Davol (now part of our Surgery business), C.R. Bard, Inc. from July 2015 to December 2017; and prior thereto, Vice President and General Manager, Davol.
Alexandre Conroy	56	Executive Vice President and Chief Integrated Supply Chain Officer since February 2019; Worldwide President, Medication and Procedural Solutions from May 2017 to February 2019; and Executive Vice President and President, Europe, EMA and the Americas from June 2012 to May 2017.
Roland Goette	57	Executive Vice President and President, EMEA since May 2017; and President, Europe from October 2014 to May 2017.
Patrick K. Kaltenbach	56	Executive Vice President and President, Life Sciences Segment since May 2018; and Senior Vice President and President, Life Sciences and Applied Markets Group, Agilent Technologies, Inc. from November 2014 to April 2018.
Samrat S. Khichi	52	Executive Vice President, Public Policy and Regulatory Affairs since May 2019; Executive Vice President and General Counsel from December 2017 to May 2019; and Senior Vice President, General Counsel and Corporate Secretary, C.R. Bard, Inc. from July 2014 to December 2017.
Betty D. Larson	43	Executive Vice President, Human Resources, and Chief Human Resources Officer since July 2018; Senior Vice President of Human Resources, Interventional Segment from December 2017 to July 2018; Vice President, Human Resources, C.R. Bard, Inc. from September 2017 to December 2017; and prior thereto, Vice President, Human Resources - Global Medical Products Business, C.R. Bard, Inc.
James Lim	55	Executive Vice President and President, Greater Asia since June 2012.
Alberto Mas	58	Executive Vice President and President - Medical Segment since June 2018; Executive Vice President and President - Life Sciences Segment from October 2016 to June 2018; and Worldwide President - Diagnostic Systems from October 2013 to October 2016.
Christopher R. Reidy	62	Executive Vice President, Chief Financial Officer and Chief Administrative Officer since July 2013.

PART II

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

BD's common stock is listed on the New York Stock Exchange under the symbol "BDX". As of October 31, 2019, there were approximately 13,277 shareholders of record.

The table below sets forth certain information regarding BD's purchases of its common stock during the fiscal quarter ended September 30, 2019.

Period	Total Number of Shares Purchased(1)	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Maximum Number of Shares that May Yet be Purchased Under the Plans or Programs(2)
July 1-31, 2019	1,329	$253.11	—	7,857,742
August 1-31, 2019	212	$249.88	—	7,857,742
September 1-30, 2019	—	—	—	7,857,742
Total	1,541	$252.66	—	7,857,742

(1) Includes shares purchased during the quarter in open market transactions by the trust relating to BD's Deferred Compensation and Retirement Benefit Restoration Plan and 1996 Directors' Deferral Plan.

(2) Represents shares available under the repurchase program authorized by the Board of Directors on September 24, 2013 for 10 million shares, for which there is no expiration date.

Item 6. ***Selected Financial Data.***

FIVE-YEAR SUMMARY OF SELECTED FINANCIAL DATA
Becton, Dickinson and Company

	Years Ended September 30				
	2019	**2018**	**2017**	**2016**	**2015**
	Dollars in millions, except share and per share amounts				
Operations					
Revenues	$ 17,290	$ 15,983	$ 12,093	$ 12,483	$ 10,282
Gross Profit (a)	8,288	7,269	5,965	6,018	4,719
Operating Income (a)	1,760	1,509	1,522	1,481	1,119
Income Before Income Taxes	1,176	1,173	976	1,074	739
Income Tax (Benefit) Provision	(57)	862	(124)	97	44
Net Income	1,233	311	1,100	976	695
Basic Earnings Per Share	4.01	0.62	4.70	4.59	3.43
Diluted Earnings Per Share	3.94	0.60	4.60	4.49	3.35
Dividends Per Common Share	3.08	3.00	2.92	2.64	2.40
Financial Position					
Total Assets	51,765	53,904	37,734	25,586	26,478
Total Long-Term Debt	18,081	18,894	18,667	10,550	11,370
Total Shareholders' Equity	21,081	20,994	12,948	7,633	7,164
Additional Data					
Average Common and Common Equivalent Shares Outstanding — Assuming Dilution (millions)	274.8	264.6	223.6	217.5	207.5

(a) Prior-year amounts were revised to reflect the recognition of all components of the Company's net periodic pension and postretirement benefit costs, aside from service cost, to *Other income (expense), net* on its consolidated income statements, as is further discussed in Note 2 to the consolidated financial statements contained in Item 8. Financial Statements and Supplementary Data.

The results above include the net expense associated with specified items as detailed below. Additional discussion regarding the specified items in fiscal years 2019, 2018 and 2017 are provided in Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

	Years Ended September 30				
Millions of dollars, except per share amounts	**2019**	**2018**	**2017**	**2016**	**2015**
Total specified items	$ 2,749	$ 2,409	$ 1,466	$ 1,261	$ 1,186
After-tax impact of specified items	$ 2,127	$ 2,674	$ 971	$ 892	$ 786
Impact of specified items on diluted earnings per share	$ (7.74)	$ (10.11)	$ (4.34)	$ (4.10)	$ (3.79)
Dilutive impact from share issuances	$ —	$ (0.30)	$ (0.54)	$ —	$ (0.02)

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

The following commentary should be read in conjunction with the consolidated financial statements and accompanying notes presented in this report. Within the tables presented throughout this discussion, certain columns may not add due to the use of rounded numbers for disclosure purposes. Percentages and earnings per share amounts presented are calculated from the underlying amounts. References to years throughout this discussion relate to our fiscal years, which end on September 30.

Company Overview

Description of the Company and Business Segments

Becton, Dickinson and Company ("BD") is a global medical technology company engaged in the development, manufacture and sale of a broad range of medical supplies, devices, laboratory equipment and diagnostic products used by healthcare institutions, physicians, life science researchers, clinical laboratories, the pharmaceutical industry and the general public. The Company's organizational structure is based upon three principal business segments, BD Medical ("Medical"), BD Life Sciences ("Life Sciences") and BD Interventional ("Interventional").

BD's products are manufactured and sold worldwide. Our products are marketed in the United States and internationally through independent distribution channels and directly to end-users by BD and independent sales representatives. We organize our operations outside the United States as follows: Europe; EMA (which includes the Commonwealth of Independent States, the Middle East and Africa); Greater Asia (which includes countries in East Asia, South Asia, Southeast Asia and the Oceania region); Latin America (which includes Mexico, Central America, the Caribbean, and South America); and Canada. We continue to pursue growth opportunities in emerging markets, which include the following geographic regions: Eastern Europe, the Middle East, Africa, Latin America and certain countries within Greater Asia. We are primarily focused on certain countries whose healthcare systems are expanding.

Strategic Objectives

BD remains focused on delivering sustainable growth and shareholder value, while making appropriate investments for the future. BD management operates the business consistent with the following core strategies:

- To increase revenue growth by focusing on our core products, services and solutions that deliver greater benefits to patients, healthcare workers and researchers;
- To supplement our internal growth through strategic acquisitions;
- To continue investment in research and development for platform extensions and innovative new products;
- To make investments in growing our operations in emerging markets;
- To improve operating effectiveness and balance sheet productivity;
- To drive an efficient capital structure and strong shareholder returns.

Our strategy focuses on four specific areas within healthcare and life sciences:

- Enabling safer, simpler and more effective parenteral drug delivery;
- Improving clinical outcomes through new, more accurate and faster diagnostics;
- Providing tools and technologies to the research community that facilitate the understanding of the cell, cellular diagnostics, cell therapy and immunology;
- Enhancing disease management with our product offerings.

We continue to strive to improve the efficiency of our capital structure and follow these guiding principles:

- To operate the Company consistent with an investment grade credit profile;
- To ensure access to the debt market for strategic opportunities;
- To optimize the cost of capital based on market conditions.

In assessing the outcomes of these strategies as well as BD's financial condition and operating performance, management generally reviews quarterly forecast data, monthly actual results, segment sales and

other similar information. We also consider trends related to certain key financial data, including gross profit margin, selling and administrative expense, investment in research and development, return on invested capital, and cash flows.

Summary of Financial Results

Worldwide revenues in 2019 of $17.290 billion increased 8.2% from the prior-year period. The increase reflected a favorable impact of approximately 6% resulting from the inclusion of revenues from our acquisition of Bard in the first quarter of fiscal year 2019 but not in the first quarter of the prior-year period as operating activities of the business, which was acquired on December 29, 2017, were not included in our consolidated results of operations until January 1, 2018. Revenues in 2019 also reflected an unfavorable impact of almost 1% attributable to the Biosciences unit's divestiture of its Advanced Bioprocessing business at the end of October 2018, as is further discussed in Note 11 to the consolidated financial statements contained in Item 8. Financial Statements and Supplementary Data. Revenue growth in 2019 additionally reflected volume growth of approximately 5.4%, an unfavorable impact from foreign currency translation of approximately 2.3% and an unfavorable impact of price of approximately 0.3%. Volume growth in 2019 was as follows:

- Medical segment growth was driven by sales growth in all of the segment's units, particularly by growth in the Medication Management Solutions, Medication Delivery Solutions and Pharmaceutical Systems units.
- Life Sciences segment growth reflected growth in all of the segment's units, particularly in the Biosciences unit.
- Interventional segment growth reflected sales growth in all units, particularly in the Surgery unit and the Urology and Critical Care unit.

We continue to invest in research and development, geographic expansion, and new product market programs to drive further revenue and profit growth. Our ability to sustain our long-term growth will depend on a number of factors, including our ability to expand our core business (including geographical expansion), develop innovative new products, and continue to improve operating efficiency and organizational effectiveness. While the economic environment for the healthcare industry and healthcare utilization in the United States is generally stable, destabilization in the future could adversely impact our businesses. Additionally, macroeconomic challenges in Europe continue to constrain healthcare utilization, although we currently view the environment as stable. In emerging markets, the Company’s growth is dependent primarily on government funding for healthcare systems. In addition, pricing pressure exists globally which could adversely impact our businesses.

Our financial position remains strong, with cash flows from operating activities totaling $3.330 billion in 2019. At September 30, 2019, we had $620 million in cash and equivalents and short-term investments, including restricted cash. We continued to return value to our shareholders in the form of dividends. During fiscal year 2019, we paid cash dividends of $984 million, including $832 million paid to common shareholders and $152 million paid to preferred shareholders.

Each reporting period, we face currency exposure that arises from translating the results of our worldwide operations to the U.S. dollar at exchange rates that fluctuate from the beginning of such period. A stronger U.S. dollar in 2019, compared with 2018, resulted in an unfavorable foreign currency translation impact to our revenues and earnings during 2019. We evaluate our results of operations on both a reported and a foreign currency-neutral basis, which excludes the impact of fluctuations in foreign currency exchange rates. As exchange rates are an important factor in understanding period-to-period comparisons, we believe the presentation of results on a foreign currency-neutral basis in addition to reported results helps improve investors’ ability to understand our operating results and evaluate our performance in comparison to prior periods. Foreign currency-neutral ("FXN") information compares results between periods as if exchange rates had remained constant period-over-period. We use results on a foreign currency-neutral basis as one measure to evaluate our performance. We calculate foreign currency-neutral percentages by converting our current-period local currency financial results using the prior-period foreign currency exchange rates and comparing these adjusted amounts to our current-period results. These results should be considered in addition to, not as a substitute for, results reported in accordance with U.S. generally accepted accounting principles ("GAAP"). Results on a foreign currency-neutral basis, as we present them, may not be comparable to similarly titled

measures used by other companies and are not measures of performance presented in accordance with U.S. GAAP.

Results of Operations

Medical Segment

The following summarizes Medical revenues by organizational unit:

				2019 vs. 2018			2018 vs. 2017		
(Millions of dollars)	2019	2018	2017	Total Change	Estimated FX Impact	FXN Change	Total Change	Estimated FX Impact	FXN Change
Medication Delivery Solutions	$3,859	$3,644	$2,812	5.9%	(2.7)%	8.6%	29.6%	1.9%	27.7%
Medication Management Solutions	2,629	2,470	2,295	6.4%	(1.1)%	7.5%	7.7%	1.1%	6.6%
Diabetes Care	1,110	1,105	1,056	0.5%	(2.4)%	2.9%	4.6%	1.7%	2.9%
Pharmaceutical Systems	1,465	1,397	1,256	4.8%	(3.4)%	8.2%	11.2%	4.8%	6.4%
Total Medical revenues	$9,064	$8,616	$7,419	5.2%	(2.3)%	7.5%	16.1%	2.1%	14.0%

The Medical segment's revenues in 2019 were favorably impacted by the inclusion of revenues associated with certain Bard products within the Medication Delivery Solutions unit in the first quarter of fiscal year 2019, as noted above, and also reflected strong growth in this unit's global sales of vascular access devices. The Medication Management Solutions unit's revenues in 2019 reflected sales growth attributable to the installations of infusion and dispensing systems, as well as growth in sales of disposables. The Pharmaceutical Systems unit's 2019 revenue growth was driven by sales of prefillable products and self-injection systems. Strength in the Diabetes Care unit's sales of pen needles in emerging markets was partially offset by lower growth in U.S. sales.

Medical segment revenue growth in 2018 was favorably impacted by the inclusion of revenues associated with certain Bard products within the Medication Delivery Solutions unit, beginning on January 1, 2018, as noted above. The Medical segment's underlying revenue growth was largely driven by sales of the Medication Delivery Solutions unit's vascular access and vascular care products as well as by the Medication Management Solutions unit's installations of dispensing and infusion systems. Revenue growth in the Medication Management Solutions unit was partially offset by the unfavorable impact, in the first half of 2018, of a modification to dispensing equipment lease contracts with customers, which took place in April 2017. As a result of the lease modification, substantially all new lease contracts are accounted for as operating leases with revenue recognized over the agreement term, rather than upon the placement of capital. The Medical segment's underlying growth also reflected sales of the Pharmaceutical Systems unit's prefillable products and the Diabetes Care unit's pen needles.

Medical segment operating income was as follows:

(Millions of dollars)	2019	2018	2017
Medical segment operating income (a)	$ 2,824	$ 2,624	$ 1,907
Segment operating income as % of Medical revenues	*31.2%*	*30.5%*	*25.7%*

(a) Operating income in 2019 and 2018 excluded certain general and administrative costs, which were allocated to the segment in 2017, due to a change in our management reporting approach, as is further discussed in Note 7 to the consolidated financial statements contained in Item 8. Financial Statements and Supplementary Data.

The Medical segment's operating income was driven by improved gross profit margin and operating expense performance in 2019 and 2018 as discussed in greater detail below:

- The Medical segment's gross profit margin in 2019 was higher as compared with 2018 primarily due to lower manufacturing costs resulting from continuous improvement projects which enhanced the efficiency of our operations. Additionally, the comparison of gross profit margin in 2019 with gross profit margin in 2018 reflected the unfavorable impacts in 2018 of a fair value step-up adjustment relating to Bard's inventory on the acquisition date and charges to write down the value of fixed assets, primarily in the Diabetes Care unit. These favorable impacts to the Medical segment's gross margin in 2019 were partially offset by unfavorable foreign currency translation, higher raw material costs and pricing pressures. The Medical segment's gross profit margin in 2018 was lower as compared with 2017 primarily due to the expense related to amortization of intangible assets acquired in the Bard transaction as well as the impact of the fair value step-up adjustment and write-down charges noted above. The Medical segment's gross profit margin in 2018 was also unfavorably impacted by higher raw material costs and pricing pressures. These unfavorable impacts to the Medical segment's gross margin were partially offset by lower manufacturing costs resulting from continuous improvement projects which enhanced the efficiency of our operations and favorable product mix impact relating to the Bard products reported within the segment.

- Selling and administrative expense as a percentage of revenues in 2019 was relatively flat compared with 2018. Selling and administrative expense as a percentage of revenues in 2018 was lower compared with 2017 which primarily reflected a reduction in the general and administrative costs allocated to the segment, as noted above.

- Research and development expense as a percentage of revenues was lower in 2019 due to recent completion of projects and the timing of project spending. Research and development expense as a percentage of revenues in 2018 was higher compared with 2017 which reflected increased investment in new products and platforms.

Life Sciences Segment

The following summarizes Life Sciences revenues by organizational unit:

				2019 vs. 2018			2018 vs. 2017		
(Millions of dollars)	2019	2018	2017	Total Change	Estimated FX Impact	FXN Change	Total Change	Estimated FX Impact	FXN Change
Preanalytical Systems	$1,558	$1,553	$1,471	0.3 %	(3.0)%	3.3 %	5.5%	1.4%	4.1%
Diagnostic Systems	1,547	1,536	1,378	0.7 %	(2.6)%	3.3 %	11.5%	1.9%	9.6%
Biosciences	1,194	1,241	1,139	(3.8)%	(2.2)%	(1.6)%	9.0%	2.2%	6.8%
Total Life Sciences revenues	$4,300	$4,330	$3,988	(0.7)%	(2.6)%	1.9 %	8.6%	1.8%	6.8%

The Life Sciences segment's revenues in 2019 reflected continued strength in sales of the Preanalytical Systems unit's sales of core products in emerging markets. The Diagnostic Systems unit's 2019 revenues reflected growth in its *BD MAX*™ molecular platform as well as growth in sales of core microbiology products. This sales growth in the Diagnostic Systems unit was partially offset by an unfavorable comparison of the unit's U.S. revenues in 2019 to revenues in 2018, as the prior-year period benefited from a more severe influenza season. Revenues in the Biosciences unit in 2019 reflected growth in research reagent sales, as well as growth in U.S. research instrument sales, but were unfavorably impacted by the divestiture of the Advanced Bioprocessing business, as previously discussed. The Biosciences unit's results for 2018 and 2017 included revenues associated with the Advanced Bioprocessing business of $106 million and $103 million, respectively.

The Life Sciences segment's 2018 revenues was driven by growth across all three of its organizational units. The Diagnostic Systems unit's revenues were primarily driven by sales of core microbiology products as well as continued strength in sales of the unit's *BD MAX*™ molecular platform. Revenue growth in the Diagnostic Systems unit also reflected a more severe influenza season in 2018 compared with 2017. The Life Sciences segment's 2018 revenue growth was also driven by the Biosciences unit's sales of research reagents and recently launched instruments. Growth in the Preanalytical Systems unit reflected global sales of core products.

Life Sciences segment operating income was as follows:

(Millions of dollars)	2019	2018	2017
Life Sciences segment operating income (a)	$ 1,248	$ 1,207	$ 772
Segment operating income as % of Life Sciences revenues	*29.0%*	*27.9%*	*19.4%*

(a) Operating income in 2019 and 2018 excluded certain general and administrative costs, which were allocated to the segment in 2017, due to a change in our management reporting approach, as noted above.

The Life Sciences segment's operating income was driven by improved gross profit margin and operating expense performance in 2019 and 2018 as discussed in greater detail below:

- The Life Sciences segment's gross profit margin as a percentage of revenues in fiscal year 2019 was relatively flat compared with gross margin in 2018. Gross margin in 2019 was favorably impacted by lower manufacturing costs resulting from continuous improvement projects which enhanced the efficiency of our operations, as well as by the unfavorable prior-year impact of the Biosciences unit's write-down of certain intangible and other assets. These favorable impacts to gross margin in 2019 were offset by unfavorable foreign currency translation and higher raw material costs. The Life Sciences segment's gross profit margin as a percentage of revenues was higher in fiscal year 2018 as compared with 2017 primarily due to lower manufacturing costs resulting from continuous improvement projects, which enhanced the efficiency of our operations, and favorable foreign currency translation. These favorable impacts to the Life Sciences segment's gross margin were partially offset by expense related to the Biosciences unit's write-down of certain intangible and other assets, as well as higher raw material costs.
- Selling and administrative expense as a percentage of Life Sciences revenues in 2019 was lower compared to 2018 primarily due to reduced general and administrative spending. Selling and administrative expense as a percentage of Life Sciences revenues in 2018 was lower compared to 2017 primarily due to a reduction in the general and administrative costs allocated to the segment, as noted above.
- Research and development expense as a percentage of revenues in 2019 was lower compared with 2018 primarily due to the Biosciences unit's recognition of write-downs in the prior-year period and also due to the timing of project spending. Research and development expense as a percentage of revenues in 2018 was higher compared with 2017 primarily due to the write-downs noted above.

Interventional Segment

The following summarizes Interventional revenues by organizational unit:

				2019 vs. 2018			2018 vs. 2017
(Millions of dollars)	2019	2018	2017	Total Change	Estimated FX Impact	FXN Change	Total Change
Surgery (a)	$ 1,397	$ 1,192	$ 666	17.3%	(1.1)%	18.4%	NM
Peripheral Intervention (a)	1,389	1,045	19	33.0%	(2.8)%	35.8%	NM
Urology and Critical Care	1,140	800	—	42.4%	(1.6)%	44.0%	NM
Total Interventional revenues	$ 3,926	$ 3,037	$ 685	29.3%	(1.8)%	31.1%	NM

"NM" denotes that the percentage is not meaningful.

(a) Amounts presented in 2017 are associated with certain product offerings that were moved from the Medical segment to the Interventional segment in order to align with the reportable segment structure that became effective beginning in the second quarter of fiscal year 2018.

The Interventional segment's revenues in 2019 were favorably impacted by the inclusion of revenues associated with Bard's products in the segment's results for the first quarter of fiscal year 2019, as noted above.

Interventional segment revenues in 2019 also reflected growth in the Urology and Critical Care unit's sales of acute urology products and sales by the unit's home care and targeted temperature management businesses. Fiscal year 2019 revenues in the Surgery unit reflected growth in sales of the unit's biosurgery and infection prevention products. The Peripheral Intervention unit's 2019 revenues reflected growth in emerging market sales. This growth was partially offset by an unfavorable impact related to a letter issued in March 2019 by the FDA to healthcare professionals regarding the use of paclitaxel-coated devices in the treatment of peripheral artery disease, which impacted sales of our drug-coated balloon products. The extent and duration of the impact from the FDA letter on the Peripheral Intervention unit's future revenues is difficult to predict.

Interventional segment operating income was as follows:

(Millions of dollars)	2019	2018	2017
Interventional segment operating income (a)	$ 903	$ 306	$ 248
Segment operating income as % of Interventional revenues	*23.0%*	*10.1%*	*NM*

(a) The amount presented in 2017 is associated with certain product offerings that were moved from the Medical segment to the Interventional segment in order to align with the reportable segment structure that became effective beginning in the second quarter of fiscal year 2018.

The Interventional segment's operating income was driven by its performance with respect to gross profit margin and operating expenses in 2019 as discussed in greater detail below:

- Gross profit margin was higher in 2019 as compared with 2018 primarily due to the unfavorable prior-year impact of recognizing a fair value step-up adjustment relating to Bard's inventory on the acquisition date and lower manufacturing costs resulting from continuous improvement projects, which enhanced the efficiency of our operations, and synergy initiatives. These favorable impacts to the Interventional segment's gross margin were partially offset by unfavorable product mix and unfavorable foreign currency translation.
- Selling and administrative expense as a percentage of revenues in 2019 was relatively flat compared with 2018.
- Research and development expense as a percentage of revenues was higher in 2019 as compared with 2018 primarily due to the Surgery unit's recognition of a write-down in the current-year period, as further discussed below.

The Interventional segment's operating income in 2018 reflected expense related to the recognition of a fair value step-up adjustment relating to Bard's inventory on the acquisition date. The fair value adjustment was a required non-cash adjustment to the value of acquired inventory and was expensed over a four-month period, consistent with an estimate of the period of time to sell the acquired inventory.

Geographic Revenues

BD's worldwide revenues by geography were as follows:

				2019 vs. 2018			2018 vs. 2017		
(Millions of dollars)	2019	2018	2017	Total Change	Estimated FX Impact	FXN Change	Total Change	Estimated FX Impact	FXN Change
United States	$ 9,730	$ 8,768	$ 6,504	11.0%	—	11.0%	34.8%	—	34.8%
International	7,560	7,215	5,589	4.8%	(5.0)%	9.8%	29.1%	4.8%	24.3%
Total revenues	$17,290	$15,983	$12,093	8.2%	(2.3)%	10.5%	32.2%	2.3%	29.9%

U.S. revenues in 2019 reflected growth in all three segments. U.S. revenues in 2019 were favorably impacted by the inclusion of revenues associated with Bard's products in results for the first quarter of fiscal year 2019, as noted above. Revenue growth in 2019 was also attributable to sales in the Medical segment's Medication Management Solutions unit as well as to sales in the Interventional segment's Urology and Critical Care and Surgery units. U.S. revenue growth in 2019 was unfavorably impacted by results in the Medical segment's Diabetes Care unit, the Life Sciences segment's Diagnostic Systems unit and the Interventional segment's Peripheral Intervention unit, as previously noted in the discussions above.

U.S. revenues in 2018 benefited from the inclusion of revenues associated with Bard products in our financial results beginning on January 1, 2018. Underlying 2018 revenue growth in the United States was driven by revenues in the Medical segment's Medication Delivery Solutions and Medication Management Solutions units, as well as by revenues in the Life Sciences segment's Diagnostic Systems unit.

International revenues in 2019 reflected growth in all three segments. International revenues in 2019 were favorably impacted by the inclusion of revenues associated with Bard's products in results for the first quarter of fiscal year 2019, as noted above. Fiscal year 2019 international revenue growth was also driven by sales in the Medical segment's Medication Delivery Solutions and Pharmaceutical Systems units as well as by sales in the Life Sciences segment's Diagnostic Systems and Preanalytical Systems units.

International revenue growth in 2018 benefited from the inclusion of revenues associated with Bard products in our financial results. International revenue growth in 2018 also reflected increased sales in the Medical segment's Medication Delivery Solutions, Medication Management Solutions and Pharmaceutical Systems units, as well as growth attributable to sales in all three of the Life Sciences segment's organizational units.

Emerging market revenues were $2.71 billion, $2.53 billion and $1.95 billion in 2019, 2018 and 2017, respectively. Foreign currency translation unfavorably impacted emerging market revenues in 2019 by an estimated $155 million and favorably impacted emerging market revenues in 2018 by an estimated $19 million. Emerging market revenue growth in 2019 was favorably impacted by the inclusion of revenues associated with Bard's products in our results for the first quarter of fiscal year 2019, as noted above. Emerging market revenue growth in 2018 benefited from the inclusion of revenues associated with Bard products in our financial results beginning on January 1, 2018. Underlying growth in fiscal years 2019 and 2018 was particularly driven by sales in China and EMA.

Specified Items

Reflected in the financial results for 2019, 2018 and 2017 were the following specified items:

(Millions of dollars)	2019	2018	2017
Integration costs [(a)]	$ 323	$ 344	$ 237
Restructuring costs [(a)]	180	344	85
Transaction costs [(a)]	1	56	39
Financing costs [(b)]	—	49	131
Purchase accounting adjustments [(c)]	1,499	1,733	491
Transaction gain/loss, product and other litigation-related matters [(d)]	646	—	(337)
Investment gains/losses and asset impairments [(e)]	17	(151)	—
European regulatory initiative-related costs [(f)]	51	—	—
Impacts of debt extinguishment [(g)]	54	16	73
Hurricane recovery-related impacts	(24)	17	—
Lease contract modification-related charge [(h)]	—	—	748
Total specified items	2,749	2,409	1,466
Less: tax impact of specified items and tax reform [(i)]	622	(265)	495
After-tax impact of specified items	$ 2,127	$ 2,674	$ 971

(a) Represents integration, restructuring and transaction costs, recorded in *Acquisitions and other restructurings*, which are further discussed below.

(b) Represents financing impacts associated with the Bard acquisition, which were recorded in *Interest income* and *Interest expense*.

(c) Primarily represents non-cash amortization expense associated with acquisition-related identifiable intangible assets and other adjustments related to the purchase accounting for acquisitions. BD's amortization expense is primarily recorded in *Cost of products sold*. The amount in 2018 included fair value step-up adjustments of $478 million relating to Bard's inventory on the acquisition date.

(d) The amount in 2019 includes charges relating to certain product liability matters and the estimated cost of a product recall, as well as the pre-tax gain recognized on BD's sale of its Advanced Bioprocessing business. The amount in 2017 largely represents the reversal of certain reserves related to an appellate

court decision recorded in *Other operating expense, net*. Further discussion regarding these amounts recorded to *Other operating expense, net* is provided below.

(e) The amount in 2019 included an unrealized gain of $13 million recorded within *Other income (expense), net* relating to an investment and a $30 million non-cash charge recorded within *Research and development expense* to write down the carrying value of certain intangible assets in the Surgery unit. The amounts in 2018 included the net amount of $303 million, recognized in the period and recorded to *Other income (expense), net*, related to BD's sale of its non-controlling interest in Vyaire Medical. This amount in 2018 was partially offset by $81 million of charges recorded within *Cost of products sold* and *Research and development expense* to write down the carrying value of certain intangible and other assets in the Biosciences unit as well as $58 million of charges recorded within *Cost of products sold* to write down the value of fixed assets primarily in the Diabetes Care unit.

(f) Represents initial costs required to develop processes and systems to comply with emerging regulations such as the European Union Medical Device Regulation ("EUMDR") and General Data Protection Regulation ("GDPR"). These costs were recorded in *Cost of products sold* and *Research and development expense*.

(g) Represents the impacts, which were primarily recorded in *Other income (expense), net*, of our extinguishment of certain long-term senior notes.

(h) Represents a non-cash charge in 2017, which was recorded in *Other operating expense*, *net* resulting from a modification to our dispensing equipment lease contracts with customers, as previously discussed.

(i) The amounts in 2019 and 2018 included additional tax (benefit) expense, net, of $(50) million and $640 million, respectively relating to new U.S. tax legislation which is further discussed in Note 17 to the consolidated financial statements contained in Item 8. Financial Statements and Supplementary Data.

Gross Profit Margin

The comparison of gross profit margins in 2019 and 2018 and the comparison of gross profit margins in 2018 and 2017 reflected the following impacts:

	2019	2018
Gross profit margin % prior-year period	45.5 %	49.3 %
Impact of purchase accounting adjustments, asset write-downs and other specified items	2.9 %	(6.9)%
Operating performance	0.1 %	2.7 %
Foreign currency translation	(0.6)%	0.4 %
Gross profit margin % current-year period	47.9 %	45.5 %

The impact of purchase accounting adjustments and other specified items in 2019 was favorable due to a comparison to 2018, which included the recognition of fair value step-up adjustments relating to Bard's inventory on the acquisition date, as well as write-downs of certain assets in the Biosciences and Diabetes Care units in 2018 as further discussed above. The operating performance impacts in 2019 and 2018 reflected lower manufacturing costs resulting from the continuous improvement projects and synergy initiatives, as well as the favorable impact of Bard on product mix. Operating performance in 2019 was unfavorably impacted by higher raw material costs and unfavorable product mix. Higher raw material costs as well as pricing pressures unfavorably impacted operating performance in 2018.

Operating Expenses

Operating expenses in 2019, 2018 and 2017 were as follows:

(Millions of dollars)	2019	2018	2017	Increase (decrease) in basis points: 2019 vs. 2018	Increase (decrease) in basis points: 2018 vs. 2017
Selling and administrative expense	$ 4,332	$ 4,016	$2,909		
% of revenues	*25.1%*	*25.1%*	*24.1%*	*—*	*100*
Research and development expense	$ 1,062	$ 1,004	$ 770		
% of revenues	*6.1%*	*6.3%*	*6.4%*	*(20)*	*(10)*
Acquisitions and other restructurings	$ 480	$ 740	$ 354		
Other operating expense, net	$ 654	$ —	$ 410		

Selling and administrative

Selling and administrative expense as a percentage of revenues in 2019 was flat compared with 2018 as higher revenues and the achievement of cost synergies offset the impact of higher selling and general administrative costs attributable to Bard, which had a higher selling and administrative spending profile than BD, in our results for the first quarter of fiscal year 2019, as noted above. The increase in selling and administrative expense as a percentage of revenues in 2018 was primarily attributable to the inclusion of Bard in 2018 results beginning on January 1, 2018.

Research and development

Research and development expense as a percentage of revenues in 2019 and 2018 was relatively flat compared with the prior-year periods. Spending in 2019, 2018 and 2017 reflected our continued commitment to invest in new products and platforms. As further discussed above, expenses in 2019 included certain write-down charges in the Surgery unit and expenses in 2018 included write-down charges in the Biosciences unit.

Acquisitions and other restructurings

Costs relating to acquisitions and other restructurings in 2019 largely represented integration and restructuring costs incurred due to our acquisition of Bard in the first quarter of fiscal year 2018. Costs relating to acquisitions and other restructurings in 2018 included restructuring, integration and transaction costs incurred due to our acquisition of Bard as well as integration and restructuring costs related to our fiscal year 2015 CareFusion acquisition and portfolio rationalization initiatives. Transaction costs incurred in 2017 primarily related to our acquisition of Bard. Substantially all of the integration and restructuring costs in 2017 were attributable to the CareFusion acquisition and portfolio rationalization initiatives. For further disclosures regarding the costs relating to acquisitions and other restructurings, refer to Notes 10, 11 and 12 to the consolidated financial statements contained in Item 8. Financial Statements and Supplementary Data.

Other operating expense, net

Other operating expense in 2019 included charges of approximately $914 million relating to certain product liability matters, as well as an estimated cost of $75 million relating to a product recall in the Medical segment. Net other operating expense in 2019 additionally included the pre-tax gain of $336 million recognized on BD's sale of its Advanced Bioprocessing business. Additional disclosures regarding the product liability matters and divestiture transaction are provided in Notes 5 and 11, respectively, to the consolidated financial statements contained in Item 8. Financial Statements and Supplementary Data.

Other operating expense in 2017 included the $748 million non-cash charge resulting from the modification to our dispensing equipment lease contracts with customers. Additional disclosures regarding this lease contract modification are provided in Note 18 to the consolidated financial statements contained in Item 8.

Financial Statements and Supplementary Data. Other operating income in 2017 included a $337 million reversal of certain reserves related to an appellate court decision which, among other things, reversed an unfavorable antitrust judgment.

Net Interest Expense

(Millions of dollars)	2019	2018	2017
Interest expense	$ (639)	$ (706)	$ (521)
Interest income	12	65	76
Net interest expense	$ (627)	$ (641)	$ (445)

The decrease in interest expense in 2019 compared with 2018 primarily reflected higher fees incurred in 2018 to draw from our term loan facility, which is further discussed below. Interest expense in 2019 was also favorably impacted by debt repayments during the current year, as well as lower overall interest rates on debt outstanding during the current-year period as a result of refinancing activities. The increase in interest expense in 2018 compared with 2017 reflected higher levels of debt for the full-year period due to our issuances of senior unsecured U.S. notes during the third quarter of 2017. Additional disclosures regarding our financing arrangements and debt instruments are provided in Note 16 to the consolidated financial statements contained in Item 8. Financial Statements and Supplementary Data.

The decrease in interest income in 2019 compared with 2018 reflected higher levels of cash on hand in the first quarter of fiscal year 2018 in anticipation of closing the Bard acquisition at the end of the quarter. The decrease in interest income in 2018 compared with 2017 reflected lower cash levels in the remaining quarters of 2018, subsequent to the closing of the Bard acquisition.

Income Taxes

The income tax rates in 2019, 2018 and 2017 were as follows:

	2019	2018	2017
Effective income tax rate	(4.8)%	73.5%	(12.7)%
Impact, in basis points, from specified items and tax reform	*(1,920)*	*5,680*	*(2,790)*

The effective income tax rate in 2019 reflected a favorable impact relating to the timing of certain discrete items, as well as the recognition of $50 million of tax benefit recorded for the impacts of U.S. tax legislation that was enacted in December 2017, compared with additional tax expense of $640 million that was recognized as a result of this legislation in 2018. For further disclosures regarding our accounting for this U.S. tax legislation, refer to Note 17 to the consolidated financial statements contained in Item 8. Financial Statements and Supplementary Data. The increase in the effective income tax rate in 2018 compared with 2017 reflected the additional tax expense relating to U.S. tax legislation, as noted above, as well as a less favorable benefit from specified items in 2018 compared with 2017.

Net Income and Diluted Earnings per Share

Net Income and Diluted Earnings per Share in 2019, 2018 and 2017 were as follows:

	2019	2018	2017
Net income (Millions of dollars)	$ 1,233	$ 311	$ 1,100
Diluted Earnings per Share	$ 3.94	$ 0.60	$ 4.60
Unfavorable impact-specified items	$ (7.74)	$ (10.11)	$ (4.34)
(Unfavorable) favorable impact-foreign currency translation	$ (0.62)	$ 0.32	$ (0.23)
Dilutive impact from share issuances	$ —	$ (0.30)	$ (0.54)

The dilutive impacts in 2018 and 2017 include the unfavorable impact of BD shares issued through public offerings of equity securities in the third quarter of fiscal year 2017, in anticipation of the Bard acquisition. The dilutive impact in 2018 additionally includes the unfavorable impact of BD shares issued as consideration transferred in the first quarter of fiscal year 2018 for the Bard acquisition as is further discussed in Note 10 to the consolidated financial statements contained in Item 8. Financial Statements and Supplementary Data.

Financial Instrument Market Risk

We selectively use financial instruments to manage market risk, primarily foreign currency exchange risk and interest rate risk relating to our ongoing business operations. The counterparties to these contracts are highly rated financial institutions. We do not enter into financial instruments for trading or speculative purposes.

Foreign Exchange Risk

BD and its subsidiaries transact business in various foreign currencies throughout Europe, Greater Asia, Canada and Latin America. We face foreign currency exposure from the effect of fluctuating exchange rates on payables and receivables relating to transactions that are denominated in currencies other than our functional currency. These payables and receivables primarily arise from intercompany transactions. We hedge substantially all such exposures, primarily through the use of forward contracts. We also face currency exposure that arises from translating the results of our worldwide operations, including sales, to the U.S. dollar at exchange rates that have fluctuated from the beginning of a reporting period. From time to time, we may purchase forward contracts and options to hedge certain forecasted transactions that are denominated in foreign currencies in order to partially protect against a reduction in the value of future earnings resulting from adverse foreign exchange rate movements. Gains or losses on derivative instruments are largely offset by the gains or losses on the underlying hedged transactions. We did not enter into contracts to hedge cash flows against foreign currency fluctuations in fiscal year 2019 or 2018.

Derivative financial instruments are recorded on our balance sheet at fair value. For foreign currency derivatives, market risk is determined by calculating the impact on fair value of an assumed change in foreign exchange rates relative to the U.S. dollar. Fair values were estimated based upon observable inputs, specifically spot currency rates and foreign currency prices for similar assets and liabilities.

With respect to the foreign currency derivative instruments outstanding at September 30, 2019 and 2018, the impact that changes in the U.S. dollar would have on pre-tax earnings was estimated as follows:

	Increase (decrease)	
(Millions of dollars)	2019	2018
10% appreciation in U.S. dollar	$ (16)	$ (59)
10% depreciation in U.S. dollar	$ 16	$ 59

These calculations do not reflect the impact of exchange gains or losses on the underlying transactions that would substantially offset the results of the derivative instruments.

Interest Rate Risk

When managing interest rate exposures, we strive to achieve an appropriate balance between fixed and floating rate instruments. We may enter into interest rate swaps to help maintain this balance and manage debt and interest-bearing investments in tandem, since these items have an offsetting impact on interest rate exposure. For interest rate derivative instruments, fair values are measured based upon the present value of expected future cash flows using market-based observable inputs including credit risk and interest rate yield curves. Market risk for these instruments is determined by calculating the impact to fair value of an assumed change in interest rates across all maturities.

The impact that changes in interest rates would have on interest rate derivatives outstanding at September 30, 2019 and 2018, as well as the effect that changes in interest rates would have on our earnings or cash flows over a one-year period, based upon our overall interest rate exposure, were estimated as follows:

	Increase (decrease) to fair value of interest rate derivatives outstanding		Increase (decrease) to earnings or cash flows	
(Millions of dollars)	2019	2018	2019	2018
10% increase in interest rates	$ 19	$ (22)	$ (4)	$ (7)
10% decrease in interest rates	$ (19)	$ 23	$ 4	$ 7

Liquidity and Capital Resources

The following table summarizes our consolidated statement of cash flows in 2019, 2018 and 2017:

(Millions of dollars)	2019	2018	2017
Net cash provided by (used for)			
Operating activities	$ 3,330	$ 2,865	$ 2,550
Investing activities	$ (741)	$ (15,733)	$ (883)
Financing activities	$ (3,223)	$ (58)	$ 10,977

Net Cash Flows from Operating Activities

Cash flows from operating activities in 2019 reflected net income, adjusted by a change in operating assets and liabilities that was a net use of cash. This net use of cash primarily reflected lower levels of accounts payable and accrued expenses and higher levels of inventory, partially offset by lower levels of prepaid expenses. The lower levels of accounts payable and accrued expenses were primarily attributable to cash paid related to income taxes and our product liability matters, as well as the timing and amount of interest payments due in the period. Cash flows from operating activities in 2019 additionally reflected $200 million of discretionary cash contributions to fund our pension obligation.

Cash flows from operating activities in 2018 reflected net income, adjusted by a change in operating assets and liabilities that was a net source of cash. This net source of cash primarily reflected higher levels of accounts payable and accrued expenses, primarily due to higher income taxes payable as a result of the new U.S. tax legislation discussed above, as well as lower levels of inventory, partially offset by higher levels of trade receivables. The change in cash flows from operating activities in 2018 also reflected a change to deferred tax asset and liability balances which were remeasured under the recently enacted tax legislation, which is further discussed in Note 17 to the consolidated financial statements contained in Item 8. Financial Statements and Supplementary Data. The change in cash flows from operating activities in 2018 additionally reflected discretionary cash contributions of $287 million to fund our pension obligation.

Cash flows from operating activities in 2017 reflected net income, adjusted by a change in operating assets and liabilities that was a net use of cash. This net use of cash primarily reflected higher levels of prepaid expenses, trade receivables and inventory, partially offset by higher levels of accounts payable and accrued expenses.

As previously discussed, cash flows from operating activities in 2019, 2018 and 2017 reflected losses recorded upon our extinguishment of certain long-term notes which are included within *Other, net*.

Net Cash Flows from Investing Activities

Capital expenditures

Our investments in capital expenditures are focused on projects that enhance our cost structure and manufacturing capabilities, and support our strategy of geographic expansion with select investments in growing markets. Capital expenditures of $957 million, $895 million and $727 million in 2019, 2018 and 2017, respectively, primarily related to manufacturing capacity expansions. Details of spending by segment are contained in Note 7 to the consolidated financial statements contained in Item 8. Financial Statements and Supplementary Data.

Acquisitions of Businesses

Cash outflows for acquisitions in 2018 primarily related to our acquisition of Bard. Cash outflows for acquisitions in 2017 included payments for acquisitions which were immaterial both individually and in the aggregate. For further discussion, refer to Note 10 to the consolidated financial statements contained in Item 8. Financial Statements and Supplementary Data.

Divestitures

Cash inflows relating to divestitures in 2019, 2018 and 2017 were $477 million, $534 million and $165 million, respectively. For further discussion, refer to Note 11 to the consolidated financial statements contained in Item 8. Financial Statements and Supplementary Data.

Net Cash Flows from Financing Activities

Net cash from financing activities in 2019, 2018 and 2017 included the following significant cash flows:

(Millions of dollars)	2019	2018	2017
Cash inflow (outflow)			
Change in credit facility borrowings	$ 485	$ —	$ (200)
Proceeds from long-term debt and term loans	$ 2,224	$ 5,086	$11,462
Payments of debt and term loans	$(4,744)	$(3,996)	$(3,980)
Proceeds from issuances of equity securities	$ —	$ —	$ 4,827
Share repurchases under accelerated share repurchase agreement	$ —	$ —	$ (220)
Dividends paid	$ (984)	$ (927)	$ (677)

Additional disclosures regarding the equity and debt-related financing activities detailed above are provided in Notes 3 and 16 to the consolidated financial statements contained in Item 8. Financial Statements and Supplementary Data.

Debt-Related Activities

Certain measures relating to our total debt were as follows:

	2019	2018	2017
Total debt (Millions of dollars)	$ 19,390	$ 21,496	$ 18,870
Short-term debt as a percentage of total debt	6.8%	12.1%	1.1%
Weighted average cost of total debt	2.9%	3.2%	3.3%
Total debt as a percentage of total capital (a)	45.6%	47.8%	57.5%

(a) Represents shareholders' equity, net non-current deferred income tax liabilities, and debt.

The decrease in short-term debt as a percentage of total debt at September 30, 2019 was primarily driven by the payment of certain short-term notes as well as the issuance of long-term notes in 2019. The increase in short-term debt as a percentage of total debt at September 30, 2018 was primarily driven by the reclassification of certain notes from long-term to short-term. Additional disclosures regarding our debt instruments are provided in Note 16 to the consolidated financial statements contained in Item 8. Financial Statements and Supplementary Data.

Cash and Short-term Investments

At September 30, 2019, total worldwide cash and short-term investments were $620 million, including restricted cash, which was primarily held in jurisdictions outside of the United States.

Financing Facilities

In May 2017, we entered into a five-year senior unsecured revolving credit facility which provides borrowing of up to $2.25 billion. This facility will expire in December 2022. We are able to issue up to $100 million in letters of credit under this new revolving credit facility and it also includes a provision that enables BD, subject to additional commitments made by the lenders, to access up to an additional $500 million in financing through the facility for a maximum aggregate commitment of $2.75 billion. We use proceeds from this facility to fund general corporate needs. Borrowings outstanding under the revolving credit facility at September 30, 2019 were $485 million.

The agreement for our revolving credit facility contained the following financial covenants. We were in compliance with these covenants as of September 30, 2019.

- We are required to maintain an interest expense coverage ratio of not less than 4-to-1 as of the last day of each fiscal quarter.
- We are required to have a leverage coverage ratio of no more than:
  - 6-to-1 from the closing date of the Bard acquisition until and including the first fiscal quarter-end thereafter;
  - 5.75-to-1 for the subsequent four fiscal quarters thereafter;
  - 5.25-to-1 for the subsequent four fiscal quarters thereafter;
  - 4.5-to-1 for the subsequent four fiscal quarters thereafter;
  - 4-to-1 for the subsequent four fiscal quarters thereafter;
  - 3.75-to-1 thereafter.

We also have informal lines of credit outside the United States. During the fourth quarter of 2019, the Company fully repaid its borrowings outstanding on a 364-day senior unsecured term loan facility that the Company entered in September 2018. The Company had no commercial paper borrowings outstanding as of September 30, 2019. We may, from time to time, sell certain trade receivable assets to third parties as we manage working capital over the normal course of our business activities.

Access to Capital and Credit Ratings

Our corporate credit ratings with the rating agencies Standard & Poor's Ratings Services ("S&P"), Moody's Investor Service (Moody's) and Fitch Ratings ("Fitch") were as follows at September 30, 2019:

	S&P	Moody's	Fitch
Ratings:			
Senior Unsecured Debt	BBB	Ba1	BBB-
Commercial Paper	A-2	NP	
Outlook	Stable	Positive	Stable

In May 2019, Moody's Investor Service reaffirmed our September 30, 2018 ratings and revised the agency's outlook regarding the likely direction of these ratings over the medium term from Stable to Positive.

Lower corporate debt ratings and further downgrades of our corporate credit ratings or other credit ratings may increase our cost of borrowing. We believe that given our debt ratings, our financial management policies, our ability to generate cash flow and the non-cyclical, geographically diversified nature of our businesses, we would have access to additional short-term and long-term capital should the need arise. A rating reflects only the view of a rating agency and is not a recommendation to buy, sell or hold securities. Ratings can be revised upward or downward at any time by a rating agency if such rating agency decides that circumstances warrant such a change.

Contractual Obligations

In the normal course of business, we enter into contracts and commitments that obligate us to make payments in the future. The table below sets forth BD's significant contractual obligations and related scheduled payments as of September 30, 2019:

	Total	2020	2021 to 2022	2023 to 2024	2025 and Thereafter
	(Millions of dollars)				
Short-term debt	$ 1,327	$ 1,327	$ —	$ —	$ —
Long-term debt (a)	23,694	527	6,339	5,196	11,632
Operating leases	546	122	187	114	123
Purchase obligations (b)	1,364	1,048	303	13	—
Unrecognized tax benefits (c)	—	—	—	—	—
Total (d)	$ 26,931	$ 3,025	$ 6,829	$ 5,323	$ 11,755

(a) Long-term debt obligations include expected principal and interest obligations.
(b) Purchase obligations are for purchases made in the normal course of business to meet operational and capital requirements.
(c) Unrecognized tax benefits at September 30, 2019 of $519 million were all long-term in nature. Due to the uncertainty related to the timing of the reversal of these tax positions, the related liability has been excluded from the table.
(d) Required funding obligations for 2020 relating to pension and other postretirement benefit plans are not expected to be material.

Critical Accounting Policies

The following discussion supplements the descriptions of our accounting policies contained in Note 1 to the consolidated financial statements contained in Item 8. Financial Statements and Supplementary Data. The preparation of the consolidated financial statements requires management to use estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses, as well as the disclosure of contingent assets and liabilities at the date of the consolidated financial statements. Some of those judgments can be subjective and complex and, consequently, actual results could differ from those estimates. Management bases its estimates and judgments on historical experience and on various other factors that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. For any given estimate

or assumption made by management, it is possible that other people applying reasonable judgment to the same facts and circumstances could develop different estimates. Actual results that differ from management's estimates could have an unfavorable effect on our consolidated financial statements. Management believes the following critical accounting policies reflect the more significant judgments and estimates used in the preparation of the consolidated financial statements:

Revenue Recognition

Our revenues are primarily recognized when the customer obtains control of the product sold, which is generally upon shipment or delivery, depending on the delivery terms specified in the sales agreement. Revenues associated with certain instruments and equipment for which installation is complex, and therefore significantly affects the customer's ability to use and benefit from the product, are recognized when customer acceptance of these installed products has been confirmed. For certain service arrangements, including extended warranty and software maintenance contracts, revenue is recognized ratably over the contract term. The majority of revenues relating to extended warranty contracts associated with certain instruments and equipment is generally recognized within a few years whereas deferred revenue relating to software maintenance contracts is generally recognized over a longer period.

Our agreements with customers within certain organizational units including Medication Management Solutions, Diagnostic Systems and Biosciences, contain multiple performance obligations including both products and certain services noted above. Determining whether products and services are considered distinct performance obligations that should be accounted for separately may require judgment. The transaction price for these agreements is allocated to each performance obligation based upon its relative standalone selling price. Standalone selling price is the amount at which we would sell a promised good or service separately to a customer. We generally estimate standalone selling prices using its list prices and a consideration of typical discounts offered to customers. The use of alternative estimates could result in a different amount of revenue deferral.

Our gross revenues are subject to a variety of deductions, which include rebates and sales discounts. These deductions represent estimates of the related obligations and judgment is required when determining the impact on gross revenues for a reporting period. Additional factors considered in the estimate of our rebate liability include the quantification of inventory that is either in stock at or in transit to our distributors, as well as the estimated lag time between the sale of product and the payment of corresponding rebates.

Impairment of Assets

Goodwill assets are subject to impairment reviews at least annually, or whenever indicators of impairment arise. Intangible assets with finite lives, including developed technology, and other long-lived assets, are periodically reviewed for impairment when impairment indicators are present.

We assess goodwill for impairment at the reporting unit level, which is defined as an operating segment or one level below an operating segment, referred to as a component. Our reporting units generally represent one level below reporting segments. Potential impairment of goodwill is generally identified by comparing the fair value of a reporting unit with its carrying value. Our annual goodwill impairment test performed on July 1, 2019 did not result in any impairment charges, as the fair value of each reporting unit exceeded its carrying value.

We generally use the income approach to derive the fair value for impairment assessments. This approach calculates fair value by estimating future cash flows attributable to the assets and then discounting these cash flows to a present value using a risk-adjusted discount rate. We selected this method because we believe the income approach most appropriately measures our income producing assets. This approach requires significant management judgment with respect to future volume, revenue and expense growth rates, changes in working capital use, appropriate discount rates, terminal values and other assumptions and estimates. The estimates and assumptions used are consistent with BD's business plans. The use of alternative estimates and assumptions could increase or decrease the estimated fair value of the asset, and potentially result in different impacts to BD's results of operations. Actual results may differ from management's estimates.

Income Taxes

BD maintains valuation allowances where it is more likely than not that all or a portion of a deferred tax asset will not be realized. Changes in valuation allowances are included in our tax provision in the period of change. In determining whether a valuation allowance is warranted, management evaluates factors such as prior

earnings history, expected future earnings, carry back and carry forward periods, and tax strategies that could potentially enhance the likelihood of realization of a deferred tax asset.

BD conducts business and files tax returns in numerous countries and currently has tax audits in progress in a number of tax jurisdictions. In evaluating the exposure associated with various tax filing positions, we record accruals for uncertain tax positions based on the technical support for the positions, our past audit experience with similar situations, and the potential interest and penalties related to the matters. BD's effective tax rate in any given period could be impacted if, upon resolution with taxing authorities, we prevailed in positions for which reserves have been established, or we were required to pay amounts in excess of established reserves.

We have reviewed our needs in the United States for possible repatriation of undistributed earnings of our foreign subsidiaries and we continue to invest foreign subsidiaries earnings outside of the United States to fund foreign investments or meet foreign working capital and property, plant and equipment expenditure needs. As a result, after reevaluation of the permanent reinvestment assertion, we are permanently reinvested with respect to all of our historical foreign earnings as of September 30, 2019. Additional disclosures regarding our accounting for income taxes are provided in Note 17 to the consolidated financial statements contained in Item 8. Financial Statements and Supplementary Data.

Contingencies

We are involved, both as a plaintiff and a defendant, in various legal proceedings that arise in the ordinary course of business, including, without limitation, product liability and environmental matters, as further discussed in Note 5 to the consolidated financial statements contained in Item 8. Financial Statements and Supplementary Data. We assess the likelihood of any adverse judgments or outcomes to these matters as well as potential ranges of probable losses. We establish accruals to the extent probable future losses are estimable (in the case of environmental matters, without considering possible third-party recoveries). A determination of the amount of accruals for these contingencies is made after careful analysis of each individual issue. When appropriate, the accrual is developed with the consultation of outside counsel and, as in the case of certain mass tort litigation, the expertise of an actuarial specialist regarding the nature, timing and extent of each matter. The accruals may change in the future due to new developments in each matter or changes in our strategy in dealing with these matters. We record expected recoveries from product liability insurance carriers or other parties when those recoveries are probable and collectible.

Given the uncertain nature of litigation generally, we are not able in all cases to estimate the amount or range of loss that could result from an unfavorable outcome of the litigation to which we are a party. In view of these uncertainties, we could incur charges in excess of any currently established accruals and, to the extent available, liability insurance. In the opinion of management, any such future charges, individually or in the aggregate, could have a material adverse effect on BD's consolidated results of operations and consolidated net cash flows.

Benefit Plans

We have significant net pension and other postretirement and postemployment benefit costs that are measured using actuarial valuations. These benefit costs include assumptions for the discount rate. Pension benefit costs also include an assumption for the expected return on plan assets. These assumptions have a significant effect on the amounts reported. In addition to the analysis below, see Note 9 to the consolidated financial statements contained in Item 8. Financial Statements and Supplementary Data for additional discussion.

The discount rate is selected each year based on investment grade bonds and other factors as of the measurement date (September 30). Specifically for the U.S. pension plan, we will use a discount rate of 3.21% for 2020, which was based on an actuarially-determined, company-specific yield curve to measure liabilities as of the measurement date. To calculate the pension expense in 2020, we will apply the individual spot rates along the yield curve that correspond with the timing of each future cash outflow for benefit payments in order to calculate interest cost and service cost. Additional disclosures regarding the method to be used in calculating the interest cost and service cost components of pension expense for 2020 are provided in Note 9 to the consolidated financial statements contained in Item 8. Financial Statements and Supplementary Data. The expected long-term rate of return on plan assets assumption, although reviewed each year, changes less frequently due to the long-term nature of the assumption. This assumption does not impact the measurement of assets or liabilities as of the measurement date; rather, it is used only in the calculation of pension expense. To

determine the expected long-term rate of return on pension plan assets, we consider many factors, including our historical assumptions compared with actual results; benchmark data; expected returns on various plan asset classes, as well as current and expected asset allocations. We will use a long-term expected rate of return on plan assets assumption of 7.25% for the U.S. pension plan in 2020. We believe our discount rate and expected long-term rate of return on plan assets assumptions are appropriate based upon the above factors.

Sensitivity to changes in key assumptions for our U.S. pension and other postretirement and postemployment plans are as follows:

- Discount rate — A change of plus (minus) 25 basis points, with other assumptions held constant, would have an estimated $7 million favorable (unfavorable) impact on the total U.S. net pension and other postretirement and postemployment benefit plan costs. This estimate assumes no change in the shape or steepness of the company-specific yield curve used to plot the individual spot rates that will be applied to the future cash outflows for future benefit payments in order to calculate interest and service cost.
- Expected return on plan assets — A change of plus (minus) 25 basis points, with other assumptions held constant, would have an estimated $5 million favorable (unfavorable) impact on U.S. pension plan costs.

Cautionary Statement Regarding Forward-Looking Statements

BD and its representatives may from time to time make certain forward-looking statements in publicly released materials, both written and oral, including statements contained in filings with the Securities and Exchange Commission, press releases, and our reports to shareholders. Forward-looking statements may be identified by the use of words such as “plan,” “expect,” “believe,” “intend,” “will,”, “may”, “anticipate,” “estimate” and other words of similar meaning in conjunction with, among other things, discussions of future operations and financial performance (including volume growth, pricing, sales and earnings per share growth, and cash flows) and statements regarding our strategy for growth, future product development, regulatory approvals, competitive position and expenditures. All statements that address our future operating performance or events or developments that we expect or anticipate will occur in the future are forward-looking statements.

Forward-looking statements are, and will be, based on management’s then-current views and assumptions regarding future events, developments and operating performance, and speak only as of their dates. Investors should realize that if underlying assumptions prove inaccurate, or risks or uncertainties materialize, actual results could vary materially from our expectations and projections. Investors are therefore cautioned not to place undue reliance on any forward-looking statements. Furthermore, we undertake no obligation to update or revise any forward-looking statements after the date they are made, whether as a result of new information, future events and developments or otherwise, except as required by applicable law or regulations.

The following are some important factors that could cause our actual results to differ from our expectations in any forward-looking statements. For further discussion of certain of these factors, see Item 1A. Risk Factors in this report.

- Weakness in the global economy and financial markets, which could increase the cost of operating our business, weaken demand for our products and services, negatively impact the prices we can charge for our products and services, or impair our ability to produce our products.
- Competitive factors that could adversely affect our operations, including new product introductions and technologies (for example, new forms of drug delivery) by our current or future competitors, consolidation or strategic alliances among healthcare companies, distributors and/or payers of healthcare to improve their competitive position or develop new models for the delivery of healthcare, increased pricing pressure due to the impact of low-cost manufacturers, patents attained by competitors (particularly as patents on our products expire), new entrants into our markets and changes in the practice of medicine.
- Risks relating to our acquisition of Bard, including our ability to successfully combine and integrate the Bard operations in order to obtain the anticipated benefits and costs savings from the transaction, and the significant additional indebtedness we incurred in connection with the financing of the acquisition and the impact it may have on our ability to operate the combined company.
- The adverse financial impact resulting from unfavorable changes in foreign currency exchange rates.

- Regional, national and foreign economic factors, including inflation, deflation, and fluctuations in interest rates, and their potential effect on our operating performance.
- Our ability to achieve our projected level or mix of product sales, as our earnings forecasts are based on projected sales volumes and pricing of many product types, some of which are more profitable than others.
- Changes in reimbursement practices of governments or third-party payers, or adverse decisions relating to our products by such payers, which could reduce demand for our products or the price we can charge for such products.
- The impact of the medical device excise tax under the Patient Protection and Affordable Care Act in the United States. While this tax has been suspended through December 31, 2019, absent further legislative action, it will be reinstated in 2020.
- Cost containment efforts in the U.S. or in other countries in which we do business, including alternative payment reform and increased use of competitive bidding and tenders.
- Changes in the domestic and foreign healthcare industry or in medical practices that result in a reduction in procedures using our products or increased pricing pressures, including the continued consolidation among healthcare providers.
- The impact of changes in U.S. federal laws and policy that could affect fiscal and tax policies, healthcare, and international trade, including import and export regulation and international trade agreements. In particular, tariffs or other trade barriers imposed by the U.S. could adversely impact our supply chain costs or otherwise adversely impact our results of operations.
- Increases in operating costs, including fluctuations in the cost and availability of oil-based resins and other raw materials, as well as certain components, used in our products, the ability to maintain favorable supplier arrangements and relationships (particularly with respect to sole-source suppliers), and the potential adverse effects of any disruption in the availability of such items.
- Security breaches of our information technology systems or our products, which could impair our ability to conduct business, result in the loss of BD trade secrets or otherwise compromise sensitive information of BD or its customers, suppliers and other business partners, or of customers' patients, or result in product efficacy or safety concerns for certain of our products, and result in actions by regulatory bodies or civil litigation.
- Difficulties inherent in product development, including the potential inability to successfully continue technological innovation, successfully complete clinical trials, obtain regulatory approvals in the United States and abroad, obtain intellectual property protection for our products, obtain coverage and adequate reimbursement for new products, or gain and maintain market approval of products, as well as the possibility of infringement claims by competitors with respect to patents or other intellectual property rights, all of which can preclude or delay commercialization of a product. Delays in obtaining necessary approvals or clearances from United States Food and Drug Administration (“FDA”) or other regulatory agencies or changes in the regulatory process may also delay product launches and increase development costs.
- The impact of business combinations or divestitures, including any volatility in earnings relating to acquisition-related costs, and our ability to successfully integrate any business we may acquire.
- Our ability to penetrate or expand our operations in emerging markets, which depends on local economic and political conditions, and how well we are able to make necessary infrastructure enhancements to production facilities and distribution networks.
- Conditions in international markets, including social and political conditions, civil unrest, terrorist activity, governmental changes, restrictions on the ability to transfer capital across borders, tariffs and other protectionist measures, difficulties in protecting and enforcing our intellectual property rights and governmental expropriation of assets. This includes the possible impact of the United Kingdom's exit from the European Union ("EU"), which has created uncertainties affecting our business operations in the United Kingdom and the EU, and possibly other countries. Our international operations also increase our compliance risks, including risks under the Foreign Corrupt Practices Act and other anti-corruption laws, as well as regulatory and privacy laws.

- Deficit reduction efforts or other actions that reduce the availability of government funding for healthcare and research, which could weaken demand for our products and result in additional pricing pressures, as well as create potential collection risks associated with such sales.
- Fluctuations in university or U.S. and international governmental funding and policies for life sciences research.
- Fluctuations in the demand for products we sell to pharmaceutical companies that are used to manufacture, or are sold with, the products of such companies, as a result of funding constraints, consolidation or otherwise.
- The effects of weather, regulatory or other events that adversely impact our supply chain, including our ability to manufacture our products (particularly where production of a product line or sterilization operations are concentrated in one or more plants), source materials or components or services from suppliers (including sole-source suppliers) that are needed for such manufacturing (including sterilization), or provide products to our customers, including events that impact key distributors.
- Pending and potential future litigation or other proceedings asserting, and/or subpoenas seeking information with respect to, alleged violations of law (including in connection with federal and/or state healthcare programs (such as Medicare or Medicaid) and/or sales and marketing practices (such as investigative subpoenas and the civil investigative demands received by BD and Bard)), antitrust claims, product liability (which may involve lawsuits seeking class action status or seeking to establish multi-district litigation proceedings, including claims relating to our hernia repair implant products, surgical continence products for women and vena cava filter products), claims with respect to environmental matters, and patent infringement, and the availability or collectability of insurance relating to any such claims.
- New or changing laws and regulations affecting our domestic and foreign operations, or changes in enforcement practices, including laws relating to trade, monetary and fiscal policies, taxation (including tax reforms that could adversely impact multinational corporations), sales practices, environmental protection, price controls, and licensing and regulatory requirements for new products and products in the postmarketing phase. In particular, the U.S. and other countries may impose new requirements regarding registration, labeling or prohibited materials that may require us to re-register products already on the market or otherwise impact our ability to market our products. Environmental laws, particularly with respect to the emission of greenhouse gases, are also becoming more stringent throughout the world, which may increase our costs of operations or necessitate changes in our manufacturing plants or processes or those of our suppliers, or result in liability to BD.
- Product efficacy or safety concerns regarding our products resulting in product holds or recalls, regulatory action on the part of the FDA or foreign counterparts (including restrictions on future product clearances and civil penalties), declining sales and product liability claims, and damage to our reputation. As a result of the CareFusion acquisition, we are operating under a consent decree with the FDA relating to our U.S. infusion pump business. The consent decree authorizes the FDA, in the event of any violations in the future, to order us to cease manufacturing and distributing products, recall products or take other actions, and we may be required to pay significant monetary damages if we fail to comply with any provision of the consent decree. Also, in 2019, the FDA letter to healthcare professionals regarding the use of paclitaxel-coated devices in the treatment of peripheral artery disease resulted in decreased sales of BD's drug-coated balloons. While we have changed the labeling on our products as required by the FDA and continue to work with the FDA on patient data, the extent and duration of the impact from the FDA letter, and the likelihood of FDA approval of new drug-coated devices, is difficult to predict.
- The effect of adverse media exposure or other publicity regarding BD's business or operations, including the effect on BD's reputation or demand for its products.
- The effect of market fluctuations on the value of assets in BD's pension plans and on actuarial interest rate and asset return assumptions, which could require BD to make additional contributions to the plans or increase our pension plan expense.
- Our ability to obtain the anticipated benefits of restructuring programs, if any, that we may undertake.

- Issuance of new or revised accounting standards by the Financial Accounting Standards Board or the Securities and Exchange Commission.

The foregoing list sets forth many, but not all, of the factors that could impact our ability to achieve results described in any forward-looking statements. Investors should understand that it is not possible to predict or identify all such factors and should not consider this list to be a complete statement of all potential risks and uncertainties.

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

The information required by this item is included in Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations, and in Notes 1, 14 and 15 to the consolidated financial statements contained in Item 8. Financial Statements and Supplementary Data, and is incorporated herein by reference.

Item 8. ***Financial Statements and Supplementary Data.***

Reports of Management

Management's Responsibilities

The following financial statements have been prepared by management in conformity with U.S. generally accepted accounting principles and include, where required, amounts based on the best estimates and judgments of management. The integrity and objectivity of data in the financial statements and elsewhere in this Annual Report are the responsibility of management.

In fulfilling its responsibilities for the integrity of the data presented and to safeguard the Company's assets, management employs a system of internal accounting controls designed to provide reasonable assurance, at appropriate cost, that the Company's assets are protected and that transactions are appropriately authorized, recorded and summarized. This system of control is supported by the selection of qualified personnel, by organizational assignments that provide appropriate delegation of authority and division of responsibilities, and by the dissemination of written policies and procedures. This control structure is further reinforced by a program of internal audits, including a policy that requires responsive action by management.

The Board of Directors monitors the internal control system, including internal accounting and financial reporting controls, through its Audit Committee, which consists of eight independent Directors. The Audit Committee meets periodically with the independent registered public accounting firm, the internal auditors and management to review the work of each and to satisfy itself that they are properly discharging their responsibilities. The independent registered public accounting firm and the internal auditors have full and free access to the Audit Committee and meet with its members, with and without management present, to discuss the scope and results of their audits including internal control, auditing and financial reporting matters.

Management's Report on Internal Control Over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting, as defined in Rule 13a-15(f) under the Securities Act of 1934. Management conducted an assessment of the effectiveness of internal control over financial reporting based on the criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework).

Based on the Company's assessment of the effectiveness of internal control over financial reporting and the criteria noted above, management concluded that internal control over financial reporting was effective as of September 30, 2019.

The financial statements and internal control over financial reporting have been audited by Ernst & Young LLP, an independent registered public accounting firm. Ernst & Young's reports with respect to fairness of the presentation of the financial statements, and the effectiveness of internal control over financial reporting, are included herein.

/s/ Vincent A. Forlenza	/s/ Christopher Reidy	/s/ Thomas J. Spoerel
Vincent A. Forlenza	Christopher Reidy	Thomas J. Spoerel
Chairman and Chief Executive Officer	*Executive Vice President, Chief Financial Officer and Chief Administrative Officer*	*Vice President, Controller and Chief Accounting Officer*

Report of Independent Registered Public Accounting Firm

To the Shareholders and the Board of Directors of
Becton, Dickinson and Company

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Becton, Dickinson and Company (the Company) as of September 30, 2019 and 2018, the related consolidated statements of income, comprehensive income and cash flows for each of the three years in the period ended September 30, 2019, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at September 30, 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended September 30, 2019, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of September 30, 2019, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated November 27, 2019 expressed an unqualified opinion.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Estimation of Product Liability Reserves

Description of the Matter

As described in Note 5 to the consolidated financial statements, the Company is a defendant in various product liability matters in which the plaintiffs allege a wide variety of claims associated with the use of certain Company devices. At September 30, 2019, the Company's product liability reserves totaled approximately $2.5 billion. The Company engaged an actuarial specialist to perform an analysis to estimate the outstanding liability for indemnity costs related to claims arising from these product liability matters. The methods used by the Company to estimate these reserves are based on reported claims, historical settlement amounts, and stage of litigation, among other items.

Auditing management's estimate of the product liability reserves and related disclosure was challenging due to the significant judgment required to determine the methods used to estimate the amount of unreported product liability claims and the indemnity costs and the key assumptions utilized in those methods given the stages of these matters and the amount of claims history.

How We Addressed the Matter in Our Audit

We obtained an understanding, evaluated the design and tested the operating effectiveness of the controls over the Company's evaluation of the product liability reserve. For example, we tested controls over management's review of the methods, significant assumptions and the underlying data used by the actuary to estimate the product liability reserve.

To evaluate management's estimate of the product liability reserve, our audit procedures included, among others, testing the completeness and accuracy of the underlying data used by management's actuarial specialist to estimate the amount of unreported claims and the indemnity cost. For example, we compared filed and settled claims data to legal letters obtained from external counsel, and, on a sample basis, compared settlement amounts to the underlying agreements. In addition, we involved our actuarial specialists to assist us in evaluating the methods used to estimate the unreported claims and the indemnity cost used in the calculation of the product liability reserves. We have also assessed the adequacy of the Company's disclosures in relation to these matters.

Income taxes - Uncertain tax positions

Description of the Matter

As discussed in Notes 1 and 17 of the consolidated financial statements, the Company has recorded a liability of $624 million related to uncertain tax positions as of September 30, 2019. The Company conducts business in numerous countries and is therefore subject to income taxes in multiple jurisdictions, which impacts the provision for income taxes. Due to the multinational operations of the Company, changes in global income tax laws and regulation result in complexity in the accounting for and monitoring of income taxes including the provision for uncertain tax positions.

Auditing the completeness of management's identification of uncertain tax positions involved complex analysis and auditor judgment related to the evaluation of the income tax consequences of significant transactions, including internal restructurings, and changes in income tax law and regulations in various jurisdictions, which is often subject to interpretation.

How We Addressed the Matter in Our Audit

We obtained an understanding, evaluated the design and tested the operating effectiveness of controls over the Company's income tax provision process, such as controls over management's identification and assessment of changes to tax laws and income tax positions to account for uncertain tax positions, including management's review of the related tax technical analyses.

We performed audit procedures, among others, to evaluate the Company's assumptions used to develop its uncertain tax positions and related unrecognized income tax benefit amounts by jurisdiction. We obtained an understanding of the Company's legal structure through our review of organizational charts and related legal documents. We further considered the income tax consequences of significant transactions, including internal restructurings, and assessed management's interpretation of those changes under the relevant jurisdiction's tax law. Due to the complexity of tax law, we involved our tax subject matter professionals to assess the Company's interpretation of and compliance with tax laws in these jurisdictions, as well as to identify tax law changes. We also involved our tax subject matter professionals to evaluate the technical merits of the Company's accounting for its tax positions, including assessing the Company's correspondence with the relevant tax authorities and evaluating third-party advice obtained by the Company. We also evaluated the Company's income tax disclosures included in Note 17 to the consolidated financial statements in relation to these matters.

Goodwill impairment - Interventional segment

Description of the Matter

At September 30, 2019, the Company's goodwill assigned to the Interventional segment was $12.6 billion. As discussed in Note 1 of the consolidated financial statements, goodwill is tested for impairment at least annually at the reporting unit level using quantitative models.

Auditing management's annual goodwill impairment test was complex and highly judgmental due to the significant estimation required in determining the fair value of the reporting units. In particular, the fair value estimates were sensitive to significant assumptions such as the discount rate, revenue growth rate, operating margin, and terminal value, which are affected by expectations about future market or economic conditions.

How We Addressed the Matter in Our Audit

We obtained an understanding, evaluated the design and tested the operating effectiveness of controls over the Company's goodwill impairment review process. For example, we tested controls over management's review of the inputs and assumptions to the goodwill impairment analysis.

To test the estimated fair value of the Company's reporting units, our audit procedures included, among others, assessing fair value methodology, evaluating the prospective financial information used by the Company in its valuation analysis and involving our valuation specialists to assist in testing the significant assumptions discussed above. We compared the significant assumptions used by management to current industry and economic trends, historical financial results, and other relevant factors that would affect the significant assumptions. We assessed the historical accuracy of management's estimates and performed sensitivity analyses of significant assumptions to evaluate the changes in the fair value of the reporting units. In addition, we tested the reconciliation of the fair value of the reporting units to the market capitalization of the Company.

/s/ ERNST & YOUNG LLP

We have served as the Company's auditor since 1959.

New York, New York

November 27, 2019

Report of Independent Registered Public Accounting Firm

To the Shareholders and the Board of Directors of

Becton, Dickinson and Company

Opinion on Internal Control over Financial Reporting

We have audited Becton, Dickinson and Company's internal control over financial reporting as of September 30, 2019, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission, (2013 framework), (the COSO criteria). In our opinion, Becton, Dickinson and Company (the Company) maintained, in all material respects, effective internal control over financial reporting as of September 30, 2019, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of September 30, 2019 and 2018, the related consolidated statements of income, comprehensive income and cash flows for each of the three years in the period ended September 30, 2019, and the related notes and our report dated November 27, 2019 expressed an unqualified opinion thereon.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ ERNST & YOUNG LLP

New York, New York
November 27, 2019

Consolidated Statements of Income

Becton, Dickinson and Company
Years Ended September 30

Millions of dollars, except per share amounts	2019	2018	2017
Revenues	$ 17,290	$ 15,983	$ 12,093
Cost of products sold	9,002	8,714	6,128
Selling and administrative expense	4,332	4,016	2,909
Research and development expense	1,062	1,004	770
Acquisitions and other restructurings	480	740	354
Other operating expense, net	654	—	410
Total Operating Costs and Expenses	15,530	14,474	10,571
Operating Income	1,760	1,509	1,522
Interest expense	(639)	(706)	(521)
Interest income	12	65	76
Other income (expense), net	43	305	(101)
Income Before Income Taxes	1,176	1,173	976
Income tax (benefit) provision	(57)	862	(124)
Net Income	1,233	311	1,100
Preferred stock dividends	(152)	(152)	(70)
Net income applicable to common shareholders	$ 1,082	$ 159	$ 1,030
Basic Earnings per Share	$ 4.01	$ 0.62	$ 4.70
Diluted Earnings per Share	$ 3.94	$ 0.60	$ 4.60

Consolidated Statements of Comprehensive Income

Becton, Dickinson and Company
Years Ended September 30

Millions of dollars	2019	2018	2017
Net Income	$ 1,233	$ 311	$ 1,100
Other Comprehensive (Loss) Income, Net of Tax			
Foreign currency translation adjustments	(93)	(161)	11
Defined benefit pension and postretirement plans	(275)	(26)	179
Cash flow hedges	(6)	1	17
Other Comprehensive (Loss) Income, Net of Tax	(374)	(186)	206
Comprehensive Income	$ 859	$ 125	$ 1,306

Consolidated Balance Sheets

Becton, Dickinson and Company
September 30

Millions of dollars, except per share amounts and numbers of shares	2019	2018
Assets		
Current Assets		
Cash and equivalents	$ 536	$ 1,140
Restricted cash	54	96
Short-term investments	30	17
Trade receivables, net	2,345	2,319
Inventories	2,579	2,451
Assets held for sale	—	137
Prepaid expenses and other	1,119	1,251
Total Current Assets	6,664	7,411
Property, Plant and Equipment, Net	5,659	5,375
Goodwill	23,376	23,600
Developed Technology, Net	11,054	12,184
Customer Relationships, Net	3,424	3,723
Other Intangibles, Net	500	534
Other Assets	1,088	1,078
Total Assets	$ 51,765	$ 53,904
Liabilities and Shareholders' Equity		
Current Liabilities		
Short-term debt	$ 1,309	$ 2,601
Accounts payable	1,092	1,106
Accrued expenses	2,127	2,255
Salaries, wages and related items	987	910
Income taxes	140	343
Total Current Liabilities	5,655	7,216
Long-Term Debt	18,081	18,894
Long-Term Employee Benefit Obligations	1,272	1,056
Deferred Income Taxes and Other	5,676	5,743
Commitments and Contingencies (See Note 5)		
Shareholders' Equity		
Preferred stock	2	2
Common stock — $1 par value: authorized — 640,000,000 shares; issued — 346,687,160 shares in 2019 and 2018.	347	347
Capital in excess of par value	16,270	16,179
Retained earnings	12,913	12,596
Deferred compensation	23	22
Common stock in treasury — at cost — 76,259,835 shares in 2019 and 78,462,971 shares in 2018.	(6,190)	(6,243)
Accumulated other comprehensive loss	(2,283)	(1,909)
Total Shareholders' Equity	21,081	20,994
Total Liabilities and Shareholders' Equity	$ 51,765	$ 53,904

Consolidated Statements of Cash Flows

Becton, Dickinson and Company
Years Ended September 30

Millions of dollars	2019	2018	2017
Operating Activities			
Net income	$ 1,233	$ 311	$ 1,100
Adjustments to net income to derive net cash provided by operating activities:			
Depreciation and amortization	2,253	1,978	1,088
Share-based compensation	261	322	174
Deferred income taxes	(381)	(240)	(236)
Change in operating assets and liabilities:			
Trade receivables, net	(51)	(170)	(93)
Inventories	(149)	246	(46)
Prepaid expenses and other	299	(46)	(366)
Accounts payable, income taxes and other liabilities	(470)	867	134
Pension obligation	(123)	(263)	84
Excess tax benefits from payments under share-based compensation plans	55	78	77
Lease contract modification-related charge	—	—	748
Gain on sale of Vyaire interest	—	(303)	—
Gain on sale of business	(336)	—	—
Product liability-related charges	914	—	—
Other, net	(177)	85	(114)
Net Cash Provided by Operating Activities	3,330	2,865	2,550
Investing Activities			
Capital expenditures	(957)	(895)	(727)
Acquisitions of businesses, net of cash acquired	—	(15,155)	(174)
Proceeds from divestitures, net	477	534	165
Other, net	(261)	(217)	(148)
Net Cash Used for Investing Activities	(741)	(15,733)	(883)
Financing Activities			
Change in credit facility borrowings	485	—	(200)
Proceeds from long-term debt and term loans	2,224	5,086	11,462
Payments of debt and term loans	(4,744)	(3,996)	(3,980)
Proceeds from issuance of equity securities	—	—	4,827
Repurchase of common stock	—	—	(220)
Dividends paid	(984)	(927)	(677)
Other, net	(205)	(220)	(234)
Net Cash (Used for) Provided by Financing Activities	(3,223)	(58)	10,977
Effect of exchange rate changes on cash and equivalents and restricted cash	(12)	(17)	(6)
Net (Decrease) Increase in Cash and Equivalents and Restricted Cash	(646)	(12,943)	12,638
Opening Cash and Equivalents and Restricted Cash	1,236	14,179	1,541
Closing Cash and Equivalents and Restricted Cash	$ 590	$ 1,236	$ 14,179
Non-Cash Investing Activities			
Fair value of shares issued as acquisition consideration (See Note 10)	$ —	$ 8,004	$ —
Fair value of equity awards issued as acquisition consideration (See Note 10)	$ —	$ 613	$ —

Note 1 — Summary of Significant Accounting Policies

Basis of Presentation

The accompanying Consolidated Financial Statements and Notes to Consolidated Financial Statements of Becton, Dickinson and Company (the "Company" or "BD") have been prepared in accordance with U.S. generally accepted accounting principles ("U.S. GAAP"). Within the financial statements and tables presented, certain columns and rows may not add due to the use of rounded numbers for disclosure purposes. Percentages and earnings per share amounts presented are calculated from the underlying amounts. Our fiscal year ends on September 30.

Principles of Consolidation

The consolidated financial statements include the Company's accounts and those of its majority-owned subsidiaries after the elimination of intercompany transactions. The Company has no material interests in variable interest entities.

Cash Equivalents

Cash equivalents consist of all highly liquid investments with a maturity of three months or less at time of purchase.

Restricted Cash

Restricted cash consists of cash restricted from withdrawal and usage and largely represents funds that are restricted for certain product liability matters assumed in the acquisition of C.R. Bard, Inc. ("Bard") which is further discussed in Note 10.

Trade Receivables

The Company grants credit to customers in the normal course of business and the resulting trade receivables are stated at their net realizable value. The allowance for doubtful accounts represents the Company's estimate of probable credit losses relating to trade receivables and is determined based on historical experience and other specific account data. Amounts are written off against the allowances for doubtful accounts when the Company determines that a customer account is uncollectible.

Inventories

Inventories are stated at the lower of approximate cost determined on the first-in, first-out basis or market.

Property, Plant and Equipment

Property, plant and equipment are stated at cost, less accumulated depreciation and amortization. Depreciation and amortization are principally provided on the straight-line basis over estimated useful lives, which range from 20 to 45 years for buildings, four to 13 years for machinery and equipment and one to 20 years for leasehold improvements. Depreciation and amortization expense was $633 million, $600 million and $406 million in fiscal years 2019, 2018 and 2017, respectively.

Goodwill and Other Intangible Assets

The Company's unamortized intangible assets include goodwill which arise from acquisitions. The Company currently reviews goodwill for impairment using quantitative models. Goodwill is reviewed at least annually for impairment at the reporting unit level, which is defined as an operating segment or one level below an operating segment, referred to as a component. The Company's reporting units generally represent one level below reporting segments. Potential impairment of goodwill is generally identified by comparing the fair value of a reporting unit, estimated using an income approach, with its carrying value. The annual impairment review performed on July 1, 2019 indicated that all identified reporting units' fair values exceeded their respective carrying values.

Amortized intangible assets include developed technology assets which arise from acquisitions. These assets represent acquired intellectual property that is already technologically feasible upon the acquisition date or acquired in-process research and development assets that are completed subsequent to acquisition. Developed technology assets are generally amortized over periods ranging from 15 to 20 years, using the straight-line method. Customer relationship assets are generally amortized over periods ranging from 10 to 15 years, using the straight-line method. Other intangibles with finite useful lives, which include patents, are amortized over periods principally ranging from one to 40 years, using the straight-line method. Finite-lived intangible assets, including developed technology assets, are periodically reviewed when impairment indicators are present to assess recoverability from future operations using undiscounted cash flows. The carrying values of these finite-lived assets are compared to the undiscounted cash flows they are expected to generate and an impairment loss is recognized in operating results to the extent any finite-lived intangible asset's carrying value exceeds its calculated fair value.

Foreign Currency Translation

Generally, foreign subsidiaries' functional currency is the local currency of operations and the net assets of foreign operations are translated into U.S. dollars using current exchange rates. The U.S. dollar results that arise from such translation, as well as exchange gains and losses on intercompany balances of a long-term investment nature, are included in the foreign currency translation adjustments in *Accumulated other comprehensive income (loss)*.

Revenue Recognition

The Company recognizes revenue from product sales when the customer obtains control of the product, which is generally upon shipment or delivery, depending on the delivery terms specified in the sales agreement. Revenues associated with certain instruments and equipment for which installation is complex, and therefore significantly affects the customer's ability to use and benefit from the product, are recognized upon customer acceptance of these installed products. Revenue for certain service arrangements, including extended warranty and software maintenance contracts, is recognized ratably over the contract term. When arrangements include multiple performance obligations, the total transaction price of the contract is allocated to each performance obligation based on the estimated relative standalone selling prices of the promised goods or services underlying each performance obligation. Variable consideration such as rebates, sales discounts and sales returns are estimated and treated as a reduction of revenue in the same period the related revenue is recognized. These estimates are based on contractual terms, historical practices, and current trends, and are adjusted as new information becomes available. Revenues exclude any taxes that the Company collects from customers and remits to tax authorities.

Equipment lease transactions with customers are evaluated and classified as either operating or sales-type leases. Generally, these arrangements are accounted for as operating leases and therefore, revenue is recognized at the contracted rate over the rental period defined within the customer agreement.

Additional disclosures regarding the Company's accounting for revenue recognition are provided in Note 6.

Shipping and Handling Costs

The Company considers its shipping and handling costs to be contract fulfillment costs and records them within *Selling and administrative expense.* Shipping expense was $511 million, $479 million and $365 million in 2019, 2018 and 2017, respectively.

Derivative Financial Instruments

All derivatives are recorded in the balance sheet at fair value and changes in fair value are recognized currently in earnings unless specific hedge accounting criteria are met. Any deferred gains or losses associated with derivative instruments are recognized in income in the period in which the underlying hedged transaction is recognized. Additional disclosures regarding the Company's accounting for derivative instruments are provided in Note 14.

Income Taxes

The Company has reviewed its needs in the United States for possible repatriation of undistributed earnings of its foreign subsidiaries and continues to invest foreign subsidiaries earnings outside of the United States to fund foreign investments or meet foreign working capital and property, plant and equipment expenditure needs. As a result, after reevaluation of the permanent reinvestment assertion, the Company is permanently reinvested with respect to all of its historical foreign earnings as of September 30, 2019. Deferred taxes are not provided on undistributed earnings of foreign subsidiaries that are indefinitely reinvested. The determination of the amount of the unrecognized deferred tax liability related to the undistributed earnings is not practicable because of the complexities associated with its hypothetical calculation.

The Company conducts business and files tax returns in numerous countries and currently has tax audits in progress in a number of tax jurisdictions. In evaluating the exposure associated with various tax filing positions, the Company records accruals for uncertain tax positions, based on the technical support for the positions, past audit experience with similar situations, and the potential interest and penalties related to the matters.

The Company maintains valuation allowances where it is more likely than not that all or a portion of a deferred tax asset will not be realized. Changes in valuation allowances are included in the tax provision in the period of change. In determining whether a valuation allowance is warranted, management evaluates factors such as prior earnings history, expected future earnings, carryback and carryforward periods and tax strategies that could potentially enhance the likelihood of the realization of a deferred tax asset. Additional disclosures regarding the Company's accounting for income taxes are provided in Note 17.

Earnings per Share

Basic earnings per share are computed by dividing income available to common stockholders by the weighted average number of common shares outstanding. Diluted earnings per share reflect the potential dilution that could occur if securities or other contracts to issue common stock were exercised or converted into common stock. In computing diluted earnings per share, only potential common shares that are dilutive (i.e., those that reduce earnings per share or increase loss per share) are included in the calculation.

Use of Estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions. These estimates or assumptions affect reported assets, liabilities, revenues and expenses as reflected in the consolidated financial statements. Actual results could differ from these estimates.

Note 2 — Accounting Changes

New Accounting Principles Adopted

On October 1, 2018, the Company adopted Accounting Standards Codification Topic 606, "Revenue from Contracts with Customers" ("ASC 606") using the modified retrospective method. Under ASC 606, revenue is

recognized upon the transfer of control of goods or services to customers and reflects the amount of consideration to which a reporting entity expects to be entitled in exchange for those goods or services. The Company assessed the impact of this new standard on its consolidated financial statements based upon a review of contracts that were not completed as of October 1, 2018. Amounts presented in the Company's financial statements for the prior-year periods have not been revised and are reflective of the revenue recognition requirements which were in effect for those periods. This accounting standard adoption, which is further discussed in Note 6, did not materially impact any line items of the Company's consolidated income statements and balance sheet.

On October 1, 2018, the Company retrospectively adopted an accounting standard update which requires all components of net periodic pension and postretirement benefit costs to be disaggregated from the service cost component and to be presented on the income statement outside a subtotal of income from operations, if one is presented. Upon the Company's adoption of the accounting standard update, which did not have a material impact on its consolidated financial statements, all components of the Company's net periodic pension and postretirement benefit costs, aside from service cost, are recorded to *Other income (expense), net* on its consolidated income statements for all periods presented. Revisions of prior-year amounts were estimated based upon previously disclosed amounts.

On October 1, 2018, the Company adopted an accounting standard update which requires that the income tax effects of intercompany sales or transfers of assets, except those involving inventory, be recognized in the income statement as income tax expense (or benefit) in the period that the sale or transfer occurs. The Company adopted this accounting standard update, which did not have a material impact on its consolidated financial statements, using the modified retrospective method.

In the second quarter of its fiscal year 2018, the Company prospectively adopted an accounting standard update relating to the stranded income tax effects on items within *Accumulated other comprehensive income (loss)* resulting from the enactment of new U.S. tax legislation, which legislation is further discussed in Note 17. Additional disclosures regarding this accounting standard adoption are provided in Note 3.

On October 1, 2016, the Company prospectively adopted amended requirements relating to the timing of recognition and classification of share-based compensation award-related income tax effects. Upon adoption of the requirements in 2017, the Company has recorded tax benefits relating to share-based compensation awards within *Income tax (benefit) provision* on its consolidated statement of income. These tax benefits had been previously recorded within *Capital in excess of par value* on the Company's consolidated balance sheet. Also upon adoption of the amended guidance in 2017, the Company has classified excess tax benefits on its consolidated statement of cash flows within *Net Cash Provided by Operating Activities*, rather than *Net Cash (Used for) Provided by Financing Activities*.

New Accounting Principles Not Yet Adopted

In February 2016, the Financial Accounting Standards Board ("FASB") issued a new lease accounting standard which requires lessees to recognize lease assets and lease liabilities on the balance sheet. The new standard also requires expanded disclosures regarding leasing arrangements. The Company will adopt the standard on October 1, 2019 and expects to elect certain practical expedients permitted under the transition guidance, including a transition method which allows application of the new standard at its adoption date, rather than at the earliest comparative period presented in the financial statements. The Company has also elected a practical expedient which allows entities to account for the lease and non-lease components in an arrangement as a single lease component. Upon adoption of the standard, the Company's operating leases will be recognized as right-of-use assets and corresponding lease liabilities on its consolidated balance sheet. The Company's measurement of these assets and liabilities will be finalized during the first quarter of fiscal year 2020. The Company does not expect the adoption of this standard to materially impact its consolidated financial statements.

In June 2016, the FASB issued a new accounting standard which requires earlier recognition of credit losses on loans and other financial instruments held by entities, including trade receivables. The new standard requires entities to measure all expected credit losses for financial assets held at each reporting date based on historical experience, current conditions, and reasonable and supportable forecasts. The Company is currently evaluating the impact that this new accounting standard will have on its consolidated financial statements upon its adoption on October 1, 2020.

Note 3 — Shareholders' Equity

Changes in certain components of shareholders' equity were as follows:

(Millions of dollars)	Common Stock Issued at Par Value	Capital in Excess of Par Value	Retained Earnings	Deferred Compensation	Treasury Stock	
					Shares (in thousands)	Amount
Balance at September 30, 2016	$ 333	$ 4,693	$ 12,727	$ 22	(119,371)	$ (8,212)
Net income	—	—	1,100	—	—	—
Cash dividends:						
Common ($2.92 per share)	—	—	(645)	—	—	—
Preferred	—	—	(70)	—	—	—
Common stock issued for:						
Public equity offerings (a)	14	4,810	—	—	—	—
Share-based compensation and other plans, net	—	(65)	(1)	(3)	1,908	6
Share-based compensation	—	180	—	—	—	—
Common stock held in trusts, net (b)	—	—	—	—	7	—
Repurchase of common stock (c)	—	—	—	—	(1,289)	(220)
Balance at September 30, 2017	$ 347	$ 9,619	$ 13,111	$ 19	(118,745)	$ (8,427)
Net income	—	—	311	—	—	—
Cash dividends:						
Common ($3.00 per share)	—	—	(775)	—	—	—
Preferred	—	—	(152)	—	—	—
Common stock issued for:						
Acquisition (see Note 10)	—	6,478	—	—	37,306	2,121
Share-based compensation and other plans, net	—	(246)	(2)	3	2,982	62
Share-based compensation	—	328	—	—	—	—
Common stock held in trusts, net (b)	—	—	—	—	(6)	—
Effect of change in accounting principle (see Note 2 and further discussion below)	—	—	103	—	—	—
Balance at September 30, 2018	$ 347	$ 16,179	$ 12,596	$ 22	(78,463)	$ (6,243)
Net income	—	—	1,233	—	—	—
Cash dividends:						
Common ($3.08 per share)	—	—	(832)	—	—	—
Preferred	—	—	(152)	—	—	—
Common stock issued for share-based compensation and other plans, net	—	(170)	(1)	1	2,155	53
Share-based compensation	—	261	—	—	—	—
Common stock held in trusts, net (b)	—	—	—	—	48	—
Effect of change in accounting principle (see Note 2)	—	—	68	—	—	—
Balance at September 30, 2019	$ 347	$ 16,270	$ 12,913	$ 23	(76,260)	$ (6,190)

(a) In May 2017 and in connection with the Company's acquisition of Bard, which is further discussed in Note 10, the Company completed registered public offerings of equity securities including 14.025 million shares of the Company's common stock and 2.475 million shares of the Company's mandatory convertible preferred stock (ownership is held in the form of depositary shares, each

representing a 1/20th interest in a share of preferred stock) for total net proceeds of $4.8 billion. If and when declared, dividends on the mandatory convertible preferred stock are payable on a cumulative basis at an annual rate of 6.125% on the liquidation preference of $1,000 per preferred share ($50 per depositary share). The shares of preferred stock are convertible to a minimum of 11.7 million and up to a maximum of 14.0 million shares of Company common stock at an exchange ratio that is based on the market price of the Company's common stock at the date of conversion, and no later than the mandatory conversion date of May 1, 2020.

(b) Common stock held in trusts represents rabbi trusts in connection with deferred compensation under the Company's employee salary and bonus deferral plan and directors' deferral plan.

(c) Using proceeds received from the divestiture of the Respiratory Solutions business in the first quarter of fiscal year 2017, the Company repurchased shares of its common stock under an accelerated share repurchase agreement.

The components and changes of *Accumulated other comprehensive income (loss)* were as follows:

(Millions of dollars)	Total	Foreign Currency Translation	Benefit Plans	Cash Flow Hedges
Balance at September 30, 2016	$ (1,929)	$ (1,011)	$ (883)	$ (35)
Other comprehensive income before reclassifications, net of taxes	140	11	121	8
Amounts reclassified into income, net of taxes	66	—	58	8
Balance at September 30, 2017	$ (1,723)	$ (1,001)	$ (703)	$ (18)
Other comprehensive (loss) income before reclassifications, net of taxes	(142)	(161)	19	—
Amounts reclassified into income, net of taxes	57	—	52	5
Tax effects reclassified to retained earnings	(103)	—	(99)	(4)
Balance at September 30, 2018	$ (1,909)	$ (1,162)	$ (729)	$ (17)
Other comprehensive loss before reclassifications, net of taxes	(427)	(93)	(325)	(9)
Amounts reclassified into income, net of taxes	52	—	49	3
Balance at September 30, 2019	$ (2,283)	$ (1,256)	$ (1,005)	$ (23)

The amount of foreign currency translation recognized in other comprehensive income during the years ended September 30, 2019, 2018 and 2017 included net gains (losses) relating to net investment hedges, as further discussed in Note 14. The amounts recognized in other comprehensive income relating to cash flow hedges in 2019 and 2017 related to forward starting interest rate swaps. Additional disclosures regarding the Company's cash flow hedge activities are provided in Note 14.

During the second quarter of 2018, as permitted under U.S. GAAP guidance, the Company reclassified stranded income tax effects on items within *Accumulated other comprehensive income (loss)* resulting from the enactment of new U.S. tax legislation, which legislation is further discussed in Note 17, to *Retained earnings*. The reclassified tax effects related to prior service credits and net actuarial losses relating to benefit plans, as well as to terminated cash flow hedges. The tax effects relating to these items are generally recognized as such amounts are amortized into earnings.

The tax impacts for amounts recognized in other comprehensive income before reclassifications were as follows:

(Millions of dollars)	2019	2018	2017
Benefit Plans			
Income tax benefit (provision) for net (losses) gains recorded in other comprehensive income	$ 91	$ (19)	$ (60)

The tax impacts for cash flow hedges recognized in other comprehensive income before reclassifications in 2019 and 2017 were immaterial to the Company's consolidated financial results. Reclassifications out of *Accumulated other comprehensive income (loss)* and the related tax impacts relating to benefit plans and cash flow hedges in 2019, 2018 and 2017 were also immaterial to the Company's consolidated financial results.

Note 4 — Earnings per Share

The weighted average common shares used in the computations of basic and diluted earnings per share (shares in thousands) for the years ended September 30 were as follows:

	2019	2018	2017
Average common shares outstanding	269,943	258,354	218,943
Dilutive share equivalents from share-based plans (a)	4,832	6,267	4,645
Average common and common equivalent shares outstanding — assuming dilution	274,775	264,621	223,588

(a) For the years ended September 30, 2019, 2018 and 2017, dilutive share equivalents associated with mandatory convertible preferred stock of 12 million, 12 million and 5 million, respectively, were excluded from the diluted shares outstanding calculation because the result would have been antidilutive. The issuance of the convertible preferred stock is further discussed in Note 3. For the years ended September 30, 2019, 2018 and 2017, there were no options to purchase shares of common stock which were excluded from the diluted earnings per share calculation.

Note 5 — Commitments and Contingencies

Commitments

Rental expense for all operating leases amounted to $169 million in 2019, $149 million in 2018 and $110 million in 2017. Future minimum rental commitments on non-cancelable leases are as follows:

(Millions of dollars)	Future minimum rental commitments on non-cancelable leases
2020	$ 122
2021	103
2022	83
2023	57
2024	56
Thereafter	123

As of September 30, 2019, the Company has certain future purchase commitments aggregating to approximately $1.364 billion, which will be expended over the next several years.

Contingencies

Given the uncertain nature of litigation generally, the Company is not able, in all cases, to estimate the amount or range of loss that could result from an unfavorable outcome of the litigation to which the Company is a party. In accordance with U.S. GAAP, the Company establishes accruals to the extent probable future losses are estimable (in the case of environmental matters, without considering possible third-party recoveries). With respect to putative class action lawsuits in the United States and certain of the Canadian lawsuits described below relating to product liability matters, the Company is unable to estimate a range of reasonably possible losses for the following reasons: (i) all or certain of the proceedings are in early stages; (ii) the Company has not received and reviewed complete information regarding all or certain of the plaintiffs and their medical conditions; and/or (iii) there are significant factual issues to be resolved. In addition, there is uncertainty as to the likelihood of a class being certified or the ultimate size of the class. With respect to the civil investigative demand served by the Department of Justice, as discussed below, the Company is unable to estimate a range of reasonably possible losses for the following reasons: (i) all or certain of the proceedings are in early stages; and/or (ii) there are significant factual and legal issues to be resolved.

In view of the uncertainties discussed below, the Company could incur charges in excess of any currently established accruals and, to the extent available, liability insurance. In the opinion of management, any such future charges, individually or in the aggregate, could have a material adverse effect on the Company's consolidated results of operations and consolidated cash flows.

Product Liability Matters

The Company believes that certain settlements and judgments, as well as legal defense costs, relating to product liability matters are or may be covered in whole or in part under its product liability insurance policies with a limited number of insurance carriers, or, in some circumstances, indemnification obligations to the Company from other parties, which if disputed, the Company intends to vigorously contest. Amounts recovered under the Company's product liability insurance policies or indemnification arrangements may be less than the stated coverage limits or less than otherwise expected and may not be adequate to cover damages and/or costs relating to claims. In addition, there is no guarantee that insurers or other parties will pay claims or that coverage or indemnity will be otherwise available.

Hernia Product Claims

As of September 30, 2019, the Company is defending approximately 12,040 product liability claims involving the Company's line of hernia repair devices (collectively, the "Hernia Product Claims"). The majority of those claims are currently pending in a coordinated proceeding in Rhode Island State Court, but claims are also pending in other state and/or federal court jurisdictions. In addition, those claims include multiple putative class actions in Canada. Generally, the Hernia Product Claims seek damages for personal injury allegedly resulting from use of the products. From time to time, the Company engages in resolution discussions with plaintiffs' law firms regarding certain of the Hernia Product Claims, but the Company also intends to vigorously defend Hernia Product Claims that do not settle, including through litigation. Trials are scheduled throughout 2020 in various state and/or federal courts. The Company expects additional trials of Hernia Product Claims to take place over the next 12 months. In August 2018, a new hernia multi-district litigation ("MDL") was ordered to be established in the Southern District of Ohio. The Company cannot give any assurances that the resolution of the Hernia Product Claims that have not settled, including asserted and unasserted claims and the putative class action lawsuits, will not have a material adverse effect on the Company's business, results of operations, financial condition and/or liquidity.

Women's Health Product Claims

As of September 30, 2019, the Company is defending approximately 885 product liability claims involving the Company's line of pelvic mesh devices. The majority of those claims are currently pending in various federal court jurisdictions, and a coordinated proceeding in New Jersey State Court, but claims are also pending in other state court jurisdictions. In addition, those claims include putative class actions filed in the United States. Not included in the figures above are approximately 1,010 filed and unfiled claims that have been

asserted or threatened against the Company but lack sufficient information to determine whether a pelvic mesh device of the Company is actually at issue. The claims identified above also include products manufactured by both the Company and two subsidiaries of Medtronic plc (as successor in interest to Covidien plc) ("Medtronic"), each a supplier of the Company. Medtronic has an obligation to defend and indemnify the Company with respect to any product defect liability relating to products its subsidiaries had manufactured. As described below, in July 2015 the Company reached an agreement with Medtronic (which was amended in June 2017) regarding certain aspects of Medtronic's indemnification obligation. The foregoing lawsuits, unfiled claims, putative class actions, and other claims, together with claims that have settled or are the subject of agreements or agreements in principle to settle, are referred to collectively as the "Women's Health Product Claims." The Women's Health Product Claims generally seek damages for personal injury allegedly resulting from use of the products.

As of September 30, 2019, the Company has reached agreements or agreements in principle with various plaintiffs' law firms to settle their respective inventories of cases totaling approximately 15,160 of the Women's Health Product Claims. The Company believes that these Women's Health Product Claims are not the subject of Medtronic's indemnification obligation. These settlement agreements and agreements in principle include unfiled and previously unknown claims held by various plaintiffs' law firms, which are not included in the approximate number of lawsuits set forth in the first paragraph of this section. Each agreement is subject to certain conditions, including requirements for participation in the proposed settlements by a certain minimum number of plaintiffs. The Company continues to engage in discussions with other plaintiffs' law firms regarding potential resolution of unsettled Women's Health Product Claims, which may include additional inventory settlements.

Starting in 2014 in the MDL, the court entered certain pre-trial orders requiring trial work up and remand of a significant number of Women's Health Product Claims, including an order entered in the MDL on January 30, 2018, that requires the work up and remand of all remaining unsettled cases (the "WHP Pre-Trial Orders"). The WHP Pre-Trial Orders may result in material additional costs or trial verdicts in future periods in defending Women's Health Product Claims. Trials are anticipated throughout 2020 in state and federal courts. A trial in the New Jersey coordinated proceeding began in March 2018, and in April 2018 a jury entered a verdict against the Company in the total amount of $68 million ($33 million compensatory; $35 million punitive). The Company is in the process of appealing that verdict. A consolidated trial involving three plaintiffs is scheduled to begin in January 2020 in the New Jersey coordinated proceeding. The Company expects additional trials of Women's Health Product Claims to take place over the next 12 months, which may potentially include consolidated trials.

In July 2015, as part of the agreement with Medtronic noted above, Medtronic agreed to take responsibility for pursuing settlement of certain of the Women's Health Product Claims that relate to products distributed by the Company under supply agreements with Medtronic, and the Company has paid Medtronic $121 million towards these potential settlements. In June 2017, the Company amended the agreement with Medtronic to transfer responsibility for settlement of additional Women's Health Product Claims to Medtronic on terms similar to the July 2015 agreement, including with respect to the obligation to make payments to Medtronic towards these potential settlements. In August 2019, the Company paid Medtronic an additional $20 million toward additional settlements. The Company also may, in its sole discretion, transfer responsibility for settlement of additional Women's Health Product Claims to Medtronic on similar terms. The agreements do not resolve the dispute between the Company and Medtronic with respect to Women's Health Product Claims that do not settle, if any.

During the course of engaging in settlement discussions with plaintiffs' law firms, the Company has learned, and may in future periods learn, additional information regarding these and other unfiled claims, or other lawsuits, which could materially impact the Company's estimate of the number of claims or lawsuits against the Company.

Filter Product Claims

As of September 30, 2019, the Company is defending approximately 4,485 product liability claims involving the Company's line of inferior vena cava filters (collectively, the "Filter Product Claims"). The majority of those claims are currently pending in an MDL in the United States District Court for the District of Arizona, but those MDL claims are in the process of bring remanded to various federal jurisdictions. Filter Product Claims are also pending in various state court jurisdictions, including a coordinated proceeding in Arizona State Court. In addition, those claims include putative class actions filed in the United States and Canada. The Filter Product Claims generally seek damages for personal injury allegedly resulting from use of the products. The Company has limited information regarding the nature and quantity of certain of the Filter Product Claims. The Company continues to receive claims and lawsuits and may in future periods learn additional information regarding other unfiled or unknown claims, or other lawsuits, which could materially impact the Company's estimate of the number of claims or lawsuits against the Company. On May 31, 2019, the MDL Court ceased accepting direct filings or transfers into the Filter Product Claims MDL and, as noted above, remands for non-settled cases have begun and are expected to continue over the next three to six months. Federal and state court trials are scheduled throughout 2020. As of September 30, 2019, the Company entered into settlement agreements and/or settlement agreements in principle for approximately 4,200 cases. On March 30, 2018, a jury in the first MDL trial found the Company liable for negligent failure to warn and entered a verdict in favor of plaintiffs. The jury found the Company was not liable for (a) strict liability design defect; (b) strict liability failure to warn; and (c) negligent design. The Company has appealed that verdict. On June 1, 2018, a jury in the second MDL trial unanimously found in favor of the Company on all claims. On August 17, 2018, the Court entered summary judgment in favor of the Company on all claims in the third MDL trial. On October 5, 2018, a jury in the fourth MDL trial unanimously found in favor of the Company on all claims. The Company expects additional trials of Filter Product Claims may take place over the next 12 months.

In most product liability litigations (like those described above), plaintiffs allege a wide variety of claims, ranging from allegations of serious injury caused by the products to efforts to obtain compensation notwithstanding the absence of any injury. In many of these cases, the Company has not yet received and reviewed complete information regarding the plaintiffs and their medical conditions and, consequently, is unable to fully evaluate the claims. The Company expects that it will receive and review additional information regarding any remaining unsettled product liability matters.

In January 2017, the Company reached an agreement to resolve litigation filed in the Southern District of New York by its insurance carriers in connection with Women's Health Product Claims and Filter Product Claims. The agreement requires the insurance carriers to reimburse the Company for certain future costs incurred in connection with Filter Product Claims up to an agreed amount. For certain product liability claims or lawsuits, the Company does not maintain or has limited remaining insurance coverage.

Other Legal Matters

Since early 2013, the Company has received subpoenas or Civil Investigative Demands from a number of State Attorneys General seeking information related to the sales and marketing of certain of the Company's products that are the subject of the Hernia Product Claims and the Women's Health Product Claims. The Company is cooperating with these requests. Although the Company has had, and continues to have, discussions with the State Attorneys General with respect to overall potential resolution of this matter, there can be no assurance that a resolution will be reached or what the terms of any such resolution may be.

In July 2017, a civil investigative demand was served by the Department of Justice seeking documents and information relating to an investigation into possible violations of the False Claims Act in connection with the sales and marketing of FloChec® and QuantaFlo™ devices. The Company is cooperating with these requests. Since it is not feasible to predict the outcome of these matters, the Company cannot give any assurances that the resolution of these matters will not have a material adverse effect on the Company's business, results of operations, financial condition and/or liquidity.

The Company is a potentially responsible party to a number of federal administrative proceedings in the United States brought under the Comprehensive Environment Response, Compensation and Liability Act, also known as "Superfund," and similar state laws. The affected sites are in varying stages of development. In some instances, the remedy has been completed, while in others, environmental studies are underway or commencing. For several sites, there are other potentially responsible parties that may be jointly or severally liable to pay all or part of cleanup costs. While it is not feasible to predict the outcome of these proceedings, based upon the Company's experience, current information and applicable law, the Company does not expect these proceedings to have a material adverse effect on its financial condition and/or liquidity. However, one or more of the proceedings could be material to the Company's business and/or results of operations.

The Company is also involved both as a plaintiff and a defendant in other legal proceedings and claims that arise in the ordinary course of business. The Company believes that it has meritorious defenses to these suits pending against the Company and is engaged in a vigorous defense of each of these matters.

Litigation Reserves

The Company regularly monitors and evaluates the status of product liability and other legal matters, and may, from time-to-time, engage in settlement and mediation discussions taking into consideration developments in the matters and the risks and uncertainties surrounding litigation. These discussions could result in settlements of one or more of these claims at any time.

During fiscal year 2019, the Company recorded pre-tax charges to *Other operating expense, net*, of approximately $914 million related to certain of the product liability matters discussed above under the heading "Product Liability Matters," including the related legal defense costs. The Company recorded these charges based on additional information obtained during the year, including but not limited to: the nature and quantity of unfiled and filed claims and the continued rate of claims being filed in certain product liability matters; the status of certain settlement discussions with plaintiffs' counsel; the allegations and documentation supporting or refuting such allegations; publicly available information regarding similar medical device mass tort settlements; historical information regarding other product liability settlements involving the Company; and the stage of litigation.

Accruals for the Company's product liability claims which are specifically discussed above, as well as the related legal defense costs, amounted to approximately $2.5 billion at September 30, 2019 and $2.0 billion at September 30, 2018. These accruals, which are generally long-term in nature, are largely recorded within *Deferred Income Taxes and Other* on the Company's consolidated balance sheets. As of September 30, 2019 and 2018, the Company had $53 million and $94 million, respectively, in qualified settlement funds ("QSFs"), subject to certain settlement conditions, for certain product liability matters. Payments to QSFs are recorded as a component of *Restricted cash*. The Company's expected recoveries related to product liability claims and related legal defense costs were approximately $150 million and $343 million at September 30, 2019 and 2018, respectively. A substantial amount of these expected recoveries at September 30, 2019 and 2018 related to the Company's agreements with Medtronic related to certain Women's Health Product Claims. During fiscal year 2019, Medtronic provided the Company with releases from liability for certain claims that were the subject of the agreement discussed further above. Accordingly, adjustments to reduce accruals for the Company's product liability claims, as well as the balance recorded for expected recoveries related to product liability claims, were recorded during fiscal year 2019.

The terms of the Company's agreements with Medtronic are substantially consistent with the assumptions underlying, and the manner in which, the Company has recorded expected recoveries related to the indemnification obligation. The expected recoveries at September 30, 2019 related to the indemnification obligation are not in dispute with respect to claims that Medtronic settles pursuant to the agreements. As described above, the agreements do not resolve the dispute between the Company and Medtronic with respect to Women's Health Product Claims that do not settle, if any, and the Company also may, in its sole discretion, transfer responsibility for settlement of additional Women's Health Product Claims to Medtronic on similar terms.

Note 6 — Revenues

As previously discussed in Note 2, the Company adopted ASC 606 using the modified retrospective method. The Company sells a broad range of medical supplies, devices, laboratory equipment and diagnostic products which are distributed through independent distribution channels and directly by BD through sales representatives. End-users of the Company's products include healthcare institutions, physicians, life science researchers, clinical laboratories, the pharmaceutical industry and the general public.

Timing of Revenue Recognition

The Company's revenues are primarily recognized when the customer obtains control of the product sold, which is generally upon shipment or delivery, depending on the delivery terms specified in the sales agreement. Revenues associated with certain instruments and equipment for which installation is complex, and therefore significantly affects the customer's ability to use and benefit from the product, are recognized when customer acceptance of these installed products has been confirmed. For certain service arrangements, including extended warranty and software maintenance contracts, revenue is recognized ratably over the contract term. The majority of revenues relating to extended warranty contracts associated with certain instruments and equipment is generally recognized within a few years whereas deferred revenue relating to software maintenance contracts is generally recognized over a longer period.

Measurement of Revenues

The Company acts as the principal in substantially all of its customer arrangements and as such, generally records revenues on a gross basis. Revenues exclude any taxes that the Company collects from customers and remits to tax authorities. The Company considers its shipping and handling costs to be costs of contract fulfillment and has made the accounting policy election to record these costs within *Selling and administrative expense*.

Payment terms extended to the Company's customers are based upon commercially reasonable terms for the markets in which the Company's products are sold. Because the Company generally expects to receive payment within one year or less from when control of a product is transferred to the customer, the Company does not generally adjust its revenues for the effects of a financing component. The Company's estimate of probable credit losses relating to trade receivables is determined based on historical experience and other specific account data. Amounts are written off against the allowances for doubtful accounts when the Company determines that a customer account is uncollectible. Such amounts are not material to the Company's consolidated financial results.

The Company's gross revenues are subject to a variety of deductions which are recorded in the same period that the underlying revenues are recognized. Such variable consideration include rebates, sales discounts and sales returns. Because these deductions represent estimates of the related obligations, judgment is required when determining the impact of these revenue deductions on gross revenues for a reporting period. Rebates provided by the Company are based upon prices determined under the Company's agreements with its end-user customers. Additional factors considered in the estimate of the Company's rebate liability include the quantification of inventory that is either in stock at or in transit to the Company's distributors, as well as the estimated lag time between the sale of product and the payment of corresponding rebates. The impact of other forms of variable consideration, including sales discounts and sales returns, is not material to the Company's revenues. Additional disclosures relating to sales discounts and sales returns are provided in Note 19.

The Company's agreements with customers within certain organizational units including Medication Management Solutions, Diagnostic Systems and Biosciences, contain multiple performance obligations including both products and certain services noted above. The transaction price for these agreements is allocated to each performance obligation based upon its relative standalone selling price. Standalone selling price is the amount at which the Company would sell a promised good or service separately to a customer. The Company generally estimates standalone selling prices using its list prices and a consideration of typical discounts offered to customers.

Effects of Revenue Arrangements on Consolidated Balance Sheet

Due to the nature of the majority of the Company's products and services, the Company typically does not incur costs to fulfill a contract in advance of providing the customer with goods or services. Capitalized contract costs associated with the costs to fulfill contracts for certain products in the Medication Management Solutions organizational unit are immaterial to the Company's consolidated balance sheets. The Company's costs to obtain contracts are comprised of sales commissions which are paid to the Company's employees or third party agents. The majority of the sales commissions incurred by the Company relate to revenue that is recognized over a period that is less than one year and as such, the Company has elected a practical expedient provided under ASC 606 to record the majority of its expense associated with sales commissions as it is incurred. Commissions relating to revenues recognized over a period longer than one year are recorded as assets which are amortized over the period over which the revenues underlying the commissions are recognized. Capitalized contract costs related to such commissions are immaterial to the Company's consolidated balance sheets.

The Company records contract liabilities for unearned revenue that is allocable to performance obligations, such as extended warranty and software maintenance contracts, which are performed over time as discussed further above. These contract liabilities are immaterial to the Company's consolidated financial results. The Company's liability for product warranties provided under its agreements with customers is not material to its consolidated balance sheets.

Remaining Performance Obligations

The Company's obligations relative to service contracts, which are further discussed above, and pending installations of equipment, primarily in the Company's Medication Management Solutions unit, represent unsatisfied performance obligations of the Company. The revenues under existing contracts with original expected durations of more than one year, which are attributable to products and/or services that have not yet been installed or provided, are estimated to be approximately $1.8 billion at September 30, 2019. The Company expects to recognize the majority of this revenue over the next three years.

Within the Company's Medication Management Solutions, Medication Delivery Solutions, Diagnostic Systems, and Biosciences units, some contracts also contain minimum purchase commitments of reagents or other consumables and the future sales of these consumables represent additional unsatisfied performance obligations of the Company. The revenue attributable to the unsatisfied minimum purchase commitment-related performance obligations, for contracts with original expected durations of more than one year, is estimated to be approximately $2.8 billion at September 30, 2019. This revenue will be recognized over the customer relationship period.

Disaggregation of Revenues

A disaggregation of the Company's revenues by segment, organizational unit and geographic region is provided in Note 7.

Note 7 — Segment Data

The Company's organizational structure is based upon three principal business segments: BD Medical (“Medical”), BD Life Sciences (“Life Sciences”) and BD Interventional ("Interventional"). The Company’s segments are strategic businesses that are managed separately because each one develops, manufactures and markets distinct products and services.

Medical

Medical produces a broad array of medical technologies and devices that are used to help improve healthcare delivery in a wide range of settings. The primary customers served by Medical are hospitals and clinics; physicians’ office practices; consumers and retail pharmacies; governmental and nonprofit public health

agencies; pharmaceutical companies; and healthcare workers. Medical consists of the following organizational units:

Organizational Unit	Principal Product Lines
Medication Delivery Solutions	Peripheral intravenous ("IV") catheters (conventional, safety); advanced peripheral catheters (guidewire assisted peripherally inserted venous catheters, midline catheters, port access); central lines (peripherally inserted central catheters); acute dialysis catheters; vascular access technology (ultrasonic imaging); vascular care (lock solutions, prefilled flush syringes, disinfecting caps); vascular preparation (skin antiseptics, dressings, securement); needle-free IV connectors and extensions sets; closed-system drug transfer devices; hazardous drug detection; conventional and safety hypodermic syringes and needles, anesthesia needles (spinal, epidural) and trays; enteral syringes, sharps disposal systems.
Medication Management Solutions	IV medication safety and infusion therapy delivery systems, including infusion pumps, dedicated disposables, and IV fluids; medication compounding workflow systems; automated medication dispensing; automated supply management systems; medication inventory optimization and tracking systems; and informatics and analytics solutions for enterprise medication management.
Diabetes Care	Syringes, pen needles and other products related to the injection or infusion of insulin and other drugs used in the treatment of diabetes.
Pharmaceutical Systems	Prefillable drug delivery systems - prefillable syringes, safety, shielding and self-injection systems and support services - provided to pharmaceutical companies for use as containers for injectable pharmaceutical products, which are then placed on the market as drug/device combinations.

Life Sciences

Life Sciences provides products for the safe collection and transport of diagnostics specimens, and instruments and reagent systems to detect a broad range of infectious diseases, healthcare-associated infections (“HAIs”) and cancers. In addition, Life Sciences produces research and clinical tools that facilitate the study of cells, and the components of cells, to gain a better understanding of normal and disease processes. That information is used to aid the discovery and development of new drugs and vaccines, and to improve the diagnosis and management of diseases. The primary customers served by Life Sciences are hospitals, laboratories and clinics; blood banks; healthcare workers; public health agencies; physicians’ office practices; retail pharmacies; academic and government institutions; and pharmaceutical and biotechnology companies. Life Sciences consists of the following organizational units:

Organizational Unit	Principal Product Lines
Preanalytical Systems	Integrated systems for specimen collection; and safety-engineered blood collection products and systems.
Diagnostic Systems	Automated blood culturing and tuberculosis culturing systems; molecular testing systems for infectious diseases and women’s health; microorganism identification and drug susceptibility systems; liquid-based cytology systems for cervical cancer screening; rapid diagnostic assays for testing of respiratory infections; microbiology laboratory automation and plated media for clinical and industrial applications.
Biosciences	Fluorescence-activated cell sorters and analyzers; antibodies and kits for performing cell analysis; reagent systems for life science research; solutions for high-throughput single-cell gene expression analysis; and clinical oncology, immunological (HIV) and transplantation diagnostic/monitoring reagents and analyzers.

Effective October 1, 2019, Life Sciences joined its Preanalytical Systems and Diagnostic Systems organizational units to create a new Integrated Diagnostic Solutions organizational unit which will focus on driving growth and innovation around integrated specimen management to diagnostic solutions. The new Integrated Diagnostic Solution organizational unit will consist of the following principal product lines:

Organizational Unit	Principal Product Lines
Integrated Diagnostic Solutions	Integrated systems for specimen collection; safety-engineered blood collection products and systems; automated blood culturing and tuberculosis culturing systems; molecular testing systems for infectious diseases and women's health; microorganism identification and drug susceptibility systems; liquid-based cytology systems for cervical cancer screening; rapid diagnostic assays for testing of respiratory infections; microbiology laboratory automation and plated media for clinical and industrial applications.

Interventional

Interventional provides vascular, urology, oncology and surgical specialty products that are, with the exception of the V. Muller surgical and laparoscopic instrumentation products, intended to be used once and then discarded or are either temporarily or permanently implanted. The primary customers served by Interventional are hospitals, individual healthcare professionals, extended care facilities, alternate site facilities and patients via the segment's Homecare business. The Interventional segment consists of the following organizational units:

Organizational Unit	Principal Product Lines
Surgery	Hernia and soft tissue repair, biological grafts, bioresorbable grafts, biosurgery, and other surgical products; BD ChloraPrep™ surgical infection prevention products, and V. Mueller™ surgical and laparoscopic instrumentation products.
Peripheral Intervention	Percutaneous transluminal angioplasty ("PTA") balloon catheters, peripheral vascular stents, self-expanding and balloon-expandable stent grafts, vascular grafts, drug-coated balloons, ports, biopsy, chronic dialysis, feeding, IVC filters, endovascular fistula creation devices and drainage products.
Urology and Critical Care	Urine management devices, urological drainage products, intermittent catheters, kidney stone management devices, Targeted Temperature Management, and fecal management devices.

Additional Segment Information

Distribution of products is primarily through independent distribution channels, and directly to end-users by BD and independent sales representatives. No customer accounted for 10% or more of revenues in any of the three years presented.

Segment disclosures are on a performance basis consistent with internal management reporting. The Company evaluates performance of its business segments and allocates resources to them primarily based upon operating income, which represents revenues reduced by product costs and operating expenses. Beginning with its first quarter fiscal year 2018, the Company changed its management reporting approach so that certain general and administrative costs, which were previously allocated to the segments, are now excluded from the segments' operating expenses. The Medical and Life Sciences segments' operating income for the year ended September 30, 2017 included allocated general corporate costs of $166 million and $113 million, respectively. No such allocations were made in the year ended September 30, 2019 or September 30, 2018.

Financial information for the Company's segments is detailed below. The Company has no material intersegment revenues. As discussed in Note 10, the Company completed its acquisition of Bard on December 29, 2017. Bard's operating results were included in the Company's consolidated results of operations beginning on January 1, 2018.

(Millions of dollars)	2019			2018			2017		
	United States	International	Total	United States	International	Total	United States	International	Total
Medical									
Medication Delivery Solutions	$ 2,048	$ 1,811	$ 3,859	$ 1,892	$ 1,752	$ 3,644	$ 1,378	$ 1,434	$ 2,812
Medication Management Solutions	2,104	525	2,629	1,957	513	2,470	1,843	452	2,295
Diabetes Care	573	538	1,110	564	541	1,105	546	510	1,056
Pharmaceutical Systems	392	1,073	1,465	357	1,040	1,397	328	929	1,256
Total segment revenues	$ 5,116	$ 3,947	$ 9,064	$ 4,770	$ 3,846	$ 8,616	$ 4,095	$ 3,325	$ 7,419
Life Sciences									
Preanalytical Systems	$ 774	$ 784	$ 1,558	$ 761	$ 792	$ 1,553	$ 741	$ 730	$ 1,471
Diagnostic Systems	672	875	1,547	678	858	1,536	622	756	1,378
Biosciences	485	709	1,194	475	766	1,241	455	684	1,139
Total segment revenues	$ 1,931	$ 2,368	$ 4,300	$ 1,914	$ 2,416	$ 4,330	$ 1,818	$ 2,170	$ 3,988
Interventional									
Surgery (a)	$ 1,098	$ 299	$ 1,397	$ 946	$ 245	$ 1,192	$ 577	$ 89	$ 666
Peripheral Intervention (a)	787	602	1,389	594	451	1,045	14	6	19
Urology and Critical Care	797	342	1,140	544	256	800	—	—	—
Total segment revenues	$ 2,682	$ 1,244	$ 3,926	$ 2,084	$ 953	$ 3,037	$ 591	$ 95	$ 685
Total Company revenues	$ 9,730	$ 7,560	$17,290	$ 8,768	$ 7,215	$15,983	$ 6,504	$ 5,589	$ 12,093

(a) Amounts presented in 2017 are associated with certain product offerings that were moved from the Medical segment to the Interventional segment in order to align with the reportable segment structure that became effective beginning in the second quarter of fiscal year 2018.

(Millions of dollars)	2019	2018	2017
Income Before Income Taxes			
Medical (a) (b) (c)	$ 2,824	$ 2,624	$ 1,907
Life Sciences (d)	1,248	1,207	772
Interventional (b) (e) (f)	903	306	248
Total Segment Operating Income	4,976	4,137	2,927
Acquisitions and other restructurings	(480)	(740)	(354)
Net interest expense	(627)	(641)	(445)
Other unallocated items (g)	(2,693)	(1,583)	(1,152)
Total Income Before Income Taxes	$ 1,176	$ 1,173	$ 976
Assets			
Medical	$ 22,925	$ 23,493	$ 15,552
Life Sciences	4,135	4,225	4,056
Interventional (f)	22,157	23,219	2,780
Total Segment Assets	49,217	50,938	22,388
Corporate and All Other (h)	2,548	2,966	15,347
Total Assets	$ 51,765	$ 53,904	$ 37,734
Capital Expenditures			
Medical	$ 577	$ 560	$ 486
Life Sciences	230	255	212
Interventional (f)	120	65	16
Corporate and All Other	30	14	13
Total Capital Expenditures	$ 957	$ 895	$ 727
Depreciation and Amortization			
Medical	$ 1,073	$ 1,028	$ 773
Life Sciences	284	275	254
Interventional (f)	881	658	52
Corporate and All Other	14	17	10
Total Depreciation and Amortization	$ 2,253	$ 1,978	$ 1,088

(a) The amount in 2019 included $75 million of estimated remediation costs recorded to *Other operating expense, net* relating to a recall of a product component, which generally pre-dated the Company's acquisition of CareFusion in fiscal year 2015, within the Medication Management Solutions unit's infusion systems platform.

(b) The amounts in 2018 included expense related to the recognition of a $478 million fair value step-up adjustment related to Bard's inventory on the acquisition date. The step-up adjustments recognized by the Medical and Interventional segments in 2018 were $60 million and $418 million, respectively.

(c) The amount in 2018 included $58 million of charges to write down the value of fixed assets primarily in the Diabetes Care unit.

(d) The amount in 2018 included $81 million of charges recorded to write down the carrying value of certain intangible and other assets in the Biosciences unit.

(e) The amount in 2019 included a charge of $30 million recorded to write down the carrying value of certain intangible assets in the Surgery unit.

(f) Amounts presented in 2017 are associated with certain product offerings that were moved from the Medical segment to the Interventional segment in order to align with the reportable segment structure that became effective beginning in the second quarter of fiscal year 2018.

(g) Primarily comprised of foreign exchange, corporate expenses, and share-based compensation expense. The amount in 2019 included a pre-tax charge of $914 million related to certain product liability matters, which is further discussed in Note 5, and also included the pre-tax gain recognized on the Company's sale of its Advanced Bioprocessing business of approximately $336 million, which is further discussed in Note 11. Results in 2019 and 2018 were impacted by the Company's change in its management reporting approach, as further discussed above. The amount in 2018 included the pre-tax gain recognized on the Company's sale of its non-controlling interest in Vyaire Medical of approximately $303 million. Results in 2017 included a $748 million non-cash charge resulting from a modification to the Company's dispensing equipment lease contracts with customers, as well as the reversal of certain litigation reserves.

(h) Includes cash and investments and corporate assets.

Geographic Information

The countries in which the Company has local revenue-generating operations have been combined into the following geographic areas: the United States (including Puerto Rico); Europe; Greater Asia (which includes countries in East Asia, South Asia, Southeast Asia and the Oceania region); and Other, which is comprised of Latin America, Canada, and EMA (which includes the Commonwealth of Independent States, Middle East and Africa).

Revenues to unaffiliated customers are generally based upon the source of the product shipment. Long-lived assets, which include net property, plant and equipment, are based upon physical location.

(Millions of dollars)	2019	2018	2017
Revenues			
United States	$ 9,730	$ 8,768	$ 6,504
Europe	3,359	3,298	2,588
Greater Asia	2,726	2,460	1,744
Other	1,476	1,457	1,257
	$ 17,290	$ 15,983	$ 12,093
Long-Lived Assets			
United States	$ 37,053	$ 38,982	$ 13,151
Europe	5,483	5,640	4,421
Greater Asia	1,328	851	578
Other	861	645	584
Corporate	377	375	366
	$ 45,101	$ 46,494	$ 19,101

Note 8 — Share-Based Compensation

The Company grants share-based awards under the 2004 Employee and Director Equity-Based Compensation Plan (“2004 Plan”), which provides long-term incentive compensation to employees and directors consisting of: stock appreciation rights (“SARs”), performance-based restricted stock units, time-vested restricted stock units and other stock awards.

The fair value of share-based payments is recognized as compensation expense in net income. The amounts and location of compensation cost relating to share-based payments included in the consolidated statements of income is as follows:

(Millions of dollars)	2019	2018	2017
Cost of products sold	$ 37	$ 36	$ 30
Selling and administrative expense	145	136	113
Research and development expense	32	29	24
Acquisitions and other restructurings	50	130	10
	$ 265	$ 332	$ 177
Tax benefit associated with share-based compensation costs recognized	$ 62	$ 79	$ 61

Upon the Company's acquisition of Bard in 2018, certain pre-acquisition equity awards of Bard were converted into either BD SARs or BD restricted stock awards, as applicable. These awards have substantially the same terms and conditions as the converted Bard awards immediately prior to the acquisition date. Compensation expense of $40 million and $126 million associated with these replacement awards was recorded in *Acquisitions and other restructurings* in 2019 and 2018, respectively.

Stock Appreciation Rights

SARs represent the right to receive, upon exercise, shares of common stock having a value equal to the difference between the market price of common stock on the date of exercise and the exercise price on the date of grant. SARs vest over a period of four years and have a term of ten years. The fair value was estimated on the date of grant using a lattice-based binomial option valuation model that uses the following weighted-average assumptions:

	2019	2018	2017
Risk-free interest rate	3.05%	2.32%	2.33%
Expected volatility	18.0%	19.0%	20.0%
Expected dividend yield	1.27%	1.33%	1.71%
Expected life	7.2 years	7.4 years	7.5 years
Fair value derived	$51.86	$46.10	$33.81

Expected volatility is based upon historical volatility for the Company’s common stock and other factors. The expected life of SARs granted is derived from the output of the lattice-based model, using assumed exercise rates based on historical exercise and termination patterns, and represents the period of time that SARs granted are expected to be outstanding. The risk-free interest rate used is based upon the published U.S. Treasury yield curve in effect at the time of grant for instruments with a similar life. The dividend yield is based upon the most recently declared quarterly dividend as of the grant date. The Company issued 1.0 million shares during 2019 to satisfy the SARs exercised.

A summary of SARs outstanding as of September 30, 2019 and changes during the year then ended is as follows:

	SARs (in thousands)	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (Years)	Aggregate Intrinsic Value (Millions of dollars)
Balance at October 1	7,986	$ 125.73		
Granted	859	242.10		
Exercised	(1,779)	102.14		
Forfeited, canceled or expired	(168)	186.18		
Balance at September 30	6,899	$ 144.84	5.70	$ 746
Vested and expected to vest at September 30	6,692	$ 142.87	5.62	$ 737
Exercisable at September 30	4,833	$ 117.65	4.69	$ 654

A summary of SARs exercised 2019, 2018 and 2017 is as follows:

(Millions of dollars)	2019	2018	2017
Total intrinsic value of SARs exercised	$ 260	$ 333	$ 148
Tax benefit realized from SAR exercises	$ 62	$ 90	$ 53
Total fair value of SARs vested	$ 66	$ 107	$ 30

Performance-Based and Time-Vested Restricted Stock Units

Performance-based restricted stock units cliff vest three years after the date of grant. These units are tied to the Company's performance against pre-established targets over a performance period of three years. The performance measures for fiscal years 2019, 2018 and 2017 were relative total shareholder return (measures the Company's stock performance during the performance period against that of peer companies) and average annual return on invested capital. Under the Company's long-term incentive program, the actual payout under these awards may vary from zero to 200% of an employee's target payout, based on the Company's actual performance over the performance period of three years. The fair value is based on the market price of the Company's stock on the date of grant. Compensation cost initially recognized assumes that the target payout level will be achieved and is adjusted for subsequent changes in the expected outcome of performance-related conditions. For units for which the performance conditions are modified after the date of grant, any incremental increase in the fair value of the modified units, over the original units, is recorded as compensation expense on the date of the modification for vested units, or over the remaining performance period for units not yet vested.

Time-vested restricted stock unit awards vest on a graded basis over a period of three years, except for certain key executives of the Company, including the executive officers, for which such units generally vest one year following the employee's retirement. The related share-based compensation expense is recorded over the requisite service period, which is the vesting period or is based on retirement eligibility. The fair value of all time-vested restricted stock units is based on the market value of the Company's stock on the date of grant.

A summary of restricted stock units outstanding as of September 30, 2019 and changes during the year then ended is as follows:

	Performance-Based			Time-Vested	
	Stock Units (in thousands)		Weighted Average Grant Date Fair Value	Stock Units (in thousands)	Weighted Average Grant Date Fair Value
Balance at October 1	1,032		$ 190.57	2,765	$ 194.92
Granted	381		237.55	755	235.50
Distributed	(142)		153.73	(906)	189.06
Forfeited or canceled	(316)		182.50	(546)	201.85
Balance at September 30	955	(a)	$ 221.73	2,068	$ 210.48
Expected to vest at September 30	306	(b)	$ 218.06	1,964	$ 209.67

(a) Based on 200% of target payout.

(b) Net of expected forfeited units and units in excess of the expected performance payout of 65 thousand and 585 thousand shares, respectively.

The weighted average grant date fair value of restricted stock units granted during the years 2019, 2018 and 2017 are as follows:

	Performance-Based			Time-Vested		
	2019	2018	2017	2019	2018	2017
Weighted average grant date fair value of units granted	$237.55	$251.75	$174.92	$235.50	$216.06	$165.96

The total fair value of stock units vested during 2019, 2018 and 2017 was as follows:

	Performance-Based			Time-Vested		
(Millions of dollars)	2019	2018	2017	2019	2018	2017
Total fair value of units vested	$ 33	$ 31	$ 32	$ 254	$ 362	$ 139

At September 30, 2019, the weighted average remaining vesting term of performance-based and time vested restricted stock units is 1.22 and 0.90 years, respectively.

Unrecognized Compensation Expense and Other Stock Plans

The amount of unrecognized compensation expense for all non-vested share-based awards as of September 30, 2019, is approximately $266 million, which is expected to be recognized over a weighted-average remaining life of approximately 1.91 years. At September 30, 2019, 5.6 million shares were authorized for future grants under the 2004 Plan. The Company has a policy of satisfying share-based payments through either open market purchases or shares held in treasury. At September 30, 2019, the Company has sufficient shares held in treasury to satisfy these payments.

As of September 30, 2019, 105 thousand shares were held in trust relative to a Director's Deferral plan, which provides a means to defer director compensation, from time to time, on a deferred stock or cash basis. Also as of September 30, 2019, 320 thousand shares were issuable under a Deferred Compensation Plan that allows certain highly-compensated employees, including executive officers, to defer salary, annual incentive awards and certain equity-based compensation.

Note 9 — Benefit Plans

The Company has defined benefit pension plans covering certain employees in the United States and certain international locations. Postretirement healthcare and life insurance benefits provided to qualifying domestic retirees as well as other postretirement benefit plans in international countries are not material. The measurement date used for the Company's employee benefit plans is September 30.

Effective January 1, 2018, the legacy U.S. pension plan was frozen to limit the participation of employees who are hired or re-hired by the Company, or who transfer employment to the Company, on or after January 1, 2018.

Net pension cost for the years ended September 30 included the following components:

	Pension Plans		
(Millions of dollars)	2019	2018	2017
Service cost	$ 134	$ 136	$ 110
Interest cost	107	90	61
Expected return on plan assets	(180)	(154)	(112)
Amortization of prior service credit	(13)	(13)	(14)
Amortization of loss	78	78	92
Settlements	10	2	—
Net pension cost	$ 135	$ 137	$ 138
Net pension cost included in the preceding table that is attributable to international plans	$ 32	$ 34	$ 43

The amounts provided above for amortization of prior service credit and amortization of loss represent the reclassifications of prior service credits and net actuarial losses that were recognized in *Accumulated other comprehensive income (loss)* in prior periods. The settlement losses recorded in 2019 and 2018 primarily included lump sum benefit payments associated with the Company's U.S. supplemental pension plan. The Company recognizes pension settlements when payments from the supplemental plan exceed the sum of service and interest cost components of net periodic pension cost associated with this plan for the fiscal year.

As further discussed in Note 2, upon adopting an accounting standard update on October 1, 2018, all components of the Company's net periodic pension and postretirement benefit costs, aside from service cost, are recorded to *Other income (expense), net* on its consolidated statements of income, for all periods presented.

The change in benefit obligation, change in fair value of pension plan assets, funded status and amounts recognized in the Consolidated Balance Sheets for these plans were as follows:

	Pension Plans	
(Millions of dollars)	2019	2018
Change in benefit obligation:		
Beginning obligation	$ 3,246	$ 2,647
Service cost	134	136
Interest cost	107	90
Plan amendments	3	—
Benefits paid	(153)	(162)
Impact of (divestitures) acquisitions	(9)	758
Actuarial loss (gain)	514	(82)
Settlements	(63)	(122)
Other, includes translation	(49)	(19)
Benefit obligation at September 30	$ 3,731	$ 3,246
Change in fair value of plan assets:		
Beginning fair value	$ 2,642	$ 1,932
Actual return on plan assets	279	70
Employer contribution	258	400
Benefits paid	(153)	(162)
Impact of (divestitures) acquisitions	(7)	539
Settlements	(63)	(122)
Other, includes translation	(30)	(15)
Plan assets at September 30	$ 2,926	$ 2,642
Funded Status at September 30:		
Unfunded benefit obligation	$ (804)	$ (604)
Amounts recognized in the Consolidated Balance Sheets at September 30:		
Other	$ 11	$ 15
Salaries, wages and related items	(22)	(15)
Long-term Employee Benefit Obligations	(793)	(604)
Net amount recognized	$ (804)	$ (604)
Amounts recognized in Accumulated other comprehensive income (loss) before income taxes at September 30:		
Prior service credit	$ 44	$ 60
Net actuarial loss	(1,289)	(982)
Net amount recognized	$ (1,246)	$ (921)

International pension plan assets at fair value included in the preceding table were $859 million and $821 million at September 30, 2019 and 2018, respectively. The international pension plan projected benefit obligations were $1.244 billion and $1.064 billion at September 30, 2019 and 2018, respectively.

The benefit obligation associated with postretirement healthcare and life insurance plans provided to qualifying domestic retirees, which was largely recorded to *Long-Term Employee Benefit Obligations,* was $153 million and $148 million at September 30, 2019 and 2018, respectively.

Pension plans with accumulated benefit obligations in excess of plan assets and plans with projected benefit obligations in excess of plan assets consist of the following at September 30:

	Accumulated Benefit Obligation Exceeds the Fair Value of Plan Assets		Projected Benefit Obligation Exceeds the Fair Value of Plan Assets	
(Millions of dollars)	2019	2018	2019	2018
Projected benefit obligation	$ 3,623	$ 2,618	$ 3,698	$ 3,121
Accumulated benefit obligation	$ 3,476	$ 2,533		
Fair value of plan assets	$ 2,821	$ 2,012	$ 2,882	$ 2,502

The estimated net actuarial loss and prior service credit that will be amortized from *Accumulated other comprehensive income (loss)* into net pension costs over the next fiscal year for pension benefits and other postretirement benefits are not material.

The weighted average assumptions used in determining pension plan information were as follows:

	2019	2018	2017
Net Cost			
Discount rate:			
U.S. plans (a)	4.26%	3.71%	3.42%
International plans	2.30	2.30	1.70
Expected return on plan assets:			
U.S. plans	7.25	7.20	7.25
International plans	4.98	4.95	4.65
Rate of compensation increase:			
U.S. plans	4.29	4.51	4.25
International plans	2.36	2.31	2.33
Benefit Obligation			
Discount rate:			
U.S. plans	3.21	4.26	3.72
International plans	1.39	2.30	2.25
Rate of compensation increase:			
U.S. plans	4.29	4.29	4.51
International plans	2.35	2.36	2.30

(a) The Company calculated the service and interest components utilizing an approach that discounts the individual expected cash flows using the applicable spot rates derived from the yield curve over the projected cash flow period.

Expected Rate of Return on Plan Assets

The expected rate of return on plan assets is based upon expectations of long-term average rates of return to be achieved by the underlying investment portfolios. In establishing this assumption, the Company considers many factors, including historical assumptions compared with actual results; benchmark data; expected returns on various plan asset classes, as well as current and expected asset allocations.

Expected Funding

The Company's funding policy for its defined benefit pension plans is to contribute amounts sufficient to meet legal funding requirements, plus any additional amounts that may be appropriate considering the funded status of the plans, tax consequences, the cash flow generated by the Company and other factors. The Company made a discretionary contribution of $200 million to its BD U.S. pension in October 2018. The Company does not anticipate any significant required contributions to its pension plans in 2020.

Expected benefit payments are as follows:

(Millions of dollars)	Pension Plans
2020	$ 212
2021	171
2022	173
2023	185
2024	190
2025-2029	1,066

Expected benefit payments associated with postretirement healthcare plans are immaterial to the Company's consolidated financial results.

Investments

The Company's primary objective is to achieve returns sufficient to meet future benefit obligations. It seeks to generate above market returns by investing in more volatile asset classes such as equities while at the same time controlling risk through diversification in non-correlated asset classes and through allocations to more stable asset classes like fixed income.

U.S. Plans

The Company's U.S. pension plans comprise 71% of total benefit plan investments, based on September 30, 2019 market values and have a target asset mix of 40% fixed income, 25% diversifying investments and 35% equities. This mix was established based on an analysis of projected benefit payments and estimates of long-term returns, volatilities and correlations for various asset classes. The asset allocations to diversifying investments include high-yield bonds, hedge funds, real estate, infrastructure, commodities, leveraged loans and emerging markets bonds.

The actual portfolio investment mix may, from time to time, deviate from the established target mix due to various factors such as normal market fluctuations, the reliance on estimates in connection with the determination of allocations and normal portfolio activity such as additions and withdrawals. Rebalancing of the asset portfolio on a quarterly basis is required to address any allocations that deviate from the established target allocations in excess of defined allowable ranges. The target allocations are subject to periodic review, including a review of the asset portfolio's performance, by the named fiduciary of the plans. Any tactical deviations from the established asset mix require the approval of the named fiduciary.

The U.S. plans may enter into both exchange traded and non-exchange traded derivative transactions in order to manage interest rate exposure, volatility, term structure of interest rates, and sector and currency exposures within the fixed income portfolios. The Company has established minimum credit quality standards for counterparties in such transactions.

The following table provides the fair value measurements of U.S. plan assets, as well as the measurement techniques and inputs utilized to measure fair value of these assets, at September 30, 2019 and 2018. The categorization of fund investments is based upon the categorization of these funds' underlying assets.

(Millions of dollars)	Total U.S. Plan Asset Balances		Investments Measured at Net Asset Value (a)		Quoted Prices in Active Markets for Identical Assets (Level 1)		Significant Other Observable Inputs (Level 2)		Significant Unobservable Inputs (Level 3)	
	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018
Fixed Income:										
Mortgage and asset-backed securities	$ —	$ 28	$ —	$ —	$ —	$ —	$ —	$ 28	$ —	$ —
Corporate bonds	401	484	—	—	48	101	353	383	—	—
Government and agency-U.S.	108	257	—	—	85	199	23	57	—	—
Government and agency-Foreign	85	122	—	8	69	85	16	28	—	—
Other fixed income	37	—	—	—	—	—	37	—	—	—
Equity securities	922	536	782	360	140	176	—	—	—	—
Cash and cash equivalents	254	39	—	—	254	39	—	—	—	—
Other	261	356	124	356	138	—	—	—	—	—
Fair value of plan assets	$2,068	$1,821	$ 906	$ 724	$ 733	$ 600	$ 429	$ 497	$ —	$ —

(a) As per applicable disclosure requirements, certain investments that were measured at net asset value per share or its equivalent have not been categorized within the fair value hierarchy. Values of such assets are based on the corroborated net asset value provided by the fund administrator.

Fixed Income Securities

U.S. pension plan assets categorized above as fixed income securities include fund investments comprised of mortgage-backed, corporate, government and agency and asset-backed instruments. Mortgage-backed securities consist of residential mortgage pass-through certificates. Investments in corporate bonds are diversified across industry and sector and consist of investment-grade, as well as high-yield debt instruments. U.S. government investments consist of obligations of the U.S. Treasury, other U.S. government agencies, state governments and local municipalities. Assets categorized as foreign government and agency debt securities included investments in developed and emerging markets.

The values of fixed income investments classified within Level 1 are based on the closing price reported on the major market on which the investments are traded. A portion of the fixed income instruments classified within Level 2 are valued based upon estimated prices from independent vendors' pricing models and these prices are derived from market observable sources including: benchmark yields, reported trades, broker/dealer quotes, issuer spreads, benchmark securities, bids, offers and other market-related data.

Equity Securities

U.S. pension plan assets categorized as equity securities consist of fund investments in publicly-traded U.S. and non-U.S. equity securities. In order to achieve appropriate diversification, these portfolios are invested across market sectors, investment styles, capitalization weights and geographic regions. The values of equity

securities classified within Level 1 are based on the closing price reported on the major market on which the investments are traded.

Cash and Cash Equivalents

A portion of the U.S. plans' assets consists of investments in cash and cash equivalents, primarily to accommodate liquidity requirements relating to trade settlement and benefit payment activity, and the values of these assets are based upon quoted market prices.

Other Securities

Other U.S. pension plan assets include fund investments comprised of underlying assets of real estate, infrastructure, commodities and hedge funds. The values of such instruments classified within Level 1 are based on the closing price reported on the major market on which the investments are traded.

International Plans

International plan assets comprise 29% of the Company's total benefit plan assets, based on market value at September 30, 2019. Such plans have local independent fiduciary committees, with responsibility for development and oversight of investment policy, including asset allocation decisions. In making such decisions, consideration is given to local regulations, investment practices and funding rules.

The following table provides the fair value measurements of international plan assets, as well as the measurement techniques and inputs utilized to measure fair value of these assets, at September 30, 2019 and 2018.

(Millions of dollars)	Total International Plan Asset Balances		Investments Measured at Net Asset Value (a)		Quoted Prices in Active Markets for Identical Assets (Level 1)		Significant Other Observable Inputs (Level 2)		Significant Unobservable Inputs (Level 3) (b)	
	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018
Fixed Income:										
Corporate bonds	$ 33	$ 28	$ —	$ —	$ 15	$ 14	$ 18	$ 14	$ —	$ —
Government and agency-U.S.	3	6	—	—	—	3	3	3	—	—
Government and agency-Foreign	199	150	—	—	105	104	94	46	—	—
Other fixed income	100	96	—	—	63	63	37	33	—	—
Equity securities	319	314	14	15	305	299	—	—	—	—
Cash and cash equivalents	8	9	—	—	8	9	—	—	—	—
Real estate	30	30	—	—	—	—	30	30	—	—
Insurance contracts	113	114	—	—	—	—	—	—	113	114
Other	53	74	—	—	52	55	1	20	—	—
Fair value of plan assets	$ 859	$ 821	$ 14	$ 15	$ 549	$ 546	$ 182	$ 146	$ 113	$ 114

(a) As per applicable disclosure requirements, certain investments that were measured at net asset value per share or its equivalent have not been categorized within the fair value hierarchy. Values of such assets are based on the corroborated net asset value provided by the fund administrator.

(b) Changes in the fair value of international pension assets measured using Level 3 inputs for the years ended September 30, 2019 and 2018 were immaterial.

Fixed Income Securities

Fixed income investments held by international pension plans include corporate, U.S. government and non-U.S. government securities. The values of fixed income securities classified within Level 1 are based on the closing price reported on the major market on which the investments are traded. Values of investments classified within Level 2 are based upon estimated prices from independent vendors' pricing models and these prices are derived from market observable sources.

Equity Securities

Equity securities included in the international plan assets consist of publicly-traded U.S. and non-U.S. equity securities. The values of equity securities classified within Level 1 are based on the closing price reported on the major market on which the investments are traded.

Other Securities

The international plans hold a portion of assets in cash and cash equivalents, in order to accommodate liquidity requirements and the values are based upon quoted market prices. Real estate investments consist of investments in funds holding an interest in real properties and the corresponding values represent the estimated fair value based on the fair value of the underlying investment value or cost, adjusted for any accumulated earnings or losses. The values of insurance contracts approximately represent cash surrender value. Other investments include fund investments for which values are based upon either quoted market prices or market observable sources.

Defined Contribution Plans

The cost of voluntary defined contribution plans which provide for a Company match or contribution was $126 million in 2019, $108 million in 2018 and $83 million in 2017. The 2018 increase in the cost associated with these plans is attributable to the Company's acquisition of Bard.

Note 10 – Acquisitions

Bard

On December 29, 2017, the Company completed its acquisition of Bard, to create a medical technology company which is uniquely positioned to improve both the treatment of disease for patients and the process of care for health care providers. Under the terms of the transaction, Bard common shareholders received approximately $222.93 in cash and 0.5077 shares of BD stock per Bard share. The Company financed the cash portion of total consideration transferred with available cash, which included net proceeds raised in the third quarter of fiscal year 2017 through registered public offerings of securities and debt transactions of approximately $4.8 billion and $9.6 billion, respectively. The operating activities of Bard from the acquisition date through December 31, 2017 were not material to the Company's consolidated results of operations. As such, Bard's operating results were included in the Company's consolidated results of operations beginning on January 1, 2018.

The acquisition-date fair value of consideration transferred consisted of the components below. The fair value of the shares and equity awards issued as consideration was recognized as a $6.5 billion increase to *Capital in excess of par value* and a $2.1 billion decrease to *Common stock in treasury.*

(Millions of dollars)		
Cash consideration	$	16,400
Non-cash consideration-fair value of shares issued		8,004
Non-cash consideration-fair value of equity awards issued		613
Total consideration transferred	$	25,017

The acquisition-date fair value of the Company's ordinary shares issued to Bard shareholders was calculated per the following (shares in millions):

(Millions of dollars, except per share data)		
Total Bard shares outstanding		73.359
Conversion factor		0.5077
Conversion of Bard shares outstanding		37.243
Conversion of pre-acquisition equity awards		0.104
Total number of the Company's share issued		37.347
Closing price of the Company's stock	$	214.32
Fair value of the Company's issued shares	$	8,004

Allocation of Consideration Transferred to Net Assets Acquired

The majority of Bard's product offerings are reported, beginning with the second quarter of fiscal year 2018, under the Interventional segment and Bard's remaining product offerings are reported under the Company's Medical segment. The acquisition was accounted for under the acquisition method of accounting for business combinations. During the first quarter of fiscal year 2019, the Company finalized its allocation of the fair value of consideration transferred to the individual assets acquired and liabilities assumed in this acquisition, which resulted in no material adjustments to the allocation. The allocations of the purchase price below represent the estimated fair values of assets acquired and liabilities assumed in this acquisition, which were largely allocated to the Company's Interventional segment.

(Millions of dollars)		
Cash and equivalents	$	1,480
Trade receivables		472
Inventories		974
Property, plant and equipment		553
Developed technology		10,469
Customer relationships		1,146
Other assets		661
Total identifiable assets acquired		15,755
Payables, accrued expenses and other liabilities		1,280
Short term and long-term debt		1,692
Product liability and other legal reserves		2,004
Deferred tax liabilities		1,686
Total liabilities assumed		6,663
Net identifiable assets acquired		9,093
Goodwill		15,924
Net assets acquired	$	25,017

Identifiable Intangible Assets Acquired

The developed technology assets acquired represented Bard's developed technologies in the fields of vascular, urology, oncology, and surgical specialties. The technologies' fair values were determined based on the present value of projected cash flows utilizing an income approach with a risk-adjusted discount rate of 8%. The technologies will be amortized over an estimated weighted-average amortization period of 14 years, which is the weighted average period over which the technologies are expected to generate substantial cash flows.

The customer relationships assets acquired represented Bard's relationships with its customers. The fair value of these customer relationships was determined based on the present value of projected cash flows utilizing an income approach with a risk-adjusted discount rate of 8%. The estimated weighted-average amortization period of the customer relationships was determined to be 13 years and this period corresponds with the weighted average of lives determined for the product technology which underlies the customer contracts.

Goodwill

Goodwill typically results through expected synergies from combining operations of the acquiree and the acquirer, as well as from intangible assets that do not qualify for separate recognition. The goodwill recognized as a result of this acquisition includes, among other things, the value of combining the Company's leadership in medication management and infection prevention with an expanded offering of solutions across the care continuum. Additionally, Bard's strong product portfolio and innovation pipeline are expected to increase the Company's opportunities in fast-growing clinical areas. Revenue synergies are also expected to result from enhanced growth opportunities for the combined company in non-U.S. markets. No portion of goodwill from this acquisition was deductible for tax purposes.

Amounts Related to Bard's Legal Proceedings and Claims

Accruals for Bard-related product liability and other legal matters represented approximately $2.0 billion of the liabilities assumed. Cash and equivalents include a restricted cash balance acquired which largely represents funds that are restricted for certain product liability matters assumed. Additional disclosures regarding Bard's legal proceedings and claims are provided in Note 5.

The Tax Cuts and Job Act Transition Tax

The net assets acquired included approximately $183 million of transition tax payable based on the Company's best estimate of its transition tax liability under U.S. tax legislation which is further discussed in Note 17.

Transaction Costs

Transaction costs related to this acquisition incurred during the years ended September 30, 2018 and 2017 were approximately $56 million and $25 million, respectively. These transaction costs were recorded as *Acquisitions and other restructurings* and consisted of legal, advisory and other costs. See Note 12 for discussion regarding restructuring costs incurred relative to the Bard acquisition.

Unaudited Pro Forma Information

As noted above, Bard's operating activities from the acquisition date through December 31, 2017 were not material and the Company included Bard in its consolidated results of operations beginning on January 1, 2018. *Revenues* in 2018 were $3 billion. *Net Income* in 2018 included loss attributable to Bard of $(107) million. The following table provides the pro forma results for the fiscal years 2018 and 2017 as if Bard had been acquired as of October 1, 2016.

(Millions of dollars, except per share data)

	2018	2017
Revenues	$ 16,947	$ 15,781
Net Income	$ 390	$ 1,145
Diluted Earnings per Share	$ 0.90	$ 3.60

The pro forma results above include the impact of the following adjustments, as necessary: additional amortization and depreciation expense relating to assets acquired; interest and other financing costs relating to the acquisition transaction; and the elimination of one-time or nonrecurring items. The one-time or nonrecurring items eliminated for the year ended September 30, 2018 were primarily comprised of fair value step-up adjustments of $478 million recorded relative to Bard's inventory on the acquisition date, the transaction costs discussed above, as well as certain Bard-related restructuring costs disclosed in Note 12. In addition, amounts previously reported by Bard as revenues related to a royalty income stream have been reclassified to *Other income (expense), net* to conform to the Company's reporting classification.

The pro forma results do not include any anticipated cost savings or other effects of the planned integration of Bard. Accordingly, the pro forma results above are not necessarily indicative of the results that would have been if the acquisition had occurred on the dates indicated, nor are the pro forma results indicative of results which may occur in the future.

Note 11 — Divestitures

Advanced Bioprocessing

The Company completed the sale of its Life Sciences segment's Advanced Bioprocessing business in October 2018 pursuant to a definitive agreement that was signed in September 2018. Assets held for sale on the

consolidated balance sheet at September 30, 2018, subject to this agreement, were approximately $137 million. Liabilities held for sale under the agreement were immaterial. The Company recognized a pre-tax gain on the sale of approximately $336 million which was recorded as a component of *Other operating expense, net* in fiscal year 2019. The historical financial results for the Advanced Bioprocessing business have not been classified as a discontinued operation.

Respiratory Solutions and Vyaire Medical

On October 3, 2016, the Company sold a 50.1% controlling financial interest in its Respiratory Solutions business, a component of the Medical segment, to form a venture, Vyaire Medical. The Company retained a 49.9% non-controlling interest in the new standalone entity. The Company agreed to various contract manufacturing and certain logistical and transition services agreements with the new entity for a period of up to two years after the sale. The Company accounted for its remaining interest in the new entity as an equity method investment and recorded its share of the new entity's earnings or losses on a one-quarter lag to *Other income (expense), net*.

In April 2018, the Company completed the sale of its remaining interest in Vyaire Medical. The Company received gross cash proceeds of approximately $435 million and recognized a pre-tax gain on the sale of approximately $303 million, which was recognized in *Other income (expense), net*.

Note 12 — Business Restructuring Charges

In connection with the Company's acquisition of Bard, the 2015 acquisition of CareFusion and portfolio rationalization initiatives, the Company incurred restructuring costs which were largely recorded within *Acquisitions and other restructurings* on its consolidated statements of income. Additional disclosures regarding these restructuring activities and the related costs are provided in Notes 8, 10 and 11. Restructuring liability activity in 2019, 2018 and 2017 was as follows:

	Employee Termination		Other		Total	
(Millions of dollars)	Bard	Other Initiatives (a)	Bard (b)	Other Initiatives (a)	Bard	Other Initiatives (a)
Balance at September 30, 2016	$ —	$ 67	$ —	$ 2	$ —	$ 69
Charged to expense	—	27	—	58	—	85
Cash payments	—	(45)	—	(12)	—	(57)
Non-cash settlements	—	—	—	(9)	—	(9)
Other adjustments	—	—	—	(33)	—	(33)
Balance at September 30, 2017	$ —	$ 49	$ —	$ 6	$ —	$ 55
Charged to expense	136	30	156	22	292	52
Cash payments	(103)	(56)	(3)	(23)	(106)	(79)
Non-cash settlements	—	—	(153)	(1)	(153)	(1)
Balance at September 30, 2018	$ 33	$ 23	$ —	$ 4	$ 33	$ 27
Charged to expense	23	29	95	33	118	62
Cash payments	(34)	(21)	(5)	(31)	(39)	(52)
Non-cash settlements	—	—	(89)	(3)	(89)	(3)
Balance at September 30, 2019	$ 22	$ 31	$ 1	$ 3	$ 23	$ 34

(a) Restructuring costs in 2019, 2018 and 2017 included expenses related to the Company's acquisition of CareFusion in fiscal year 2015 and other initiatives.

(b) Expenses in 2019 and 2018 largely represented the costs associated with the conversion of certain pre-acquisition equity awards of Bard which, to encourage post-acquisition employee retention, were converted to BD equity awards with substantially the same terms and conditions as were applicable under such Bard awards immediately prior to the acquisition date. Expenses in 2018 also included costs relating to Bard's pension plan, partially offset by a gain on the sale of the Company's soft tissue core needle biopsy product line which was recorded in the second quarter of fiscal year 2018.

Note 13 — Intangible Assets

Intangible assets at September 30 consisted of:

	2019		2018	
(Millions of dollars)	Gross Carrying Amount	Accumulated Amortization	Gross Carrying Amount	Accumulated Amortization
Amortized intangible assets				
Developed technology	$ 13,960	$ 2,906	$ 13,966	$ 1,782
Customer relationships	4,608	1,183	4,584	861
Product rights	110	60	121	58
Trademarks	407	102	407	84
Patents and other	445	305	397	288
Amortized intangible assets	$ 19,530	$ 4,555	$ 19,475	$ 3,073
Unamortized intangible assets				
Acquired in-process research and development (a)	$ 1		$ 37	
Trademarks	2		2	
Unamortized intangible assets	$ 3		$ 39	

(a) The decrease in the carrying value of assets in 2019 primarily reflected a write-down recorded in the third quarter by the Interventional segment's Surgery unit.

Intangible amortization expense was $1.497 billion, $1.255 billion and $0.553 billion in 2019, 2018 and 2017, respectively. The increases in intangible amortization expense beginning in 2018 were attributable to assets acquired in the Bard transaction, which is further discussed in Note 10. The estimated aggregate amortization expense for the fiscal years ending September 30, 2020 to 2024 are as follows: 2020 — $1.350 billion; 2021 — $1.346 billion; 2022 — $1.336 billion; 2023 — $1.331 billion; 2024 — $1.311 billion.

The following is a reconciliation of goodwill by business segment:

(Millions of dollars)	Medical	Life Sciences	Interventional	Total
Goodwill as of September 30, 2017	$ 6,802	$ 761	$ —	$ 7,563
Acquisitions (a)	3,923	76	11,218	15,217
Divestitures and related adjustments (b)	—	(59)	(57)	(116)
Reallocation of goodwill for change in segment and reporting unit composition (c)	(877)	—	877	—
Purchase price allocation adjustments (d)	228	(2)	732	959
Currency translation	(22)	(2)	—	(24)
Goodwill as of September 30, 2018	$ 10,054	$ 775	$ 12,771	$ 23,600
Divestitures and related adjustments (b)	—	3	—	3
Purchase price allocation adjustments (e)	(15)	—	(75)	(90)
Currency translation	(50)	(6)	(81)	(137)
Goodwill as of September 30, 2019	$ 9,989	$ 772	$ 12,615	$ 23,376

(a) Represents goodwill primarily recognized upon the Company's acquisition of Bard in fiscal year 2018, which is further discussed in Note 10. Also includes goodwill recognized relative to certain acquisitions which were not material individually or in the aggregate.

(b) Represents goodwill derecognized upon the Company's sale of certain businesses, as further discussed in Note 11.

(c) Represents the reassignment of goodwill, determined based upon a relative fair value allocation approach, associated with the movement of certain product offerings from the Medical segment to the Interventional segment in order to align with the reportable segment structure that became effective beginning in the second quarter of fiscal year 2018.

(d) The purchase price allocation adjustments increasing goodwill were primarily driven by the valuation of Bard developed technology assets, the associated deferred tax liability changes, increases to legal reserves and the alignment of the combined organization's accounting policies with respect to accrued liabilities and other accounts.

(e) The purchase price allocation adjustments were primarily driven by adjustments to tax-related balances recorded upon the finalization of the Bard acquisition allocation within one year of the transaction's closing.

Note 14 — Derivative Instruments and Hedging Activities

The Company uses derivative instruments to mitigate certain exposures. The Company does not enter into derivative financial instruments for trading or speculative purposes. The effects these derivative instruments and hedged items have on financial position, financial performance, and cash flows are provided below.

Foreign Currency Risks and Related Strategies

The Company has foreign currency exposures throughout Europe, Greater Asia, Canada and Latin America. Transactional currency exposures that arise from entering into transactions, generally on an intercompany basis, in non-hyperinflationary countries that are denominated in currencies other than the functional currency are mitigated primarily through the use of forward contracts. In order to mitigate foreign currency exposure relating to its investments in certain foreign subsidiaries, the Company has hedged the currency risk associated with those investments with instruments, such as foreign currency-denominated debt, cross-currency swaps and currency exchange contracts, which are designated as net investment hedges.

Hedges of the transactional foreign exchange exposures resulting primarily from intercompany payables and receivables are undesignated hedges. As such, the gains or losses on these instruments are recognized immediately in income. These gains and losses are largely offset by gains and losses on the underlying hedged items, as well as the hedging costs associated with the derivative instruments. The net amounts recognized in *Other income (expense), net*, during the years ending September 30, 2019, 2018 and 2017 were immaterial to the Company's consolidated financial results. The total notional amounts of the Company's outstanding foreign exchange contracts as of September 30, 2019 and 2018 were $2.3 billion and $3.1 billion, respectively.

Certain of the Company's foreign currency-denominated long-term notes outstanding, which had a total carrying value of $1.4 billion and $3.0 billion, as of September 30, 2019 and 2018, respectively, were designated as, and were effective as, economic hedges of net investments in certain of the Company's foreign subsidiaries. In connection with the Company's issuance of Euro-denominated notes during the third quarter of fiscal year 2019, the Company entered into cross-currency swaps, as well as a forward contract, which were designated and effective as economic hedges of net investments in certain of the Company's foreign subsidiaries. The notional amount of the cross-currency swaps was $2.3 billion as of September 30, 2019. The forward contract was terminated in the third quarter, in conjunction with the Company's issuance of the Euro-denominated notes. Additional disclosures regarding the Company's issuance of Euro-denominated notes in the third quarter of fiscal year 2019 are provided in Note 16.

Net gains or losses relating to the net investment hedges, which are attributable to changes in the foreign currencies to U.S. dollar spot exchange rates, are recorded as accumulated foreign currency translation in *Other comprehensive income (loss)*. Upon the termination of a net investment hedge, any net gain or loss included in *Accumulated other comprehensive income (loss)* relative to the investment hedge remains until the foreign subsidiary investment is disposed of or is substantially liquidated.

Net gains (losses) recorded to *Accumulated other comprehensive income (loss)* relating to the Company's net investment hedges as of September 30, 2019 and 2018 were as follows:

(Millions of dollars)	2019	2018
Foreign currency-denominated debt	$ 138	$ 81
Cross-currency swaps	$ 73	$ —
Foreign currency forward contract	$ (9)	$ —

Interest Rate Risks and Related Strategies

The Company's primary interest rate exposure results from changes in U.S. dollar interest rates. The Company's policy is to manage interest cost using a mix of fixed and variable rate debt. The Company periodically uses interest rate swaps to manage such exposures. Under these interest rate swaps, the Company exchanges, at specified intervals, the difference between fixed and floating interest amounts calculated by reference to an agreed-upon notional principal amount. These swaps are designated as either fair value or cash flow hedges.

For interest rate swaps designated as fair value hedges (i.e., hedges against the exposure to changes in the fair value of an asset or a liability or an identified portion thereof that is attributable to a particular risk), changes in the fair value of the interest rate swaps offset changes in the fair value of the fixed rate debt due to changes in market interest rates.

The total notional amount of the Company's outstanding interest rate swaps designated as fair value hedges was $375 million and $1.2 billion at September 30, 2019 and 2018, respectively. The outstanding swaps represent fixed-to-floating interest rate swap agreements the Company entered into to convert the interest payments on certain long-term notes from the fixed rate to a floating interest rate based on LIBOR. Changes in the fair value of the interest rate swaps offset changes in the fair value of the fixed rate debt. The amounts recorded during the years ended September 30, 2019 and 2018 for changes in the fair value of these hedges were immaterial to the Company's consolidated financial results.

Changes in the fair value of the interest rate swaps designated as cash flow hedges (i.e., hedging the exposure to variability in expected future cash flows that is attributable to a particular risk) are recorded in *Other comprehensive income (loss)*. If interest rate derivatives designated as cash flow hedges are terminated, the balance in *Accumulated other comprehensive income (loss)* attributable to those derivatives is reclassified into earnings over the remaining life of the hedged debt. The net realized loss related to terminated interest rate swaps expected to be reclassified and recorded in *Interest expense* within the next 12 months is $6 million, net of tax.

The total notional value of the Company's outstanding forward starting interest rate swaps was $1.5 billion at September 30, 2019. The Company entered into these contracts in August 2019 to mitigate its exposure to interest rate risk. The amounts recognized in other comprehensive income relating to interest rate hedges during the year ended September 30, 2019 were immaterial. The Company had no outstanding interest rate swaps designated as cash flow hedges at September 30, 2018.

Other Risk Exposures

The Company purchases resins, which are oil-based components used in the manufacture of certain products. Significant increases in world oil prices that lead to increases in resin purchase costs could impact future operating results. From time to time, the Company has managed price risks associated with these commodity purchases through commodity derivative forward contracts. The Company's outstanding commodity derivative forward contracts at September 30, 2019 were immaterial to the Company's consolidated financial results. The Company had no outstanding commodity derivative forward contracts at September 30, 2018.

Financial Statement Effects

The fair values of derivative instruments outstanding at September 30, 2019 and 2018 were not material to the Company's consolidated balance sheets.

The amounts reclassified from accumulated other comprehensive income relating to cash flow hedges during 2019, 2018 and 2017 were not material to the Company's consolidated financial results.

Note 15 — Financial Instruments and Fair Value Measurements

The following reconciles cash and equivalents and restricted cash reported within the Company's consolidated balance sheets at September 30, 2019 and 2018 to the total of these amounts shown on the Company's consolidated statements of cash flows:

(Millions of dollars)	September 30, 2019	September 30, 2018
Cash and equivalents	$ 536	$ 1,140
Restricted cash	54	96
Cash and equivalents and restricted cash	$ 590	$ 1,236

The Company’s cash and equivalents include institutional money market accounts which permit daily redemption and the fair values of these investments are based upon the quoted prices in active markets provided by the holding financial institutions, which are considered Level 1 inputs in the fair value hierarchy. The fair values of these accounts were $39 million and $228 million at September 30, 2019 and 2018, respectively. The Company’s remaining cash and equivalents, excluding restricted cash, were $497 million and $913 million at September 30, 2019 and 2018, respectively.

Short-term investments are held to their maturities and are carried at cost, which approximates fair value. The short-term investments consist of instruments with maturities greater than three months and less than one year.

Long-term debt is recorded at amortized cost. The fair value of long-term debt is measured based upon quoted prices in active markets for similar instruments, which are considered Level 2 inputs in the fair value hierarchy. The fair value of long-term debt was $19.2 billion and $18.8 billion at September 30, 2019 and 2018, respectively. The fair value of the current portion of long-term debt was $1.3 billion and $1.9 billion at September 30, 2019 and 2018, respectively.

All other instruments measured by the Company at fair value, including derivatives and contingent consideration liabilities, are immaterial to the Company's consolidated balance sheets.

Nonrecurring Fair Value Measurements

In fiscal year 2019, the Company recorded a charge of $30 million to write down the carrying value of certain intangible assets in the Surgery unit. In fiscal year 2018, the Company recorded charges of $58 million to write down the value of fixed assets, primarily in the Diabetes Care unit, as well as charges of $81 million to write down the carrying value of certain intangible and other assets in the Biosciences unit. The amounts recognized in 2019 and 2018 were recorded to adjust the carrying amount of assets to the assets' fair values, which were estimated, based upon a market participant's perspective, using either Level 2 inputs, including quoted prices for similar assets, or Level 3 inputs, including values estimated using the income approach.

Concentration of Credit Risk

The Company maintains cash deposits in excess of government-provided insurance limits. Such cash deposits are exposed to loss in the event of nonperformance by financial institutions. Substantially all of the Company’s trade receivables are due from public and private entities involved in the healthcare industry. Due to the large size and diversity of the Company’s customer base, concentrations of credit risk with respect to trade receivables are limited. The Company does not normally require collateral. The Company is exposed to credit loss in the event of nonperformance by financial institutions with which it conducts business. However, this loss is limited to the amounts, if any, by which the obligations of the counterparty to the financial instrument contract exceed the obligations of the Company. The Company also minimizes exposure to credit risk by dealing with a diversified group of major financial institutions.

The Company continually evaluates its accounts receivables for potential collection risks particularly those resulting from sales to government-owned or government-supported healthcare facilities in certain countries as payment may be dependent upon the financial stability and creditworthiness of those countries’ national economies. The Company continually evaluates all governmental receivables for potential collection risks associated with the availability of government funding and reimbursement practices. The Company believes the current reserves related to all governmental receivables are adequate and that this concentration of credit risk will not have a material adverse impact on its financial position or liquidity.

Note 16 — Debt

Short-term debt

The carrying value of *Short-term debt*, net of unamortized debt issuance costs, at September 30 consisted of:

(Millions of dollars)		2019	2018
Current portion of long-term debt			
2.675% Notes due December 15, 2019	(a)	$ 300	$ —
2.404% Notes due June 5, 2020		999	—
2.133% Notes due June 6, 2019		—	724
0.368% Notes due June 6, 2019	(a)	—	1,157
Term Loan Facility due September 5, 2019	(b)	—	710
Other		10	10
Total short-term debt		$ 1,309	$ 2,601

(a) All or a portion of the aggregate principal amount outstanding was redeemed or repaid during 2019, as further discussed below.

(b) Term loan facility entered into during the fourth quarter of fiscal year 2018, as further discussed below.

The weighted average interest rates for short-term debt were 2.48% and 1.58% at September 30, 2019 and 2018, respectively.

Long-term debt

The carrying value of *Long-Term Debt*, net of unamortized debt issuance costs, at September 30 consisted of:

(Millions of dollars)		2019	2018
2.675% Notes due December 15, 2019		$ —	$ 1,123
2.404% Notes due June 5, 2020		—	998
3.250% Notes due November 12, 2020		699	699
Floating Rate Notes due December 29, 2020	(a)	748	996
0.174% Notes due June 4, 2021	(b)	651	—
3.125% Notes due November 8, 2021		1,004	990
2.894% Notes due June 6, 2022		1,795	1,793
Floating Rate Notes due June 6, 2022		498	498
1.000% Notes due December 15, 2022		542	576
Revolving Credit Facility due December 29, 2022		480	—
3.300% Notes due March 1, 2023		295	296
1.401% Notes due May 24, 2023		325	346
0.632% Notes due June 4, 2023	(b)	867	—
3.875% Notes due May 15, 2024		181	182
3.363% Notes due June 6, 2024		1,740	1,738
3.734% Notes due December 15, 2024		1,369	1,368
3.020% Notes due May 24, 2025		306	324
1.208% Notes due June 4, 2026	(b)	649	—
6.700% Notes due December 1, 2026	(c)	174	177
1.900% Notes due December 15, 2026		541	575
3.700% Notes due June 6, 2027	(a)	1,714	2,383
7.000% Debentures due August 1, 2027		175	156
6.700% Debentures due August 1, 2028		175	154
6.000% Notes due May 15, 2039		246	246
5.000% Notes due November 12, 2040	(a)	124	296
4.875% Notes due May 15, 2044	(a)	248	331
4.685% Notes due December 15, 2044	(a)	1,045	1,159
4.669% Notes due June 6, 2047		1,485	1,484
Other long-term debt		5	8
Total Long-Term Debt		$ 18,081	$ 18,894

(a) A portion of the aggregate principal amount outstanding was redeemed or repurchased during 2019, as further discussed below.

(b) Includes notes issued during 2019, as further discussed below.

(c) Includes notes assumed in connection with the Company's acquisition of Bard, as further discussed below.

The aggregate annual maturities of debt including interest during the fiscal years ending September 30, 2020 to 2024 are as follows: 2020 — $1.9 billion; 2021 — $2.6 billion; 2022 — $3.7 billion; 2023 — $2.9 billion; 2024 — $2.3 billion.

Other current credit facilities

In May 2017, the Company entered into a five-year senior unsecured revolving credit facility which provides borrowing of up to $2.25 billion. This facility will expire in December 2022. Under the revolving facility, the Company is able to issue up to $100 million in letters of credit and it also includes a provision that enables the Company, subject to additional commitments made by the lenders, to access up to an additional $500 million in financing through the facility for a maximum aggregate commitment of $2.75 billion. Borrowings outstanding under the revolving credit facility at September 30, 2019 were $485 million. There were no borrowings outstanding under the revolving credit facility at September 30, 2018. In addition, the Company has informal lines of credit outside of the United States.

During the fourth quarter of 2019, the Company fully repaid its borrowings outstanding on a 364-day senior unsecured term loan facility that the Company entered in September 2018. The Company had no commercial paper borrowings outstanding as of September 30, 2019.

2019 Debt-Related Transactions

In March 2019, the Company redeemed an aggregate principal amount of $250 million of its outstanding floating rate senior unsecured U.S. notes due December 29, 2020. Based upon the $249 million carrying value of the notes redeemed and the $250 million the Company paid to redeem the aggregate principal amount of the notes, the Company recorded a loss on this debt extinguishment transaction in the second quarter of fiscal year 2019 of $1 million as *Other income (expense), net*, on its consolidated statements of income.

In June 2019, Becton Dickinson Euro Finance S.à r.l., a private limited liability company (société à responsabilité limitée), which is an indirect, wholly-owned finance subsidiary of the Company, issued Euro-denominated debt consisting of 600 million Euros ($672 million) of 0.174% notes due June 4, 2021, 800 million Euros ($896 million) of 0.632% notes due June 4, 2023, and 600 million Euros ($672 million) of 1.208% notes due June 4, 2026. The notes are fully and unconditionally guaranteed on a senior unsecured basis by the Company. No other of the Company's subsidiaries provide any guarantees with respect to these notes. The indenture covenants include a limitation on liens and a restriction on sale and leasebacks, change of control and consolidation, merger and sale of assets covenants. These covenants are subject to a number of exceptions, limitations and qualifications. The indenture does not restrict the Company, Becton Dickinson Euro Finance S.à r.l., or any other of the Company's subsidiaries from incurring additional debt or other liabilities, including additional senior debt. Additionally, the indenture does not restrict Becton Dickinson Euro Finance S.à r.l. and the Company from granting security interests over its assets.

The Company used the net proceeds from this long-term debt offering, together with cash on hand, to repay all the 1.000 billion Euros ($1.120 billion) of principal outstanding on 0.368% notes due June 6, 2019, as well as to fund the Company's repurchase of certain of its long-term senior notes outstanding. Under this cash tender offer, the Company repurchased the following aggregate principal amounts of its long-term debt at an aggregate market price of $1.169 billion:

Interest Rate and Maturity	Aggregate Principal Amount (Millions of dollars)
3.700% Notes due June 6, 2027	$ 675
5.000% Notes due November 12, 2040	175
4.875% Notes due May 15, 2044	75
4.685% Notes due December 15, 2044	175
Total notes purchased	$ 1,100

The carrying value of these long-term notes was $1.112 billion, and the Company recognized a loss on this debt extinguishment of $57 million, which was recorded in June 2019 as *Other income (expense), net*, on the Company’s consolidated statements of income.

In September 2019, the Company redeemed an aggregate principal amount of $825 million of its outstanding 2.675% notes due December 15, 2019. Based upon the $825 million carrying value of the notes redeemed and the $826 million the Company paid to redeem the aggregate principal amount of the notes, the Company recorded a loss on this debt extinguishment transaction in the fourth quarter of fiscal year 2019 of $1 million as *Other income (expense), net*, on its consolidated statements of income.

2018 Debt-Related Transactions

In connection with the Company's acquisition of Bard, the Company exchanged certain outstanding notes issued by Bard for a like-amount of new notes issued by the Company. The exchange offers, which were conditioned upon the closing of the Bard acquisition, expired on December 29, 2017. The aggregate principal amounts of Bard notes which were validly tendered for notes issued by the Company are provided below.

(Millions of dollars)

Interest Rate and Maturity	Aggregate Principal Amount	Principal Amount Accepted for Exchange
4.400% Notes due January 15, 2021	$ 500	$ 432
3.000% Notes due May 15, 2026	500	470
6.700% Notes due December 1, 2026	150	137
Total	$ 1,150	$ 1,039

This exchange transaction was accounted for as a modification of the assumed debt instruments. Following the exchange of the notes, the aggregate principal amount of Bard notes that remained outstanding after settlement of the exchange transaction was $111 million.

In January 2018, the Company commenced an offer to repurchase any and all of the outstanding 3.000% Notes due May 15, 2026 that were issued as a result of the exchange transaction discussed above. Under the terms of the repurchase offer, holders were entitled to receive cash equal to 101% of the principal amount of notes validly tendered, plus accrued and unpaid interest, if any, to the date of purchase. The offer to repurchase the 3.000% Notes expired on March 1, 2018 and a total of $461 million aggregate principal amount of notes were validly tendered at a market price of $465 million. Based upon the carrying value of $452 million, the Company recorded a loss relating to this debt extinguishment in the second quarter of fiscal year 2018 of $13 million as *Other income (expense), net*, on its consolidated statements of income.

During the second quarter of fiscal year 2018, the Company issued Euro-denominated debt consisting of 300 million Euros ($370 million) of 0.368% notes due June 6, 2019 under an indenture pursuant to which the Company previously issued, in the third quarter of fiscal year 2017, 0.368% notes due June 6, 2019. Also in the second quarter of fiscal year 2018, the Company issued $1 billion of floating rate senior unsecured U.S. notes due December 29, 2020. The Company used the net proceeds from these long-term debt offerings to repay portions of the balances outstanding on its term loan and revolving credit facilities, which are discussed above, as well as accrued interest, related premiums, fees and expenses related to these repaid amounts.

In June 2018, the Company redeemed all of the 4.400% Notes due January 15, 2021 and 3.000% Notes due May 15, 2026 which were issued by Bard and that remained outstanding after the exchange offer discussed above. Also in June 2018, the Company redeemed all of the 4.400% Notes due January 15, 2021 which were issued by the Company upon the exchange offer, as well as all of the 3.000% Notes due May 15, 2026 issued by the Company which remained outstanding after the repurchase offer also discussed above. The total aggregate principal amount of notes redeemed was $539 million. Based upon the $556 million carrying value of these notes and the $559 million the Company paid to redeem the aggregate principal amount of the notes, the Company recorded a loss on these debt extinguishment transactions in the third quarter of fiscal year 2018 of $3 million as *Other income (expense), net*, on its consolidated statements of income.

During the third quarter of fiscal year 2018, the Company issued Euro-denominated debt consisting of 300 million Euros ($354 million) of 1.401% notes due May 24, 2023. Also in the third quarter of fiscal year 2018, the Company issued British Pound-denominated debt of 250 million British Pounds ($337.5 million) of 3.02% notes due May 24, 2025. The Company used the net proceeds from these long-term debt offerings to redeem certain notes in the third quarter and to repay a portion of the balance outstanding on its term loan, as well as accrued interest, related premiums, fees and expenses related to this repaid amount.

Capitalized interest

The Company capitalizes interest costs as a component of the cost of construction in progress. A summary of interest costs and payments for the years ended September 30 is as follows:

(Millions of dollars)	2019	2018	2017
Charged to operations	$ 639	$ 706	$ 521
Capitalized	44	42	32
Total interest costs	$ 683	$ 748	$ 553
Interest paid, net of amounts capitalized	$ 658	$ 674	$ 435

Note 17 — Income Taxes

Provision for Income Taxes

The provision for income taxes the years ended September 30 consisted of:

(Millions of dollars)	2019	2018	2017
Current:			
Federal	$ 235	$ 665	$ (230)
State and local, including Puerto Rico	41	73	(20)
Foreign	300	387	200
	$ 576	$ 1,124	$ (50)
Deferred:			
Domestic	$ (566)	$ (201)	$ (64)
Foreign	(67)	(61)	(10)
	(633)	(262)	(74)
Income tax (benefit) provision	$ (57)	$ 862	$ (124)

The components of *Income Before Income Taxes* for the years ended September 30 consisted of:

(Millions of dollars)	2019	2018	2017
Domestic, including Puerto Rico	$ 1,340	$ (135)	$ (386)
Foreign	(164)	1,308	1,362
Income Before Income Taxes	$ 1,176	$ 1,173	$ 976

U.S. tax legislation, commonly referred to as the Tax Cuts and Jobs Act (the "Act"), was enacted on December 22, 2017. The Act reduced the U.S. federal corporate tax rate from 35% to 21%, required companies to pay a one-time transition tax on earnings of certain foreign subsidiaries that were previously tax deferred, and created new taxes on certain foreign-sourced earnings.

During fiscal year 2019, the Company finalized its accounting for the income tax effects of the Act, and all adjustments related to finalization of its calculations were included as a component of *Income tax (benefit) provision* in fiscal year 2019. The Company recognized additional tax benefit of $50 million and additional tax cost of $640 million in 2019 and 2018, respectively, as a result of this legislation. These amounts are reflected in the Company's consolidated statements of income within *Income tax (benefit) provision*.

The Act subjects a U.S. shareholder to tax on global intangible low-taxed income ("GILTI") earned by certain foreign subsidiaries. The Company has elected to account for its GILTI tax due as a period expense in the year the tax is incurred.

The Company has analyzed its U.S. cash needs in conjunction with the Internal Revenue Service ("IRS") and Treasury Regulations that were released during fiscal year 2019 and has concluded that it will assert indefinite reinvestment for all historical unremitted foreign earnings as of September 30, 2019. As a result of the change in assertion, the deferred tax liability recorded in connection with the hypothetical repatriation of the unremitted foreign earnings was reversed during the fourth quarter of fiscal 2019. The change in assertion resulted in a total tax benefit of $138 million, of which $67 million is related to the tax legislation benefit previously recorded, and is included as a component of *Income tax (benefit) provision* in fiscal 2019.

Unrecognized Tax Benefits

The table below summarizes the gross amounts of unrecognized tax benefits without regard to reduction in tax liabilities or additions to deferred tax assets and liabilities if such unrecognized tax benefits were settled. The Company believes it is reasonably possible that the amount of unrecognized benefits will change due to one or more of the following events in the next twelve months: expiring statutes, audit activity, tax payments, other activity, or final decisions in matters that are the subject of controversy in various taxing jurisdictions in which we operate.

(Millions of dollars)	2019	2018	2017
Balance at October 1	$ 543	$ 349	$ 469
Increase due to acquisitions	3	140	—
Increase due to current year tax positions	11	43	41
Increase due to prior year tax positions	6	43	19
Decreases due to prior year tax positions	(39)	—	(30)
Decrease due to settlements with tax authorities	—	(29)	(145)
Decrease due to lapse of statute of limitations	(5)	(3)	(5)
Balance at September 30	$ 519	$ 543	$ 349

Upon the Company's acquisition of CareFusion in 2015, the Company became a party to a tax matters agreement with Cardinal Health resulting from Cardinal Health's spin-off of CareFusion in fiscal year 2010. Under the tax matters agreement, the Company is obligated to indemnify Cardinal Health for certain tax exposures and transaction taxes prior to CareFusion's spin-off from Cardinal Health. The indemnification payable is approximately $156 million at September 30, 2019 and is included in *Deferred Income Taxes and Other* on the consolidated balance sheet.

At September 30, 2019, 2018 and 2017, there are $624 million, $632 million and $415 million of unrecognized tax benefits that if recognized, would affect the effective tax rate. During the fiscal years ended September 30, 2019, 2018 and 2017, the Company reported interest and penalties associated with unrecognized tax benefits of $26 million, $20 million and $57 million on the consolidated statements of income as a component of *Income tax (benefit) provision*. The Company conducts business and files tax returns in numerous countries and currently has tax audits in progress in a number of tax jurisdictions. The IRS has completed its audit for fiscal year 2014 for the BD business prior to its acquisition of CareFusion. The IRS has also completed its audit for fiscal years 2016 and 2017 for the combined BD and CareFusion business. For the BD legacy business, all years are effectively settled with the exception of 2015 for which the Company believes it is adequately reserved for any potential exposures. The IRS is currently examining the CareFusion legacy fiscal year 2014 and short period 2015. With the exception of the CareFusion legacy fiscal year 2010 audit, all other periods are at various stages of appeals or protests. With regard to Bard, all examinations have been completed through calendar year 2014. The IRS has commenced the examination of calendar years 2015, 2016 and 2017. For the other major tax jurisdictions where the Company conducts business, tax years are generally open after 2013.

Deferred Income Taxes

Deferred income taxes at September 30 consisted of:

	2019		2018	
(Millions of dollars)	Assets	Liabilities	Assets	Liabilities
Compensation and benefits	$ 513	$ —	$ 458	$ —
Property and equipment	—	255	—	253
Intangibles	—	2,624	—	2,948
Loss and credit carryforwards	1,327	—	1,290	—
Other	634	189	707	384
	2,474	3,068	2,455	3,585
Valuation allowance	(1,240)	—	(1,181)	—
Net (a)	$ 1,234	$ 3,068	$ 1,275	$ 3,585

(a) Net deferred tax assets are included in *Other Assets* and net deferred tax liabilities are included in *Deferred Income Taxes and Other* on the consolidated balance sheets.

Deferred tax assets and liabilities are netted on the balance sheet by separate tax jurisdictions. Deferred taxes have not been provided on undistributed earnings of foreign subsidiaries as of September 30, 2019 since the determination of the total amount of unrecognized deferred tax liability is not practicable.

Generally, deferred tax assets have been established as a result of net operating losses and credit carryforwards with expiration dates from 2020 to an unlimited expiration date. Valuation allowances have been established as a result of an evaluation of the uncertainty associated with the realization of certain deferred tax assets on these losses and credit carryforwards. The valuation allowance at September 30, 2019 is primarily the result of foreign losses due to the Company's global re-organization of its foreign entities and these generally have no expiration date. Valuation allowances are also maintained with respect to deferred tax assets for certain federal and state carryforwards that may not be realized and that principally expire in 2022.

Tax Rate Reconciliation

A reconciliation of the federal statutory tax rate to the Company's effective income tax rate was as follows:

	2019	2018	2017
Federal statutory tax rate	21.0 %	24.5%	35.0 %
New U.S. tax legislation (see discussion above)	(4.3)	54.6	—
State and local income taxes, net of federal tax benefit	0.1	0.8	(2.6)
Effect of foreign and Puerto Rico (losses) earnings and foreign tax credits	(12.2)	7.3	(40.8)
Effect of Research Credits and FDII/Domestic Production Activities	(3.3)	(2.8)	(2.7)
Effect of change in accounting for excess tax benefit relating to share-based compensation (see Note 2)	(4.7)	(6.7)	(7.9)
Effect of gain on divestitures	(2.0)	1.3	—
Effect of uncertain tax position	—	3.3	—
Effect of valuation allowance release	—	(4.8)	—
Effect of application for change in accounting method	—	(4.5)	—
Effect of nondeductible compensation	—	1.6	—
Other, net	0.6	(1.1)	6.3
Effective income tax rate	(4.8)%	73.5%	(12.7)%

The Company has reassessed its permanent reinvestment assertion that was in effect as of September 30, 2018 in light of the IRS and Treasury Regulations that were released in June of 2019 and the impact of certain transactions that were executed in the fourth quarter of fiscal 2019. The Company changed its assertion such that the Company is now permanently reinvested with respect to all of its historical foreign earnings as of September 30, 2019. The Company recorded a benefit of $138 million within *Income tax (benefit) provision* in 2019 as a result of this change in its permanent reinvestment assertion.

Tax Holidays and Payments

The approximate amounts of tax reductions related to tax holidays in various countries in which the Company does business were $157 million, $107 million and $146 million, in 2019, 2018 and 2017, respectively. The benefit of the tax holiday on diluted earnings per share was approximately $0.57, $0.40 and $0.65 for fiscal years 2019, 2018 and 2017, respectively. The tax holidays expire at various dates through 2028.

The Company made income tax payments, net of refunds, of $536 million in 2019, $235 million in 2018 and $265 million in 2017.

Note 18 — Sales-Type Leases and Financing Receivables

In April 2017, in conjunction with the implementation of a new “go-to-market” business model for the Company's U.S. dispensing business within the Medication Management Solutions (“MMS”) unit of the Medical segment, the Company amended the terms of certain customer leases for dispensing equipment within the MMS unit. The modification provided customers the ability to reduce its dispensing asset base via a return provision, resulting in a more flexible lease term. Prior to the modification, these leases were accounted for as sales-type leases in accordance with Accounting Standards Codification Topic 840, "Leases", as the non-cancellable lease term of 5 years exceeded 75% of the equipment’s estimated useful life and the present value of the minimum lease payments exceeded 90% of the equipment’s fair value. As a result of the lease modification, the Company was required to reassess the classification of the leases due to the amended lease term. Accordingly, most amended lease contracts were classified as operating leases beginning in April 2017. The change in lease classification resulted in a pre-tax charge to earnings in fiscal year 2017 of $748 million, which was recorded in *Other operating expense, net.* Beginning April 1, 2017, revenue associated with these modified contracts has been recognized on a straight-line basis over the remaining lease term, along with depreciation on the reinstated leased assets.

The Company's consolidated financial results in 2019 and 2018 were not materially impacted by the financing receivables remaining subsequent to the lease modification discussed above.

Note 19 — Supplemental Financial Information

Other Income (Expense), Net

(Millions of dollars)	2019	2018	2017
Royalty income (a)	$ 64	$ 51	$ —
Hurricane-related insurance proceeds	35	—	—
Vyaire Medical-related amounts and other income from divestitures (b)	6	288	(3)
Other investment gains/losses	18	8	3
Net pension and postretirement benefit cost (c)	(2)	(13)	(44)
Losses on undesignated foreign exchange derivatives, net	(23)	(14)	(11)
Losses on debt extinguishment (d)	(59)	(16)	(73)
Gains on previously held investments (e)	—	—	24
Other	4	—	3
Other income (expense), net	$ 43	$ 305	$ (101)

(a) Primarily represents the royalty income stream acquired in the Bard transaction, net of non-cash purchase accounting amortization. The royalty income stream was previously reported by Bard as revenues.

(b) The amount in 2019 represents income from transition services agreements ("TSA") related to the Company's 2018 and 2017 divestitures. The amount in 2018 includes the gain on the sale of the remaining ownership interest in its former Respiratory Solutions business and subsequent TSA income, net of the Company's share of equity investee results in the business. The amount in 2017 represents the Company's share of equity investee results in the former business, net of TSA income. Additional disclosures regarding the Company's divestiture transactions are provided in Note 11.

(c) Represents all components of the Company's net periodic pension and postretirement benefit costs, aside from service cost, as a result of the adoption of an accounting standard as further discussed in Note 2.

(d) Represents losses recognized upon the extinguishment of certain senior notes, as further discussed in Note 16.

(e) Represents an acquisition-date accounting gain related to a previously-held equity method investment in an entity the Company acquired.

Trade Receivables, Net

The amounts recognized in 2019, 2018 and 2017 relating to allowances for doubtful accounts and cash discounts, which are netted against trade receivables, are provided in the following table:

(Millions of dollars)	Allowance for Doubtful Accounts		Allowance for Cash Discounts	Total
Balance at September 30, 2016	$ 61		$ 6	$ 67
Additions charged to costs and expenses	25		43	68
Deductions and other	(32)	(a)	(45)	(76)
Balance at September 30, 2017	$ 54		$ 4	$ 58
Additions charged to costs and expenses	31		58	89
Deductions and other	(11)	(a)	(50)	(61)
Balance at September 30, 2018	$ 75		$ 12	$ 86
Additions charged to costs and expenses	31		94	125
Deductions and other	(31)	(a)	(92)	(123)
Balance at September 30, 2019	$ 75		$ 13	$ 88

(a) Accounts written off.

Inventories

Inventories at September 30 consisted of:

(Millions of dollars)	2019	2018
Materials	$ 544	$ 510
Work in process	318	297
Finished products	1,717	1,644
	$ 2,579	$ 2,451

Property, Plant and Equipment, Net

Property, Plant and Equipment, Net at September 30 consisted of:

(Millions of dollars)	2019	2018
Land	$ 164	$ 173
Buildings	2,842	2,724
Machinery, equipment and fixtures	7,932	7,405
Leasehold improvements	190	182
	11,128	10,485
Less accumulated depreciation and amortization	5,469	5,111
	$ 5,659	$ 5,375

SUPPLEMENTARY QUARTERLY DATA (UNAUDITED)

Millions of dollars, except per share amounts	2019				
	1st	2nd	3rd	4th	Year (a)
Revenues	$ 4,160	$ 4,195	$ 4,350	$ 4,584	$ 17,290
Gross Profit	1,974	1,974	2,074	2,266	8,288
Net Income	599	20	451	163	1,233
Earnings (loss) per Share:					
Basic	2.09	(0.07)	1.53	0.46	4.01
Diluted	2.05	(0.07)	1.51	0.45	3.94

	2018				
	1st	2nd	3rd	4th	Year (a)
Revenues	$ 3,080	$ 4,222	$ 4,278	$ 4,402	$ 15,983
Gross Profit	1,553	1,606	2,017	2,094	7,269
Net (Loss) Income	(136)	(12)	594	(135)	311
(Loss) earnings per Share: (b)					
Basic	(0.76)	(0.19)	2.08	(0.64)	0.62
Diluted	(0.76)	(0.19)	2.03	(0.64)	0.60

(a) Quarterly amounts may not add to the year-to-date totals due to rounding. Earnings per share amounts are calculated from the underlying whole-dollar amounts.

(b) The sums of basic and diluted earnings per share for the quarters of 2018 do not equal year-to-date amounts due to the impacts of shares issued during this fiscal year, in connection with the Bard acquisition, on the weighted average common shares included in the calculations of basic and diluted earnings per share. Additional disclosures regarding shares issued related to the Bard acquisition are provided in Notes 3 and 10.

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

None.

Item 9A. ***Controls and Procedures.***

An evaluation was conducted by BD's management, with the participation of BD's Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of BD's disclosure controls and procedures (as defined in Rule 13a-15(e) under the Securities Exchange Act of 1934) as of September 30, 2019. Based upon that evaluation, the Chief Executive Officer and Chief Financial Officer concluded that the design and operation of these disclosure controls and procedures were, as of the end of the period covered by this report, effective and designed to ensure that material information relating to BD and its consolidated subsidiaries would be made known to them by others within these entities. There were no changes in our internal control over financial reporting during the fiscal quarter ended September 30, 2019 identified in connection with the above-referenced evaluation that have materially affected, or are reasonably likely to materially affect, BD's internal control over financial reporting.

Management's Report on Internal Control Over Financial Reporting and the Report of Independent Registered Public Accounting Firm are contained in Item 8. Financial Statements and Supplementary Data, and are incorporated herein by reference.

Item 9B. ***Other Information.***

As previously reported, the Board of Directors elected Thomas E. Polen to serve as BD's Chief Executive Officer and President, effective upon the conclusion of BD's 2020 annual meeting of shareholders. Upon assuming the role of Chief Executive Officer and President, Mr. Polen's base salary will increase to $1,150,000 and his annual incentive award target will increase to 150% of base salary.

PART III

Item 10. ***Directors, Executive Officers and Corporate Governance.***

The information relating to directors and the Audit Committee of the BD Board of Directors required by this item will be contained under the captions "Proposal 1. Election of Directors" and "Board of Directors - Committee membership and function - Audit Committee" in a definitive proxy statement involving the election of directors, which the registrant will file with the SEC not later than 120 days after September 30, 2019 (the "2020 Proxy Statement"), and such information is incorporated herein by reference.

The information relating to executive officers required by this item is included herein in Part I under the caption "Information about our Executive Officers."

Certain other information required by this item will be contained under the captions "Ownership of BD Common Stock", and "Corporate Governance - Code of Conduct" in BD's 2020 Proxy Statement, and such information is incorporated herein by reference.

Item 11. ***Executive Compensation.***

The information required by this item will be contained under the captions "Compensation Discussion and Analysis," "Report of the Compensation and Management Development Committee," "Compensation of Named Executive Officers", "Board of Directors - Non-management directors' compensation," and "CEO Pay Ratio" in BD's 2020 Proxy Statement, and such information is incorporated herein by reference.

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

The information required by this item will be contained under the caption "Ownership of BD Common Stock" and "Proposal 4. Approval of Amendment to 2004 Plan" in BD's 2020 Proxy Statement, and such information is incorporated herein by reference.

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

The information required by this item will be contained under the caption "Corporate Governance - Director independence; Policy regarding related person transactions" in BD's 2020 Proxy Statement, and such information is incorporated herein by reference.

Item 14. ***Principal Accounting Fees and Services.***

The information required by this item will be contained under the caption "Proposal 2. Ratification of Selection of Independent Registered Public Accounting Firm" in BD's 2020 Proxy Statement, and such information is incorporated herein by reference.

PART IV

Item 15. ***Exhibits, Financial Statement Schedules.***

(a)(1) *Financial Statements*

The following consolidated financial statements of BD are included in Item 8 of this report:

- Reports of Independent Registered Public Accounting Firm
- Consolidated Statements of Income — Years ended September 30, 2019, 2018 and 2017
- Consolidated Statements of Comprehensive Income — Years ended September 30, 2019, 2018 and 2017
- Consolidated Balance Sheets — September 30, 2019 and 2018
- Consolidated Statements of Cash Flows — Years ended September 30, 2019, 2018 and 2017
- Notes to Consolidated Financial Statements

(2) *Financial Statement Schedules*

See Note 19 to the Consolidated Financial Statements included in Item 8. Financial Statements and Supplementary Data.

(3) Exhibits

See the Exhibit Index below for a list of all management contracts, compensatory plans and arrangements required by this item, and all other Exhibits filed or incorporated by reference as a part of this report.

Item 16. ***Form 10-K Summary***

BD is not providing summary information.

EXHIBIT INDEX

Exhibit Number	Description	Method of Filing
2(a)	Agreement and Plan of Merger, dated as of April 23, 2017, among C.R. Bard, Inc., Becton, Dickinson and Company and Lambda Corp. +	Incorporated by reference to Exhibit 2.1 to the registrant's Current Report on Form 8-K filed on April 24, 2017.
2(b)	Amendment No. 1, dated July 28, 2017, to the Agreement and Plan of Merger, dated as of April 23, 2017, among C.R. Bard, Inc., Becton, Dickinson and Company and Lambda Corp.	Incorporated by reference to Exhibit 2.1 to the registrant's Current Report on Form 8-K filed on July 28, 2017.
3(a)	Restated Certificate of Incorporation, dated as of January 30, 2019.	Incorporated by reference to Exhibit 3 to the registrant's Quarterly Report on Form 10-Q for the period ending December 31, 2018.
3(b)	By-Laws, as amended and restated as of April 24, 2018.	Incorporated by reference to Exhibit 3.1 to the registrant's Current Report on Form 8-K filed on April 25, 2018.
4(a)	Indenture, dated as of March 1, 1997, between the registrant and The Bank of New York Mellon Trust Company, N.A. (as successor to JPMorgan Chase Bank)	Incorporated by reference to Exhibit 4(a) to Form 8-K filed by the registrant on July 31, 1997.
4(b)	Form of 7% Debentures due August 1, 2027.	Incorporated by reference to Exhibit 4(d) of the registrant's Current Report on Form 8-K filed on July 31, 1997.
4(c)	Form of 6.70% Debentures due August 1, 2028.	Incorporated by reference to Exhibit 4(d) of the registrant's Current Report on Form 8-K filed on July 29, 1999.
4(d)	Form of 6.00% Notes due May 15, 2039.	Incorporated by reference to Exhibit 4.2 of the registrant's Current Report on Form 8-K filed on May 13, 2009.
4(e)	Form of 3.25% Notes due November 12, 2020.	Incorporated by reference to Exhibit 4.1 of the registrant's Current Report on Form 8-K filed on November 12, 2010.
4(f)	Form of 5.00% Notes due November 12, 2040.	Incorporated by reference to Exhibit 4.2 of the registrant's Current Report on Form 8-K filed on November 12, 2010.
4(g)	Form of 3.125% Notes due November 8, 2021.	Incorporated by reference to Exhibit 4.2 of the registrant's Current Report on Form 8-K filed on November 8, 2011.
4(h)	Form of 2.675% Notes due December 15, 2019.	Incorporated by reference to Exhibit 4.3 of the registrant's Current Report on Form 8-K filed on December 15, 2014.
4(i)	Form of 3.734% Notes due December 15, 2024.	Incorporated by reference to Exhibit 4.4 of the registrant's Current Report on Form 8-K filed on December 15, 2014.
4(j)	Form of 4.685% Notes due December 15, 2044.	Incorporated by reference to Exhibit 4.5 of the registrant's Current Report on Form 8-K filed on December 15, 2014.

Exhibit Number	Description	Method of Filing
4(k)	Form of 3.300% Senior Notes due March 1, 2023.	Incorporated by reference to Exhibit 4.4 of the registrant's Current Report on Form 8-K filed on April 29, 2015.
4(l)	Form of 3.875% Senior Notes due May 15, 2024.	Incorporated by reference to Exhibit 4.5 of the registrant's Current Report on Form 8-K filed on April 29, 2015.
4(m)	Form of 4.875% Senior Notes due May 15, 2044.	Incorporated by reference to Exhibit 4.6 of the registrant's Current Report on Form 8-K filed on April 29, 2015.
4(n)	Form of 1.000% Notes due December 15, 2022.	Incorporated by reference to Exhibit 4.1 of the registrant's Current Report on Form 8-K filed on December 9, 2016.
4(o)	Form of 1.900% Notes due December 15, 2026.	Incorporated by reference to Exhibit 4.2 of the registrant's Current Report on Form 8-K filed on December 9, 2016.
4(p)	Form of 2.404% Notes due June 5, 2020.	Incorporated by reference to Exhibit 4.2 of the registrant's Current Report on Form 8-K filed on June 6, 2017.
4(q)	Form of 2.894% Notes due June 6, 2022.	Incorporated by reference to Exhibit 4.3 of the registrant's Current Report on Form 8-K filed on June 6, 2017.
4(r)	Form of Floating Rate Notes due June 6, 2022.	Incorporated by reference to Exhibit 4.4 of the registrant's Current Report on Form 8-K filed on June 6, 2017.
4(s)	Form of 3.363% Notes due June 6, 2024.	Incorporated by reference to Exhibit 4.5 of the registrant's Current Report on Form 8-K filed on June 6, 2017.
4(t)	Form of 3.700% Notes due June 6, 2027.	Incorporated by reference to Exhibit 4.6 of the registrant's Current Report on Form 8-K filed on June 6, 2017.
4(u)	Form of 4.669% Notes due June 6, 2047.	Incorporated by reference to Exhibit 4.7 of the registrant's Current Report on Form 8-K filed on June 6, 2017.
4(v)	Form of Certificate for the 6.125% Mandatory Convertible Preferred Stock, Series A.	Incorporated by reference to Exhibit 4.2 to the registrant's registration statement on Form 8-A filed on May 16, 2017.
4(w)	Deposit Agreement, dated as of May 16, 2017, among Becton, Dickinson and Company and Computershare Inc. and Computershare Trust Company, N.A., acting jointly as depositary and Computershare Trust company, N.A., acting as Registrar and Transfer Agent, on behalf of the holders from time to time of the depositary receipts described therein.	Incorporated by reference to Exhibit 4.3 to the registrant's registration statement on Form 8-A filed on May 16, 2017.
4(x)	Form of Depositary Receipt for the Depositary Shares.	Incorporated by reference to Exhibit 4.4 to the registrant's registration statement on Form 8-A filed on May 16, 2017.

Exhibit Number	Description	Method of Filing
4(y)	Registration Rights Agreement, dated as of December 29, 2017, between Becton, Dickinson and Company and Citigroup Global Markets Inc.	Incorporated by reference to Exhibit 4.1 of the registrant's Current Report on Form 8-K filed on December 29, 2017.
4(z)	Form of 6.700% Notes due December 1, 2026.	Incorporated by reference to Exhibit 4.4 of the registrant's Current Report on Form 8-K filed on December 29, 2017.
4(aa)	Indenture, dated as of December 1, 1996 between C.R. Bard, Inc. and The Bank of New York Mellon Trust Company, N.A., a national banking association, as trustee.	Incorporated by reference to Exhibit 4.1 to C.R. Bard, Inc.'s Registration Statement on Form S-3 (File No. 333-05997).
4(bb)	First Supplemental Indenture, dated May 18, 2017, between C. R. Bard, Inc. and The Bank of New York Mellon Trust Company, N.A., as trustee.	Incorporated by reference to Exhibit 4.2 of the Current Report on Form 8-K of C.R. Bard, Inc. filed on May 23, 2017.
4(cc)	Form of Floating Rate Notes due December 29, 2020.	Incorporated by reference to Exhibit 4.1 of the registrant's Current Report on Form 8-K filed on March 1, 2018.
4(dd)	Form of 1.401% Notes due May 24, 2023.	Incorporated by reference to Exhibit 4.1 of the registrant's Current Report on Form 8-K filed on May 24, 2018.
4(ee)	Form of 3.02% Notes due May 24, 2025.	Incorporated by reference to Exhibit 4.2 of the registrant's Current Report on Form 8-K filed on May 24, 2018.
4(ff)	First Supplemental Indenture, dated as of June 4, 2019, among Becton Finance, as issuer, Becton, Dickinson and Company, as guarantor, and The Bank of New York Mellon Trust Company, N.A., as trustee.	Incorporated by reference to Exhibit 4.1 of the registrant's Current Report on Form 8-K filed on June 4, 2019.
4(gg)	Form of 0.174% Note due June 4, 2021.	Incorporated by reference to Exhibit 4.2 of the registrant's Current Report on Form 8-K filed on June 4, 2019.
4(hh)	Form of 0.632% Note due June 4, 2023.	Incorporated by reference to Exhibit 4.3 of the registrant's Current Report on Form 8-K filed on June 4, 2019.
4(ii)	Form of 1.208% Note due June 4, 2026.	Incorporated by reference to Exhibit 4.4 of the registrant's Current Report on Form 8-K filed on June 4, 2019.
10(a)(i)	Form of Employment Agreement with executive officers relating to employment following a change of control of the registrant (with tax reimbursement provisions).*	Incorporated by reference to Exhibit 10(a) to the registrant’s Quarterly Report on Form 10-Q for the period ended December 31, 2008.
10(a)(ii)	Form of Employment Agreement with executive officers relating to employment following a change of control of the registrant (without tax reimbursement provisions).*	Incorporated by reference to Exhibit 10(a)(ii) to the registrant’s Annual Report on Form 10-K for the fiscal year ended September 30, 2013.
10(b)	Stock Award Plan, as amended and restated as of January 31, 2006.*	Incorporated by reference to Exhibit 10(a) to the registrant’s Quarterly Report on Form 10-Q for the period ended December 31, 2005.

Exhibit Number	Description	Method of Filing
10(c)	Performance Incentive Plan, as amended and restated January 24, 2017.*	Incorporated by reference to Exhibit 10.1 to the registrant's Quarterly Report on Form 10-Q for the period ended March 31, 2017.
10(d)	Deferred Compensation and Retirement Benefit Restoration Plan, as amended as of January 1, 2019. *	Incorporated by reference to Exhibit 10.2 to the registrant's Quarterly Report on Form 10-Q for the period ending December 31, 2018.
10(e)	1996 Directors' Deferral Plan, as amended and restated as of November 25, 2014.*	Incorporated by reference to Exhibit 10.2 to the registrant's Current Report on Form 8-K filed on December 2, 2014.
10(f)	Amended and Restated Aircraft Time Sharing Agreement between Becton, Dickinson and Company and Vincent A. Forlenza dated as of March 21, 2012.*	Incorporated by reference to Exhibit 10.1 to the registrant's Current Report on Form 8-K filed on March 27, 2012.
10(g)(i)	2004 Employee and Director Equity-Based Compensation Plan, as amended and restated as of November 26, 2019.*	Filed with this report.
10(g)(ii)	Terms of Awards under 2004 Employee and Director Equity-Based Compensation Plan and Stock Award Plan.*	Incorporated by reference to Exhibit 10(g)(ii) to the registrant's Annual Report on Form 10-K for the fiscal year ended September 30, 2016.
10(h)	Form of Commercial Paper Dealer Agreement.	Incorporated by reference to Exhibit 10.1 to the registrant's Current Report on Form 8-K filed on January 6, 2015.
10(i)	Tax Matters Agreement, dated August 31, 2009, by and between Cardinal Health, Inc. and CareFusion Corporation.	Incorporated by reference to Exhibit 10.3 to Cardinal Health, Inc.'s Current Report on Form 8-K filed on September 4, 2009.
10(j)	Credit Agreement, dated as of May 12, 2017, by and among Becton, Dickinson and Company, the banks and issuers of letters of credit party thereto and Citibank, N.A., as administrative agent.	Incorporated by reference to Exhibit 10.2 to the registrant's Current Report on Form 8-K filed May 16, 2017.
10(k)	Term sheet, dated August 25, 2017, between the registrant and Samrat Khichi.*	Incorporated by reference to Exhibit 10(o) to the registrant's Annual Report on Form 10-K for the fiscal year ended September 30, 2018.
10(l)	C. R. Bard, Inc. Supplemental Executive Retirement Plan, dated as of July 13, 1988.*	Incorporated by reference to Exhibit 10p of the C.R. Bard, Inc. Annual Report on Form 10-K for the fiscal year ending December 31, 1993.
10(m)	Supplemental Insurance/Retirement Plan Agreement (as Amended and Restated) between C.R. Bard, Inc. and its executive officers.*	Incorporated by reference to Exhibit 10be of the C.R. Bard, Inc. Quarterly Report on Form 10-Q for the period ending September 30, 2005.
10(n)	2005 Directors' Stock Award Plan of C. R. Bard, Inc. (as Amended and Restated).*	Incorporated by reference to Exhibit 10bw of the C.R. Bard, Inc. Annual Report on Form 10-K for the fiscal year ending December 31, 2010.
10(o)	Offer letter of Patrick Kaltenbach, dated March 29, 2018	Incorporated by reference to Exhibit 10.1 of the registrant's Quarterly Report on Form 10-Q for the period ending March 31, 2019.

Exhibit Number	Description	Method of Filing
21	Subsidiaries of the registrant.	Filed with this report.
23	Consent of independent registered public accounting firm.	Filed with this report.
24	Power of Attorney.	Included on signature page.
31	Certifications of Chief Executive Officer and Chief Financial Officer, pursuant to SEC Rule 13(a)-14(a).	Filed with this report.
32	Certifications of Chief Executive Officer and Chief Financial Officer, pursuant to Section 1350 of Chapter 63 of Title 18 of the U.S. Code.	Filed with this report.
101	The following materials from this report, formatted in iXBRL (Inline eXtensible Business Reporting Language): (i) the Consolidated Statements of Income, (ii) the Consolidated Statements of Comprehensive Income, (iii) the Consolidated Balance Sheets, (iv) the Consolidated Statements of Cash Flows, and (v) Notes to Consolidated Financial Statements.	Filed with this report.
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)	

+ Pursuant to Item 601(b)(2) of Regulation S-K, the schedules to the Agreement and Plan of Merger have been omitted from this Report and will be furnished supplementally to the SEC upon request.

* Denotes a management contract or compensatory plan or arrangement.

Copies of any Exhibits not accompanying this Form 10-K are available at a charge of 10 cents per page by contacting: Investor Relations, Becton, Dickinson and Company, 1 Becton Drive, Franklin Lakes, New Jersey 07417-1880, Phone: 1-800-284-6845.

SIGNATURES

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

BECTON, DICKINSON AND COMPANY

By: /s/ GARY DEFAZIO
Gary DeFazio
Senior Vice President and Corporate Secretary

Dated: November 27, 2019

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that each of the undersigned hereby constitutes and appoints Vincent A. Forlenza, Samrat S. Khichi, Christopher R. Reidy and Gary DeFazio, and each of them, acting individually and without the other, as his or her true and lawful attorney-in-fact and agent, with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign the Company's Annual Report on Form 10-K for the Company's fiscal year ended September 30, 2019, and any amendments thereto, each in such form as they or any one of them may approve, and to file the same with all exhibits thereto and other documents in connection therewith with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done so that such Annual Report shall comply with the Securities Exchange Act of 1934, as amended, and the applicable Rules and Regulations adopted or issued pursuant thereto, as fully and to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any of them or their substitute or resubstitute, may lawfully do or cause to be done by virtue hereof.

This Power of Attorney shall not revoke any powers of attorney previously executed by the undersigned. This Power of Attorney shall not be revoked by any subsequent power of attorney that the undersigned may execute, unless such subsequent power of attorney specifically provides that it revokes this Power of Attorney by referring to the date of the undersigned's execution of this Power of Attorney. For the avoidance of doubt, whenever two or more powers of attorney granting the powers specified herein are valid, the agents appointed on each shall act separately unless otherwise specified.

Pursuant to the requirements of the Securities Act of 1934, as amended, this Annual Report and power of attorney have been signed as of November 27, 2019 by the following persons in the capacities indicated.

Name	Capacity
/S/ VINCENT A. FORLENZA Vincent A. Forlenza	Chairman and Chief Executive Officer (Principal Executive Officer)
/S/ CHRISTOPHER R. REIDY Christopher R. Reidy	Executive Vice President, Chief Financial Officer and Chief Administrative Officer (Principal Financial Officer)
/S/ THOMAS J. SPOEREL Thomas J. Spoerel	Vice President, Controller, and Chief Accounting Officer (Principal Accounting Officer)

Name	Capacity
/S/ CATHERINE M. BURZIK Catherine M. Burzik	Director
/S/ R. ANDREW ECKERT R. Andrew Eckert	Director
/S/ CLAIRE M. FRASER Claire M. Fraser	Director
/S/ JEFFREY W. HENDERSON Jeffrey W. Henderson	Director
/S/ CHRISTOPHER JONES Christopher Jones	Director
/S/ MARSHALL O. LARSEN Marshall O. Larsen	Director
/S/ DAVID F. MELCHER David F. Melcher	Director
/S/ CLAIRE POMEROY Claire Pomeroy	Director
/S/ REBECCA W. RIMEL Rebecca W. Rimel	Director
/S/ TIMOTHY M. RING Timothy M. Ring	Director
/S/ BERTRAM L. SCOTT Bertram L. Scott	Director

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Corporate information

Annual meeting
Tuesday, January 28, 2020—1 p.m.
The Westin Governor Morris
2 Whippany Road
Morristown, NJ

This annual report is not a solicitation of proxies.

Transfer agent and registrar
Computershare Trust Company, N.A.

By regular mail
P.O. Box 505000
Louisville, KY 40233-5000

By overnight mail
462 South 4th Street, Suite 1600
Louisville, KY 40202
Toll free: 877.498.8861
Toll: 781.575.2879
https://www.computershare.com

Direct stock purchase plan
The direct stock purchase plan established through Computershare Trust Company, N.A., enhances the services provided to existing shareholders and facilitates initial investments in BD shares. Plan documentation and additional information may be obtained by calling Computershare Trust Company, N.A., at 877.498.8861, or by accessing the "Buy stock direct" feature located within the Investor Center of Computershare's website at http://www.computershare.com.

NYSE symbol: BDX

Independent auditors
Ernst & Young LLP
5 Times Square
New York, NY 10036-6530
Phone: 212.773.3000
http://www.ey.com

Shareholder information
As of November 29, 2019, BD had 13,220 shareholders of record. The BD Statement of Corporate Governance Principles, the BD Code of Conduct, the charters of the BD Committees of the Board of Directors, BD reports and statements filed with or furnished to the Securities and Exchange Commission and other information are posted on the BD website at bd.com/investors.

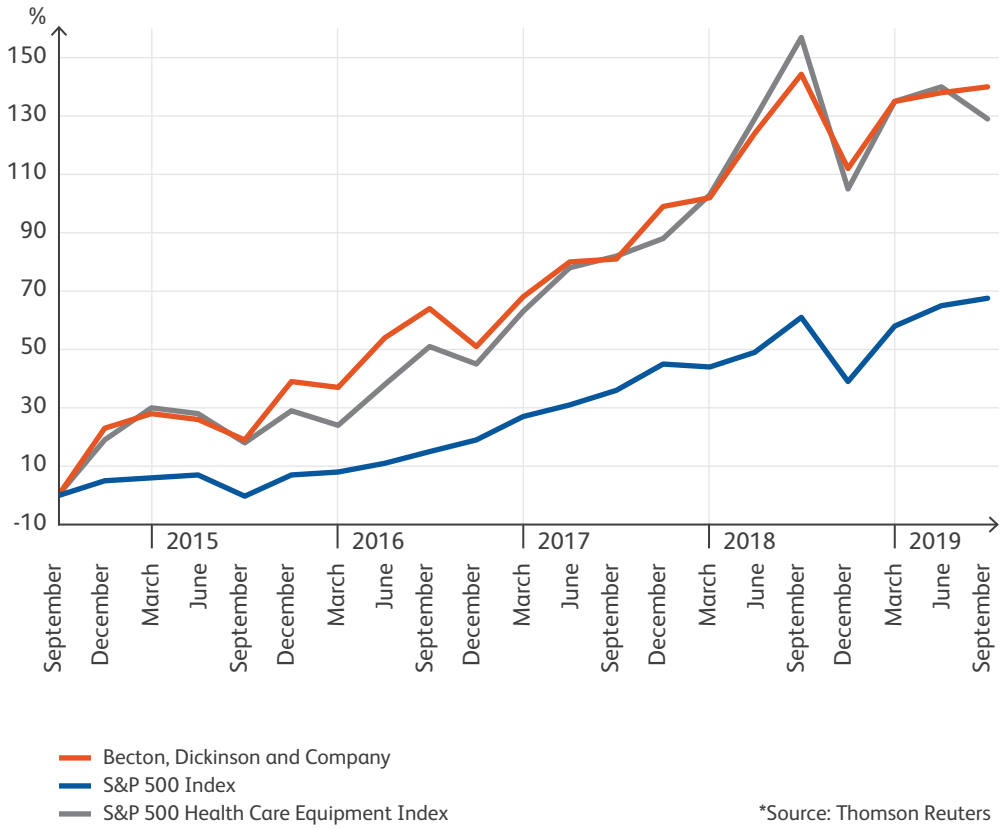
Shareholders may receive, without charge, printed copies of these documents, including the BD 2019 Annual Report on Form 10-K, including the financial statements and related schedules, by contacting:

Investor relations
BD
1 Becton Drive
Franklin Lakes, NJ 07417-1880
Phone: 800.284.6845
bd.com

Comparison of 5-year cumulative total return among BD, the S&P 500 Index and the S&P 500 Health Care Equipment Index

The graph on the right presents a comparison of cumulative total return to shareholders for the 5-year period ended September 30, 2019, for BD, the S&P 500 Index and the S&P 500 Health Care Equipment Index.*

Cumulative total return to shareholders is measured by dividing total dividends *(assuming dividend reinvestment)* plus per-share price change for the period by the share price at the beginning of the measurement period. The BD cumulative shareholder return is based on an investment of $100 on September 30, 2014, and is compared to the cumulative total return of the S&P 500 Index and the S&P 500 Health Care Equipment Index over the same period with a like amount invested.



*Source: Thomson Reuters

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