STRYKER CORP
Form 10-K
February 07, 2019

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

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

For the fiscal year ended December 31, 2018

OR

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

Commission file number: 000-09165

STRYKER CORPORATION
(Exact name of registrant as specified in its charter)

Michigan	38-1239739
(State of incorporation)	(I.R.S. Employer Identification No.)
2825 Airview Boulevard Kalamazoo, Michigan	49002
(Address of principal executive offices)	(Zip Code)

(269) 385-2600
(Registrant's telephone number, including area code)

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

Title of each class	Name of each exchange on which registered
Common Stock, $.10 par value	New York Stock Exchange
Floating Rate Notes due 2020	New York Stock Exchange
1.125% Notes due 2023	New York Stock Exchange
2.125% Notes due 2027	New York Stock Exchange
2.625% Notes due 2030	New York Stock Exchange

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

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. YES [X] NO [ ]

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Act. YES [ ] NO [X]

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities and 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 [X] 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 (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). YES [X] NO [ ]

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. [

]

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See 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 [X] Accelerated filer [ ] Emerging growth company [ ]

Non-accelerated filer [ ] Small reporting 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 [X]

The aggregate market value of the voting stock held by non-affiliates of the registrant was approximately $58,918,371,156 at June 30, 2018. There were 372,664,636 shares outstanding of the registrant’s common stock, $.10 par value, on January 31, 2019.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the proxy statement to be filed with the U.S. Securities and Exchange Commission relating to the 2019 Annual Meeting of Shareholders (the 2019 proxy statement) are incorporated by reference into Part III.

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PART I

ITEM 1. BUSINESS.

Stryker Corporation (Stryker or the Company) is one of the world's leading medical technology companies and, together with its customers, is driven to make healthcare better. The Company offers innovative products and services in Orthopaedics, Medical and Surgical, and Neurotechnology and Spine that help improve patient and hospital outcomes.

Our core values guide our behaviors and actions and are fundamental to how we execute our mission.

Stryker was incorporated in Michigan in 1946 as the successor company to a business founded in 1941 by Dr. Homer H. Stryker, a prominent orthopaedic surgeon and the inventor of several medical products. Our products are sold in over 80 countries through company-owned subsidiaries and branches, as well as third-party dealers and distributors, and include implants used in joint replacement and trauma surgeries; surgical equipment and surgical navigation systems; endoscopic and communications systems; patient handling, emergency medical equipment and intensive care disposable products; neurosurgical, neurovascular and spinal devices; as well as other products used in a variety of medical specialties. In the United States most of our products are marketed directly to doctors, hospitals and other healthcare facilities.

As used herein, and except where the context otherwise requires, "Stryker," "we," "us," and "our" refer to Stryker Corporation and its consolidated subsidiaries.

Business Segments and Geographic Information

We segregate our operations into three reportable business segments: Orthopaedics, MedSurg and Neurotechnology and Spine. Financial information regarding our reportable business segments and certain geographic information is included under "Consolidated Results of Operations" in Item 7 of this report and Note 14 to our Consolidated Financial Statements.

Net Sales by Reportable Segment

	2018		2017		2016	
Orthopaedics	$4,991	37 %	$4,713	38 %	$4,422	39 %
MedSurg	6,045	44	5,557	45	4,894	43
Neurotechnology and Spine	2,565	19	2,174	17	2,009	18
Total	$13,601	100%	$12,444	100%	$11,325	100%

Orthopaedics

Orthopaedics products consist primarily of implants used in hip and knee joint replacements and trauma and extremities surgeries. We bring patients and physicians advanced implant designs and specialized instrumentation that make orthopaedic surgery and recovery simpler, faster and more effective. We support surgeons with the technology and services they need as they develop new surgical techniques. The Mako Robotic-Arm Assisted Surgical System was designed to help surgeons provide patients with a personalized surgical experience based on their specific diagnosis and anatomy. The Mako System currently offers three applications supporting Partial Knee, Total Hip and Total Knee procedures.

Stryker is one of four leading global competitors for joint replacement and trauma and extremities products; the other three being Zimmer Biomet Holdings, Inc. (Zimmer), DePuy Synthes (a Johnson & Johnson company) and Smith & Nephew plc (Smith & Nephew).

Composition of Orthopaedics Net Sales

	2018		2017		2016	
Knees	$1,701	34 %	$1,595	34 %	$1,490	34 %
Hips	1,336	27	1,303	28	1,283	29
Trauma and Extremities	1,580	32	1,478	31	1,364	31
Other	374	7	337	7	285	6
Total	$4,991	100%	$4,713	100%	$4,422	100%

MedSurg

MedSurg products include surgical equipment and navigation systems (Instruments), endoscopic and communications systems (Endoscopy), patient handling, emergency medical equipment and intensive care disposable products (Medical), reprocessed and remanufactured medical devices (Sustainability) and other medical device products used in a variety of medical specialties.

Stryker is one of five leading global competitors in Instruments; the other four being Zimmer, Medtronic plc., Johnson & Johnson and ConMed Linvatec, Inc. (a subsidiary of CONMED Corporation). In Endoscopy we compete with Smith & Nephew, ConMed Linvatec, Arthrex, Inc., Karl Storz GmbH & Co., Olympus Optical Co. Ltd. and STERIS plc. In Medical our primary competitors are Hill-Rom Holdings, Inc., Zoll Medical Corporation, Medline Industries and Koninklijke Philips N.V.

Composition of MedSurg Net Sales

	2018		2017		2016	
Instruments	$1,822	30 %	$1,678	30 %	$1,553	32 %
Endoscopy	1,846	31	1,652	30	1,470	30
Medical	2,118	35	1,969	35	1,633	33
Sustainability	259	4	258	5	238	5
Total	$6,045	100%	$5,557	100%	$4,894	100%

In 2017 Instruments launched System 8, the next generation of power tools comprised of a sagittal saw, reciprocating saw, rotary drill and sternum saw. The new power tools offer improved ergonomics, a quick and efficient keyless chuck system preventing loosening through a secondary locking mechanism and advanced material and coating to prevent sticking and slipping. In addition, the handpieces are built to be actively washed and temporarily submerged prior to sterilization.

Neurotechnology and Spine

Neurotechnology and Spine products include neurosurgical, neurovascular, and spinal implant devices. Our neurotechnology offering includes products used for minimally invasive endovascular techniques; a comprehensive line of products for traditional brain and open skull based surgical procedures; orthobiologic and biosurgery products, including synthetic bone grafts and vertebral augmentation products; and minimally invasive products for the treatment of acute ischemic and hemorrhagic stroke. Our spinal implant offering includes cervical, thoracolumbar and interbody systems used in spinal injury, deformity and degenerative therapies.

Dollar amounts in millions except per share amounts or as otherwise specified. 1

Stryker is one of five leading global competitors in Neurotechnology; the other four being Medtronic, Johnson & Johnson, Terumo Corporation and Penumbra, Inc. Stryker is one of five leading global competitors in Spine; the other four being Medtronic Sofamor Danek, Inc. (a subsidiary of Medtronic), DePuy Synthes, Nuvasive, Inc. and Globus Medical, Inc.

Composition of Neurotechnology and Spine Net Sales

	2018		2017		2016	
Neurotechnology	$1,737	68 %	$1,423	65 %	$1,255	62 %
Spine	828	32	751	35	754	38
Total	$2,565	100%	$2,174	100%	$2,009	100%

In 2017 the New England Journal of Medicine published the results of the DAWN Trial, the first to provide compelling evidence in treating late window and wake-up stroke patients with mechanical thrombectomy. The purpose of the study is to demonstrate superior clinical outcomes at 90 days with Trevo™ Retriever plus medical management compared to medical management alone in appropriately selected stroke patients treated six to 24 hours after last seen well (for cases of unknown time of onset). The Trevo™ Retriever's indication within the DAWN Trial, for use in patients treated six to 24 hours after last seen well, is currently under an Investigational Device Exemption (IDE), and the submission for expanding the indication for the later time window is pending.

Raw Materials and Inventory

Raw materials essential to our business are generally readily available from multiple sources; however, certain of our raw materials are currently sourced from single suppliers. Substantially all products we manufacture are stocked in inventory, while certain MedSurg products are assembled to order.

Patents and Trademarks

Patents and trademarks are significant to our business to the extent that a product or an attribute of a product represents a unique design or process. Patent protection of such products restricts competitors from duplicating these unique designs and features. We seek to obtain patent protection on our products whenever appropriate for protecting our competitive advantage. On December 31, 2018 we owned approximately 3,068 United States patents and approximately 4,716 international patents.

Seasonality

Our business is generally not seasonal in nature; however, the number of orthopaedic implant surgeries is typically lower in the summer months, and sales of capital equipment are generally higher in the fourth quarter.

Competition

In each of our product lines we compete with local and global companies. The development of new and innovative products is important to our success in all areas of our business. Competition in research involving the development and improvement of new and existing products and processes is particularly significant. The competitive environment requires substantial investments in continuing research and maintaining sales forces.

We believe our commitment to innovation, quality and service and our reputation differentiates us in the highly competitive product categories in which we operate and enables us to compete effectively. We believe that our competitive position in the future will depend to a large degree on our ability to develop new products and make improvements to existing products.

Regulation

Our businesses are subject to varying degrees of governmental regulation in the countries in which we operate, and the general trend is toward increasingly stringent regulation.

In the United States the Medical Device Amendments of 1976 to the Federal Food, Drug and Cosmetic Act and its subsequent amendments and the regulations issued and proposed thereunder provide for regulation by the FDA of the design, manufacture and marketing of medical devices, including most of our products. Many of our new products fall into FDA classifications that require notification submitted as a 510(k) and review by the FDA before we begin

marketing them. Certain of our products require extensive clinical testing, consisting of safety and efficacy studies, followed by pre-market approval (PMA) applications for specific surgical indications. Certain of our products also fall under the FDA's drug classification, as well as other FDA classifications.

The FDA's Quality System regulations set forth standards for our product design and manufacturing processes, require the maintenance of certain records and provide for inspections of our facilities by the FDA. There are also certain requirements of state, local and foreign governments that must be complied with in the manufacture and marketing of our products.

The member states of the European Union (EU) adopted the European Medical Device Directives, which form a single set of medical device regulations for all EU member countries. These regulations require companies that wish to manufacture and distribute medical devices in EU member countries to meet certain quality system requirements and obtain CE marking for their products. We have authorization to apply the CE marking to substantially all of our products. In addition, the EU enacted the EU Medical Device Regulation (EU MDR) in May 2017 with an effective date of May 2020, which imposes stricter requirements for the marketing and sale of medical devices, including in the areas of clinical evaluation requirements, quality systems, labeling and post-market surveillance. Finally, we are required to comply with the unique regulatory requirements of each of the countries in Europe and other countries, including China, in which we market our products.

Initiatives to limit the growth of general healthcare expenses and hospital costs are ongoing in the markets in which we do business. These initiatives are sponsored by government agencies, legislative bodies and the private sector and include price regulation and competitive pricing. It is not possible to predict at this time the long-term impact of such cost containment measures on our future business. In addition, business practices in the healthcare industry are scrutinized, particularly in the United States, by federal and state government agencies. The resulting investigations and prosecutions carry the risk of significant civil and criminal penalties.

Environment

We are subject to various rules and regulation in the United States and internationally related to the protection of human health and the environment. Our operations involve the use of substances regulated under environmental laws, primarily in manufacturing and sterilization processes. We believe our policies, practices and procedures are properly designed to comply, in all material respects, with applicable environmental laws and regulations. We do not expect compliance with these requirements to have a material effect on purchases of property, plant and equipment, cash flows, net earnings or competitive position.

Employees

On December 31, 2018 we had approximately 36,000 employees globally.

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Executive Officers
As of January 31, 2019

Name	Age	Title	First Became an Executive Officer
Kevin A. Lobo	53	Chairman and Chief Executive Officer	2011
Yin C. Becker	55	Vice President, Communications, Public Affairs and Corporate Marketing	2016
William E. Berry Jr.	53	Vice President, Corporate Controller and Principal Accounting Officer	2014
Glenn S. Boehnlein	57	Vice President, Chief Financial Officer	2016
M. Kathryn Fink	49	Vice President, Chief Human Resources Officer	2016
Michael D. Hutchinson	48	Vice President, Chief Legal Officer	2014
Viju Menon	51	Group President, Global Quality and Operations	2018
Katherine A. Owen	48	Vice President, Strategy and Investor Relations	2007
Bijoy S.N. Sagar	50	Vice President, Chief Digital Technology Officer	2014
Timothy J. Scannell	54	President and Chief Operating Officer	2008

Each of our executive officers was elected by our Board of Directors to serve in the office indicated until the first meeting of the Board of Directors following the annual meeting of shareholders in 2019 or until a successor is chosen and qualified or until his or her resignation or removal. Each of our executive officers held the position above or served Stryker in various executive or administrative capacities for at least five years, except for Mr. Menon and Mr. Sagar. Prior to joining Stryker in April 2018, Mr. Menon held various senior supply chain leadership roles with Verizon Communications Inc. for the previous eight years, most recently as the Chief Supply Chain Officer. Prior to joining Stryker in May 2014, Mr. Sagar served as the Chief Information Officer for Merck Millipore, and before that as Global Head of Information Systems and a member of the divisional board for the chemicals division of Merck KGaA.

Available Information

Our main corporate website address is www.stryker.com. Copies of our filings with the United States Securities and Exchange Commission (SEC) are available free of charge on our website within the "Investors Relations" section as soon as reasonably practicable after having been electronically filed or furnished to the SEC. All SEC filings are also available at the SEC's website at www.sec.gov.

ITEM 1A. RISK FACTORS.

This report contains statements that are not historical facts and are considered "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. These statements are based on current projections about operations, industry conditions, financial condition and liquidity. Words that identify forward-looking statements include words such as "may," "could," "will," "should," "possible," "plan," "predict," "forecast," "potential," "anticipate," "estimate," "expect," "project," "intend," "believe," "may impact," "on track," "goal," "strategy" and words and terms of similar substance used in connection with any discussion of future operating or financial performance, an acquisition or our businesses. In addition, any statements that refer to expectations, projections or other characterizations of future events or circumstances, including any underlying assumptions, are forward-looking statements. Those statements are not guarantees and are subject to risks, uncertainties and assumptions that are difficult to predict. Therefore, actual results could differ materially and

adversely from these forward-looking statements. Some important factors that could cause our actual results to differ from our expectations in any forward-looking statements include the risks discussed below.

Our operations and financial results are subject to various risks and uncertainties discussed below that could materially and adversely affect our business, cash flows, financial condition and results of operations. Additional risks and uncertainties not currently known to us or that we currently deem not to be material may also materially and adversely affect our business, cash flows, financial condition or results of operations.

LEGAL AND REGULATORY RISKS

Current economic and political conditions make tax rules in jurisdictions subject to significant change: Our future results of operations could be affected by changes in the effective tax rate as a result of changes in tax laws, regulations and judicial rulings. In December 2017, the Tax Cuts and Jobs Act of 2017 was signed into law in the United States. We are continuing to evaluate the impact of tax reform as new guidance and regulations are published. In addition, further changes in the tax laws of foreign jurisdictions could arise, including as a result of the base erosion and profit shifting (BEPS) project undertaken by the Organisation for Economic Cooperation and Development (OECD). The OECD, which represents a coalition of member countries, has issued recommendations that, in some cases, would make substantial changes to numerous long-standing tax positions and principles. These contemplated changes, to the extent adopted by OECD members and/or other countries, could increase tax uncertainty and may adversely affect our provision for income taxes.

The impact of United States healthcare reform legislation on our business remains uncertain: In 2010 the Patient Protection and Affordable Care Act (ACA) was enacted. While the provisions of the ACA are intended to expand access to health insurance coverage and improve the quality of healthcare over time, other provisions of the legislation, including Medicare provisions aimed at decreasing costs, comparative effectiveness research, an independent payment advisory board and pilot programs to evaluate alternative payment methodologies, are having a meaningful effect on the way healthcare is developed and delivered and could have a significant effect on our business. Among other things, the ACA imposed a 2.3 percent excise tax on medical devices that applies only to United States sales, which are a majority of our medical device sales. Congress suspended the excise tax for 2016 and 2017. The suspension was once again upheld in January 2018 for two years. If the excise tax is not repealed or further suspended, the tax will adversely impact future results of operations after the current suspension expires in December 2019. We also face uncertainties that might result from modification or repeal of any of the provisions of the ACA, including as a result of current and future executive orders and legislative actions. We cannot predict what other healthcare programs and regulations will ultimately be implemented at the federal or state level or the effect of any future legislation or regulation in the United States may have on our business.

We are subject to extensive governmental regulation relating to the manufacturing, labeling and marketing of our products: The manufacturing, labeling and marketing of our products are subject to extensive and evolving regulations and rigorous regulatory enforcement by the FDA, European Union (EU), the Safe Food and Drug Administration (SFDA) in China, and other governmental authorities in the United States and internationally. The process of obtaining regulatory approvals to market a medical device can be costly and time consuming and approvals might not

be granted timely. We have ongoing responsibilities under the laws and regulations applicable to the manufacturing of products within our facilities and those contracted by third parties that are subject to periodic inspections by the FDA and other governmental authorities to determine compliance with the quality system, medical device reporting regulations and other requirements. Costs to comply with regulations, including the EU Medical Device Regulation enacted by the EU in May 2017 and effective in May 2020, and the regulatory laws established by the SFDA in China, and costs associated with remediation can be significant. If we fail to comply with applicable regulatory requirements, we may be subject to a range of sanctions, including substantial fines, warning letters that require corrective action, product seizures, recalls, the suspension of product manufacturing, revocation of approvals, exclusion from future participation in government healthcare programs, substantial fines and criminal prosecution.

We are subject to federal, state and foreign healthcare regulations, including anti-bribery and anti-corruption laws, and could face substantial penalties if we fail to comply with such regulations and laws: The relationships that we and our distributors and others that market our products have with healthcare professionals, such as physicians and hospitals, are subject to scrutiny under various state and federal laws often referred to collectively as healthcare fraud and abuse laws. In addition, the United States and foreign government regulators have increased the enforcement of the Foreign Corrupt Practices Act and other anti-bribery laws. We also must comply with a variety of other laws that protect the privacy of individually identifiable healthcare information and impose extensive tracking and reporting related to all transfers of value provided to certain healthcare professionals. These laws and regulations are broad in scope and are subject to evolving interpretation and we have in the past been, and in the future could be, required to incur substantial costs to monitor compliance or to alter our practices. Violations of these laws may be punishable by criminal or civil sanctions, including substantial fines, imprisonment of current or former employees and exclusion from participation in governmental healthcare programs.

We are subject to data privacy and protection regulations and laws globally, and could face substantial penalties if we fail to comply with such regulations and laws: We are subject to a variety of laws and regulations globally regarding privacy, data protection, and data security, including those related to the collection, storage, handling, use, disclosure, transfer, and security of personal data. For example, Europe’s General Data Protection Regulation (GDPR), which became effective in May 2018, applies to all of our activities related to products and services that we offer to EU customers and employees. The GDPR established new requirements regarding the handling of personal data and includes significant penalties for non-compliance (including possible fines of up to 4% of total company revenue). Other governmental authorities around the world are considering similar types of legislative and regulatory proposals concerning data protection, which could impose significant limitations and increase our cost of providing our products and services where we process end user personal data. These laws and regulations are broad in scope and are subject to evolving interpretation and we have in the past been, and in the future could be, required to incur substantial costs to monitor compliance or to alter our practices.

We may be adversely affected by product liability claims, unfavorable court decisions or legal settlements: We are exposed to potential product liability risks inherent in the design, manufacture and marketing of medical devices, many of which are implanted in the human body for long periods of time or indefinitely. We are currently defendants in a number of product liability matters,

including those relating to our Rejuvenate and ABGII Modular-Neck hip stems and LFIT Anatomic CoCr V40 Femoral Heads discussed in Note 7 to our Consolidated Financial Statements. These matters are subject to many uncertainties and outcomes are not predictable. In addition, we may incur significant legal expenses regardless of whether we are found to be liable. We are self-insured for product liability-related claims and expenses.

Intellectual property litigation and infringement claims could cause us to incur significant expenses or prevent us from selling certain of our products: The medical device industry is characterized by extensive intellectual property litigation and, from time to time, we are the subject of claims of infringement or misappropriation. Regardless of outcome, such claims are expensive to defend and divert management and operating personnel from other business issues. A successful claim or claims of patent or other intellectual property infringement against us could result in payment of significant monetary damages and/or royalty payments or negatively impact our ability to sell current or future products in the affected category.

Dependence on patent and other proprietary rights and failing to protect such rights or to be successful in litigation related to such rights may impact offerings in our product portfolios: Our long-term success largely depends on our ability to market technologically competitive products. If we fail to obtain or maintain adequate intellectual property protection, it could allow others to sell products that directly compete with proprietary features in our product portfolio. Also, our issued patents may be subject to claims challenging their validity and scope and raising other issues. In addition, currently pending or future patent applications may not result in issued patents.

MARKET RISKS

We have exposure to exchange rate fluctuations on cross border transactions and translation of local currency results into United States Dollars: We report our financial results in United States Dollars and approximately 30% of our net sales are denominated in foreign currencies, including the Australian Dollar, British Pound, Euro and Japanese Yen. Cross border transactions with external parties and intercompany relationships result in increased exposure to foreign currency exchange effects. While we use derivative instruments to manage the impact of currency exchange, our hedging strategies may not be successful, and our unhedged exposures continue to be subject to currency fluctuations. In addition, the weakening or strengthening of the United States Dollar results in favorable or unfavorable translation effects when the results of our foreign locations are translated into United States Dollars.

Additional capital that we may require in the future may not be available to us or may only be available to us on unfavorable terms: Our future capital requirements will depend on many factors, including operating requirements, current and future acquisitions and the need to refinance existing debt. Our ability to issue additional debt or enter into other financing arrangements on acceptable terms could be adversely affected by our debt levels, unfavorable changes in economic conditions or uncertainties that affect the capital markets. Changes in credit ratings issued by nationally recognized credit rating agencies could also adversely affect our access to and cost of financing. Higher borrowing costs or the inability to access capital markets could adversely affect our ability to support future growth and operating requirements.

BUSINESS AND OPERATIONAL RISKS

We are subject to cost containment measures in the United States and other countries resulting in pricing pressures: Initiatives to limit the growth of general healthcare expenses and

hospital costs are ongoing in the markets in which we do business. These initiatives are sponsored by government agencies, legislative bodies and the private sector and include price regulation and competitive pricing. Pricing pressure has also increased due to continued consolidation among healthcare providers, trends toward managed care, the shift toward governments becoming the primary payers of healthcare expenses, reduction in reimbursement levels and medical procedure volumes and government laws and regulations relating to sales and promotion, reimbursement and pricing generally.

We operate in a highly competitive industry in which competition in the development and improvement of new and existing products is significant: The markets in which we compete are highly competitive. New products and surgical procedures are introduced on an ongoing basis and our present or future products could be rendered obsolete or uneconomical by technological advances by our competitors, who may respond more quickly to new or emerging technologies, undertake more extensive marketing campaigns, have greater financial, marketing and other resources or be more successful in attracting potential customers, employees and strategic partners.

We may be unable to maintain adequate working relationships with healthcare professionals: We seek to maintain close working relationships with respected physicians and medical personnel in hospitals and universities who assist in product research and development. We rely on these professionals to assist us in the development and improvement of proprietary products. If we are unable to maintain these relationships, our ability to develop, market and sell new and improved products could be adversely affected.

We are subject to additional risks associated with our extensive international operations: We develop, manufacture and distribute our products globally. Our international operations are subject to additional risks and potential costs, including changes in reimbursement, changes in regulatory requirements, differing local product preferences and product requirements, diminished protection of intellectual property in some countries, trade protection measures and import or export licensing requirements, difficulty in staffing and managing foreign operations, and political and economic instability. Our business could be adversely impacted if we are unable to successfully manage these and other risks of international operations in an increasingly volatile environment.

We may be unable to capitalize on previous or future acquisitions: In addition to internally developed products, we invest in new products and technologies through acquisitions. Such investments are inherently risky, and we cannot guarantee that any acquisition will be successful or will not have a material unfavorable impact on us. The risks include the activities required and resources allocated to integrate new businesses, diversion of management time that could adversely affect management's ability to focus on other projects, the inability to realize the expected benefits, savings or synergies from the acquisition, the loss of key personnel and exposure to unexpected liabilities of acquired companies. In addition, we cannot be certain that the businesses we acquire will become or remain profitable.

We may incur goodwill impairment charges related to one or more of our business units: We perform our annual impairment test for goodwill in the fourth quarter of each year, or more frequently if indicators are present or changes in circumstances suggest that impairment may exist. In evaluating the potential for impairment we make assumptions regarding revenue projections, growth rates, cash flows, tax rates and discount rates. These assumptions are uncertain and by nature may vary from actual results. A significant

reduction in the estimated fair values could result in impairment charges.

We could be negatively impacted by future changes in the allocation of income to each of the income tax jurisdictions in which we operate: We operate in multiple income tax jurisdictions both in the United States and internationally. Accordingly, our management must determine the appropriate allocation of income to each jurisdiction based on current interpretations of complex income tax regulations. Income tax authorities regularly perform audits of our income tax filings. Income tax audits associated with the allocation of income and other complex issues, including inventory transfer pricing and cost sharing, product royalty and foreign branch arrangements, may require an extended period of time to resolve and may result in significant income tax adjustments.

We could experience a failure of a key information technology system, process or site or a breach of information security, including a cybersecurity breach or failure of one or more key information technology systems, networks, processes, associated sites or service providers: We rely extensively on information technology (IT) systems to conduct business. In addition, we rely on networks and services, including internet sites, cloud and SaaS solutions,

data hosting and processing facilities and tools and other hardware, software and technical applications and platforms, some of which are managed, hosted, provided and/or used by third-parties or their vendors, to assist in conducting our business. Numerous and evolving cybersecurity threats pose potential risks to the security of our IT systems, networks and product offerings, as well as the confidentiality, availability and integrity of our data. A security breach, whether of our products, of our customers' network security and systems or of third-party hosting services, could impact the use of such products and the security of information stored therein. While we have made investments seeking to address these threats, including monitoring of networks and systems, hiring of experts, employee training and security policies for employees and third-party providers, the techniques used in these attacks change frequently and may be difficult to detect for periods of time and we may face difficulties in anticipating and implementing adequate preventative measures. If our IT systems are damaged or cease to function properly, the networks or service providers we rely upon fail to function properly, or we or one of our third-party providers suffer a loss or disclosure of our business or stakeholder information due to any number of causes ranging from catastrophic events or power outages to improper data handling or security breaches and our business continuity plans do not effectively address these failures on a timely basis, we may be exposed to reputational, competitive and business harm as well as litigation and regulatory action.

An inability to successfully manage the implementation of our new global enterprise resource planning (ERP) system could adversely affect our operations and operating results: We are in the process of implementing a new global ERP system. This system will replace many of our existing operating and financial systems. Such an implementation is a major undertaking, both financially and from a management and personnel perspective. Any disruptions, delays or deficiencies in the design and implementation of our new ERP system could adversely affect our ability to process orders, ship products, provide services and customer support, send invoices and track payments, fulfill contractual obligations or otherwise operate our business.

We may be unable to attract and retain key employees: Our sales, technical and other key personnel play an integral role in the development, marketing and selling of new and existing products. If we are unable to recruit, hire, develop and retain a talented,

competitive work force, we may not be able to meet our strategic business objectives.

Interruption of manufacturing operations could adversely affect our business: We and our suppliers have manufacturing sites all over the world; however, the manufacturing of certain of our product lines is concentrated in one or more plants or geographic regions. Orthopaedics has principal manufacturing and distribution facilities in the United States in New Jersey, Pennsylvania and Florida and outside the United States in China, Ireland, Netherlands, Switzerland, Germany and the United Kingdom. MedSurg has principal manufacturing and distribution facilities in the United States in Michigan, California, Illinois, Indiana, Washington, Florida and Texas and outside the United States in Ireland, Germany, Mexico, Puerto Rico, Switzerland, Turkey, France and the United Kingdom. Neurotechnology and Spine has principal manufacturing and distribution facilities in Illinois, Indiana, Utah, Pennsylvania and California and outside the United States in China, Ireland, France, Switzerland and Netherlands. Damage to these facilities as a result of natural disasters or otherwise, as well as issues in our manufacturing arising from a failure to follow specific internal protocols and procedures, compliance concerns relating to the quality systems regulation, equipment breakdown or malfunction or other factors, could adversely affect the availability of our products. In the event of an interruption in manufacturing, we may be unable to move quickly to alternate means of producing affected products to meet customer demand. In the event of a significant interruption, we may experience lengthy delays in resuming production of affected products due to the need for regulatory approvals. We may experience loss of market share, additional expense and harm to our reputation.

We use a variety of raw materials, components or devices in our global supply chains, production and distribution processes; significant shortages or price increases could increase our operating costs, require significant capital expenditures, or adversely impact the competitive position of our products: Our reliance on certain suppliers to secure raw materials, components and finished devices exposes us to product shortages and unanticipated increases in prices. In addition, several raw materials, components, and finished devices are procured from a sole-source due to the quality considerations, unique intellectual property considerations or constraints associated with regulatory requirements. If sole-source suppliers are acquired or were unable or unwilling to deliver these materials, we may not be able to manufacture or have available one or more products during such period of unavailability and our business could suffer. In certain cases we may not be able to establish additional or replacement suppliers for such materials in a timely or cost effective manner, largely as a result of FDA and other regulations that require, among other things, validation of materials and components prior to their use in our products.

ITEM 1B. UNRESOLVED STAFF COMMENTS.

None.

ITEM 2. PROPERTIES.

We have approximately 23 company-owned and 273 leased locations worldwide including 43 manufacturing locations. We believe that our properties are in good operating condition and adequate for the manufacture and distribution of our products. We do not anticipate difficulty in renewing existing leases as they expire or in finding alternative facilities.

ITEM 3. LEGAL PROCEEDINGS.

We are involved in various proceedings, legal actions and claims arising in the normal course of business, including proceedings related to product, labor and intellectual property, and the matters described in more detail in Note 7 to our Consolidated Financial Statements.

ITEM 4. MINE SAFETY DISCLOSURES.

Not applicable.

PART II

ITEM 5. MARKET FOR THE REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES.

Our common stock is traded on the New York Stock Exchange under the symbol SYK.

Our Board of Directors considers payment of cash dividends at its quarterly meetings. On January 31, 2019 there were 2,729 shareholders of record of our common stock.

We did not repurchase any shares in the three months ended December 31, 2018 and the total dollar value of shares that could be acquired under our authorized repurchase program at December 31, 2018 was $1,340.

We issued 150 shares of our common stock in the fourth quarter of 2018 as performance incentive awards. These shares were not registered under the Securities Act of 1933 based on the conclusion that the awards would not be events of sale within the meaning of Section 2(a)(3) of the Act.

The following graph compares our total returns (including reinvestments of dividends) against the Standard & Poor's (S&P) 500 Index and the S&P 500 Health Care Index. The graph assumes $100 (not in millions) invested on December 31, 2013 in our common stock and each of the indices.

Company / Index	2013	2014	2015	2016	2017	2018
Stryker Corporation	$100.00	$127.41	$127.44	$166.51	$217.86	$223.13
S&P 500 Index	$100.00	$113.69	$115.26	$129.05	$157.22	$150.33
S&P 500 Health Care Index	$100.00	$125.34	$133.97	$130.37	$159.15	$169.44

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ITEM 6. SELECTED FINANCIAL DATA.

Statement of Earnings Data	2018	2017	2016	2015	2014
Net sales	$13,601	$12,444	$11,325	$9,946	$9,675
Cost of sales	4,663	4,264	3,821	3,333	3,310
Gross profit	$8,938	$8,180	$7,504	$6,613	$6,365
Research, development and engineering expenses	862	787	715	625	614
Selling, general and administrative expenses	5,099	4,552	4,137	3,610	3,547
Recall charges, net of insurance proceeds	23	173	158	296	761
Amortization of intangible assets	417	371	319	210	188
Total operating expenses	$6,401	$5,883	$5,329	$4,741	$5,110
Operating income	$2,537	$2,297	$2,175	$1,872	$1,255
Other income (expense), net	(181)	(234)	(254)	(137)	(95)
Earnings before income taxes	$2,356	$2,063	$1,921	$1,735	$1,160
Income taxes	(1,197)	1,043	274	296	645
Net earnings	$3,553	$1,020	$1,647	$1,439	$515
Net earnings per share of common stock:					
Basic net earnings per share of common stock	$9.50	$2.73	$4.40	$3.82	$1.36
Diluted net earnings per share of common stock	$9.34	$2.68	$4.35	$3.78	$1.34
Dividends declared per share of common stock	$1.93	$1.745	$1.565	$1.415	$1.26
Balance Sheet Data					
Cash, cash equivalents and current marketable securities	$3,699	$2,793	$3,384	$4,079	$5,000
Accounts receivable, less allowance	2,332	2,198	1,967	1,662	1,572
Inventories	2,955	2,465	2,030	1,639	1,588
Property, plant and equipment, net	2,291	1,975	1,569	1,199	1,098
Total assets	27,229	22,197	20,435	16,223	17,258
Accounts payable	646	487	437	410	329
Total debt	9,859	7,222	6,914	3,998	3,952
Shareholders' equity	$11,730	$9,980	$9,550	$8,511	$8,595
Cash Flow Data					
Net cash provided by operating activities	$2,610	$1,559	$1,915	$981	$1,858
Purchases of property, plant and equipment	572	589	490	270	233
Depreciation	306	271	227	187	190
Acquisitions, net of cash acquired	2,451	831	4,332	153	916
Amortization of intangible assets	417	371	319	210	188
Dividends paid	703	636	568	521	462
Repurchase of common stock	$300	$230	$13	$700	$100
Other Data					
Number of shareholders of record	2,732	2,850	3,010	3,118	3,305
Approximate number of employees	36,000	33,000	33,000	27,000	26,000

Dollar amounts in millions except per share amounts or as otherwise specified. 7

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ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS.

Overview of 2018

Our goal is to achieve sales growth at the high-end of the medical technology (MedTech) industry and maintain our capital allocation strategy that prioritizes: (1) Acquisitions, (2) Dividends and (3) Share repurchases.

In 2018 we achieved reported net sales growth of 9.3%. Excluding the impact of acquisitions and the adoption of Accounting Standards Update 2014-9, Revenue From Contracts with Customers, as well as related amendments, sales grew 7.9% in constant currency. We reported net earnings of $3,553 and net earnings per diluted share of $9.34. Excluding the impact of certain items, we achieved adjusted net earnings of $2,779 and growth of 12.6% in adjusted net earnings per diluted share[(1)].

We continued our capital allocation strategy by investing $2,451 in acquisitions, paying $703 in dividends to our shareholders and using $300 for share repurchases.

In November 2018 we completed the acquisition of K2M Group Holdings, Inc. (K2M) for $27.50 per share, or an aggregate purchase price of approximately $1,380. K2M is a global leader of complex spine and minimally invasive solutions focused on achieving three-dimensional Total Body Balance. K2M is part of our Spine business within Neurotechnology and Spine.

In February 2018 we completed the acquisition of Entellus Medical, Inc. (Entellus) for $24.00 per share, or an aggregate purchase price

of $697, net of cash acquired. Entellus is focused on delivering superior patient and physician experiences through products designed for the minimally invasive treatment of various ear, nose and throat (ENT) disease states. Entellus is part of our Neurotechnology business within Neurotechnology and Spine.

In March 2018 we issued $600 of senior unsecured notes with a coupon of 3.650% due on March 7, 2028. In April 2018 we repaid $600 of our senior unsecured notes with a coupon of 1.300%. In November 2018 we issued: €300 of senior unsecured notes with a floating interest rate (Three Month EURIBOR plus 28 bps) due on November 30, 2020, €550 of senior unsecured notes with a fixed interest rate of 1.125% due on November 30, 2023, €750 of senior unsecured notes with a fixed interest rate of 2.125% due on November 30, 2027, and €650 of senior unsecured notes with a fixed interest rate of 2.625% due on November 30, 2030. Refer to Note 10 to our Consolidated Financial Statements for further information.

In December 2018 the transfer of certain intellectual properties between tax jurisdictions resulted in a $1.5 billion non-cash tax benefit and a corresponding $1.5 billion deferred tax asset. The benefit of the transaction will be realized as a reduction of cash paid for taxes over a period of nine years and a corresponding charge to tax expense, which consistent with the benefit recognized in 2018 will also be adjusted out of reported net earnings going forward in our non-GAAP financial measure.

[(1)] Refer to "Non-GAAP Financial Measures" for a discussion of non-GAAP financial measures used in this report and a reconciliation to the most directly comparable GAAP financial measure.

CONSOLIDATED RESULTS OF OPERATIONS

				Percent Net Sales			Percentage Change	
	2018	2017	2016	2018	2017	2016	Current Year End	Prior Year End
Net sales	$13,601	$12,444	$11,325	100.0 %	100.0 %	100.0 %	9.3 %	9.9 %
Gross profit	8,938	8,180	7,504	65.7	65.7	66.3	9.3	9.0
Research, development and engineering expenses	862	787	715	6.3	6.3	6.3	9.5	10.1
Selling, general and administrative expenses	5,099	4,552	4,137	37.5	36.6	36.5	12.0	10.0

Recall charges, net of insurance proceeds	23	173	158	0.2	1.4	1.4	(86.7)	9.5		
Amortization of intangible assets	417	371	319	3.1	3.0	2.8	12.4	16.3		
Other income (expense), net	(181)	(234)	(254)	(1.3)	(1.9)	(2.2)	(22.6)	(7.9)		
Income taxes	(1,197)	1,043	274				(214.8)	280.7		
Net earnings	$3,553	$1,020	$1,647	26.1 %	8.2 %	14.5 %	248.3 %	(38.1)%		
Net earnings per diluted share	$9.34	$2.68	$4.35				248.5 %	(38.4)%		
Adjusted net earnings per diluted share[(1)]	$7.31	$6.49	$5.80				12.6 %	11.9 %		

Geographic and Segment Net Sales				Percentage Change			
				Current Year End		Prior Year End	
	2018	2017	2016	As Reported	Constant Currency	As Reported	Constant Currency
Geographic:							
United States	$9,848	$9,059	$8,230	8.7 %	8.7 %	10.1 %	10.1 %
International	3,753	3,385	3,095	10.9	9.7	9.4	9.0
Total	$13,601	$12,444	$11,325	9.3 %	9.0 %	9.9 %	9.8 %
Segment:							
Orthopaedics	$4,991	$4,713	$4,422	5.9 %	5.4 %	6.6 %	6.5 %
MedSurg	6,045	5,557	4,894	8.8	8.7	13.6	13.4
Neurotechnology and Spine	2,565	2,174	2,009	18.0	17.4	8.2	8.3
Total	$13,601	$12,444	$11,325	9.3 %	9.0 %	9.9 %	9.8 %

Dollar amounts in millions except per share amounts or as otherwise specified. 8

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Supplemental Net Sales Growth Information

			Percentage Change							Percentage Change				
					United States	International						United States	International	
	2018	2017	As Reported	Constant Currency	As Reported	As Reported	Constant Currency	2017	2016	As Reported	Constant Currency	As Reported	As Reported	Constant Currency
Orthopaedics:														
Knees	$1,701	$1,595	6.6 %	6.3 %	6.4 %	7.3 %	5.7 %	$1,595	$1,490	7.0 %	6.9 %	7.4 %	5.9 %	5.5 %
Hips	1,336	1,303	2.5	2.1	2.2	3.1	2.0	1,303	1,283	1.6	1.8	2.0	0.9	1.4
Trauma and Extremities	1,580	1,478	6.9	6.2	5.4	9.7	7.4	1,478	1,364	8.3	8.2	11.0	3.8	3.5
Other	374	337	11.0	11.0	8.7	21.3	21.3	337	285	18.0	17.6	17.9	18.6	16.4
	$4,991	$4,713	5.9 %	5.4 %	5.2 %	7.3 %	5.7 %	$4,713	$4,422	6.6 %	6.5 %	7.8 %	4.0 %	3.8 %
MedSurg:														
Instruments	$1,822	$1,678	8.6 %	8.4 %	9.2 %	6.4 %	6.0 %	$1,678	$1,553	8.1 %	8.0 %	8.1 %	7.9 %	7.5 %
Endoscopy	1,846	1,652	11.7	11.9	11.0	14.4	14.7	1,652	1,470	12.4	12.0	14.2	6.3	5.0
Medical	2,118	1,969	7.6	7.5	6.9	9.9	9.4	1,969	1,633	20.5	20.4	17.7	31.4	30.4
Sustainability	259	258	0.4	0.1	—	100.0	19.5	258	238	8.9	8.9	8.9	26.2	24.4
	$6,045	$5,557	8.8 %	8.7 %	8.4 %	10.2 %	10.0 %	$5,557	$4,894	13.5 %	13.4 %	13.2 %	15.1 %	14.1 %
Neurotechnology and Spine:														
Neurotechnology	$1,737	$1,423	22.1 %	21.4 %	23.9 %	18.9 %	17.2 %	$1,423	$1,255	13.4 %	13.4 %	11.2 %	17.4 %	17.3 %
Spine	828	751	10.3	9.9	6.9	20.8	19.1	751	754	(0.4)	(0.4)	(0.6)	0.1	0.2
	$2,565	$2,174	18.0 %	17.4 %	17.3 %	19.4 %	17.6 %	$2,174	$2,009	8.2 %	8.3 %	6.3 %	12.4 %	12.4 %
Total	$13,601	$12,444	9.3 %	9.0 %	8.7 %	10.9 %	9.7 %	$12,444	$11,325	9.9 %	9.8 %	10.1 %	9.4 %	9.0 %

Consolidated Net Sales

Consolidated net sales in 2018 increased 9.3% as reported and 9.0% in constant currency, as foreign currency exchange rates positively impacted net sales by 0.3%. Excluding the 1.9% impact of acquisitions and the 0.9% impact from the adoption of a new revenue recognition standard (ASC 606), net sales increased in constant currency by 9.3% from increased unit volume partially offset by 1.4% due to lower prices. The unit volume increase was primarily due to higher shipments of medical, instruments, endoscopy, neurotechnology, knees, and trauma and extremities products.

Consolidated net sales in 2017 increased 9.9% as reported and 9.8% in constant currency, as foreign currency exchange rates positively impacted net sales by 0.1%. Excluding the 2.7% impact of acquisitions, net sales increased in constant currency by 8.2% from increased unit volume partially offset by 1.1% due to lower prices. The unit volume increase was primarily due to higher shipments of neurotechnology, endoscopy, knees, trauma and extremities and instruments products.

Orthopaedics Net Sales

Orthopaedics net sales in 2018 increased 5.9% as reported and 5.4% in constant currency, as foreign currency exchange rates positively impacted net sales by 0.5%. Excluding the 0.5% impact from the adoption of ASC 606, net sales increased in constant currency by 8.1% from increased unit volume partially offset by 2.2% due to lower prices. The unit volume increase was primarily due to higher shipments of knees and trauma and extremities products.

Orthopaedics net sales in 2017 increased 6.6% as reported and 6.5% in constant currency, as foreign currency exchange rates positively impacted net sales by 0.1%. Excluding the 0.3% impact of acquisitions, net sales increased in constant currency by 8.6% from increased unit volume partially offset by 2.4% due to lower prices. The unit volume increase was primarily due to higher shipments of knees and trauma and extremities products.

MedSurg Net Sales

MedSurg net sales in 2018 increased 8.8% as reported and 8.7% in constant currency, as foreign currency exchange rates positively impacted net sales by 0.1%. Excluding the 1.4% impact of

acquisitions and the 1.3% impact from the adoption of ASC 606, net sales increased in constant currency by 9.3% from increased unit volume partially offset by 0.7% due to lower prices. The unit volume increase was primarily due to higher shipments of medical, instruments, and endoscopy products.

MedSurg net sales in 2017 increased 13.6% as reported and 13.4% in constant currency, as foreign currency exchange rates positively impacted net sales by 0.2%. Excluding the 5.6% impact of acquisitions, net sales increased in constant currency by 7.5% from increased unit volume and 0.2% due to higher prices. The unit volume increase was primarily due to higher shipments of endoscopy, instruments and medical products.

Neurotechnology and Spine Net Sales

Neurotechnology and Spine net sales in 2018 increased 18.0% as reported and 17.4% in constant currency, as foreign currency exchange rates positively impacted net sales by 0.6%. Excluding the 7.4% impact of acquisitions and the 0.6% impact from adoption of ASC 606, net sales in constant currency increased by 12.2% from increased unit volume partially offset by 1.6% due to lower prices. The unit volume increase was primarily due to higher shipments of neurotechnology products.

Neurotechnology and Spine net sales in 2017 increased 8.2% as reported and 8.3% in constant currency, as foreign currency exchange rates impacted net sales nominally. Excluding the 0.7% impact of acquisitions, net sales in constant currency increased by 9.1% from increased unit volume partially offset by 1.5% due to lower prices. The unit volume increase was primarily due to higher shipments of neurotechnology products.

We adopted Accounting Standards Update 2014-09, Revenue From Contracts with Customers, as well as related amendments (ASC 606), issued by the Financial Accounting Standards Board on a modified retrospective basis, effective January 1, 2018. Refer to Note 1 and Note 2 to our Consolidated Financial Statements for further information.

The following sales growth data and subsequent analysis have been presented to supplement our discussion and analysis of net sales by quantifying and excluding the impact of the adoption of ASC 606 for our businesses, which related primarily to the reclassification of certain costs previously presented as selling, general and administrative expenses to net sales.

	Full Year				Percentage Change Excluding ASC 606 Impact			
			Percentage Change				International	
	2018	2017	As Reported	Excluding ASC 606 Impact	Constant Currency	United States	Excluding ASC 606 Impact	Constant Currency
Orthopaedics:								
Knees	$1,701	$1,595	6.6 %	7.0 %	6.7 %	6.9 %	7.4 %	6.1 %
Hips	1,336	1,303	2.5	2.8	2.3	2.5	3.3	2.2
Trauma and Extremities	1,580	1,478	6.9	7.8	7.0	6.5	10.1	7.8
Other	374	337	11.0	10.8	11.0	8.6	20.9	21.5
	$4,991	$4,713	5.9 %	6.4 %	5.9 %	5.8 %	7.6 %	6.1 %
MedSurg:								
Instruments	$1,822	$1,678	8.6 %	10.2 %	10.0 %	11.2 %	6.9 %	6.2 %
Endoscopy	1,846	1,652	11.7	12.1	12.3	11.5	14.3	14.9
Medical	2,118	1,969	7.6	9.1	9.0	8.8	10.2	9.6
Sustainability	259	258	0.4	3.1	3.1	3.0	19.7	19.5
	$6,045	$5,557	8.8 %	10.1 %	10.0 %	10.0 %	10.4 %	10.1 %
Neurotechnology and Spine:								
Neurotechnology	$1,737	$1,423	22.1 %	22.8 %	22.1 %	25.0 %	19.1 %	17.3 %
Spine	828	751	10.3	10.7	10.3	7.2	21.5	19.8
	$2,565	$2,174	18.0 %	18.6 %	18.0 %	18.1 %	19.7 %	17.9 %
Total	$13,601	$12,444	9.3 %	10.2 %	9.8 %	9.8 %	11.1 %	9.9 %

Consolidated Net Sales (Excluding ASC 606 Impact)

Consolidated net sales increased 10.2% in 2018 and 9.8% in constant currency, as foreign currency exchange rates positively impacted net sales by 0.4%. Excluding the 1.9% impact of acquisitions net sales in constant currency increased by 9.3% from unit volume partially offset by 1.4% due to lower prices. The unit volume increase was primarily due to higher shipments of medical, instruments, endoscopy, neurotechnology, knees, and trauma and extremities products.

Orthopaedics Net Sales (Excluding ASC 606 Impact)

Orthopaedics net sales increased 6.4% in 2018 and 5.9% in constant currency, as foreign currency exchange rates positively impacted net sales by 0.5%. Net sales in constant currency increased by 8.1% from unit volume partially offset by 2.2% due to lower prices. The unit volume increase was primarily due to higher shipments of knee and trauma and extremities products.

MedSurg Net Sales (Excluding ASC 606 Impact)

MedSurg net sales increased 10.1% in 2018 and 10.0% in constant currency, as foreign currency exchange rates positively impacted net sales by 0.1%. Excluding the 1.4% impact of acquisitions net sales in constant currency increased by 9.3% from unit volume partially offset by 0.7% due to lower prices. The unit volume increase was primarily due to higher shipments of medical, instruments, and endoscopy products.

Neurotechnology and Spine Net Sales (Excluding ASC 606 Impact)

Neurotechnology and Spine net sales increased 18.6% in 2018 and 18.0% in constant currency, as foreign currency exchange rates positively impacted net sales by 0.6%. Excluding the 7.4% impact of acquisitions net sales in constant currency increased by 12.2% from unit volume partially offset by 1.6% due to lower prices. The unit volume increase was primarily due to higher shipments of neurotechnology products.

Gross Profit

Gross profit in 2018 as a percentage of net sales of 65.7% was consistent with 2017. Excluding the impact of the items noted below, gross profit decreased to 66.0% from 66.4% in 2017 primarily due to the impact of adopting ASC 606 and by lower selling prices.

Gross profit as a percentage of net sales decreased to 65.7% in 2017 from 66.3% in 2016. Excluding the impact of the items noted below, gross profit decreased to 66.4% from 66.7% in 2016 primarily due to the impact of hurricanes, unfavorable mix and inflation, partially offset by higher sales volumes, increased productivity and favorable impact of foreign currency exchange.

				Percent Net Sales		
	2018	2017	2016	2018	2017	2016
Reported	$8,938	$8,180	$7,504	65.7%	65.7%	66.3%
Inventory stepped up to fair value	16	22	36	0.1	0.2	0.3
Restructuring-related and other charges	27	57	15	0.2	0.4	—
Medical device regulations	2	—	—	—	—	—
Adjusted	$8,983	$8,259	$7,555	66.0%	66.3%	66.7%

Research, Development and Engineering Expenses

Research, development and engineering expenses represented 6.3% of net sales in 2018, 2017 and 2016. Projects to develop new products, investments in new technologies and recent acquisitions contributed to the spending levels.

Dollar amounts in millions except per share amounts or as otherwise specified. 10

Selling, General and Administrative Expenses

Selling, general and administrative expenses as a percentage of net sales in 2018 increased to 37.5% from 36.6% in 2017. Excluding the impact of the items noted below, expenses decreased to 33.9% in 2018 from 34.8% in 2017 primarily due to leverage from higher sales volumes, the favorable impact from the adoption of ASC 606 and continued focus on our operating expense improvement initiatives, partially offset by the leverage from recent acquisitions.

Selling, general and administrative expenses as a percentage of net sales in 2017 increased to 36.6% from 36.5% in 2016. Excluding the impact of certain items noted below, selling, general and administrative expenses as a percentage of sales decreased in 2017. This reflects favorable leverage from higher sales volumes and continued focus on operating expense improvement initiatives, including leverage from our recent acquisitions, partially offset by the unfavorable impact of foreign currency exchange.

				Percent Net Sales		
	2018	2017	2016	2018	2017	2016
Reported	$5,099	$4,552	$4,137	37.5 %	36.6 %	36.5 %
Other acquisition and integration-related	(108)	(42)	(95)	(0.9)	(0.4)	(0.8)
Restructuring-related and other charges	(192)	(137)	(110)	(1.4)	(1.1)	(1.0)
Regulatory and legal matters	(185)	(39)	12	(1.4)	(0.3)	0.1
Adjusted	$4,614	$4,334	$3,944	33.9 %	34.8 %	34.8 %

Recall Charges, Net of Insurance Proceeds

Recall charges, net of insurance proceeds, were $23, $173 and $158 in 2018, 2017 and 2016. Charges were primarily due to the disclosed Rejuvenate and ABGII Modular-Neck hip stems and LFIT V40 femoral head voluntary recalls. Refer to Note 7 to our Consolidated Financial Statements for further information.

Amortization of Intangible Assets

Amortization of intangible assets was $417, $371 and $319 in 2018, 2017 and 2016. The increase in 2018 and 2017 was due to acquisitions. Refer to Notes 6 and 8 to our Consolidated Financial Statements for further information.

Other Income (Expense), Net

Other income (expense), net was ($181), ($234) and ($254) in 2018, 2017 and 2016. The decrease in 2018 was primarily due to an increase in interest income due to higher interest rates partially offset by higher interest expense due to higher interest rates and higher debt outstanding. Refer to Note 10 to our Consolidated Financial Statements for further information.

Income Taxes

Our effective tax rate was (50.8)%, 50.6% and 14.3% for 2018, 2017 and 2016. The effective income tax rate for 2018 reflects the tax effect related to the transfer of intellectual properties between tax jurisdictions, the continuing impact of complying with the Tax Cuts and Jobs Act of 2017 (the Tax Act), and continued lower effective income tax rates as a result of our European operations.

The effective income tax rate for 2017 reflects compliance with the Tax Act offset by lower effective income tax rates as a result of our European operations. The effective income tax rate for 2016 reflects lower effective income tax rates as a result of our European operations.

Net Earnings

Net earnings in 2018 increased to $3,553 or $9.34 per diluted share from $1,020 or $2.68 per diluted share in 2017 and $1,647 or $4.35 per diluted share in 2016. The impact of foreign currency exchange rates reduced net earnings per diluted share by approximately $0.06, $0.07 and $0.11 in 2018, 2017 and 2016.

				Percent Net Sales		
	2018	2017	2016	2018	2017	2016
Reported	$3,553	$1,020	$1,647	26.1 %	8.2 %	14.5 %
Inventory stepped up to fair value	9	20	23	0.1	0.2	0.2
Other acquisition and integration-related	90	31	77	0.7	0.2	0.7
Amortization of intangible assets	338	250	221	2.5	2.0	2.0

Restructuring-related and other charges	179	155	98	1.3	1.2	0.9
Medical device regulations	10	—	—	0.1	—	—
Recall-related matters	18	131	127	0.1	1.1	1.1
Regulatory and legal matters	141	25	(7)	1.0	0.2	(0.1)
Tax matters	(1,559)	833	8	(11.5)	6.7	0.1
Adjusted	$2,779	$2,465	$2,194	20.4 %	19.8%	19.4 %

Non-GAAP Financial Measures

We supplement the reporting of our financial information determined under accounting principles generally accepted in the United States (GAAP) with certain non-GAAP financial measures, including percentage sales growth excluding the impact of the adoption of ASC 606; percentage sales growth in constant currency; percentage sales growth in constant currency and excluding the impact of the adoption of ASC 606; percentage organic sales growth; adjusted gross profit; adjusted selling, general and administrative expenses; adjusted amortization of intangible assets; adjusted operating income; adjusted effective income tax rate; adjusted net earnings; and adjusted net earnings per diluted share (Diluted EPS). We believe these non-GAAP financial measures provide meaningful information to assist investors and shareholders in understanding our financial results and assessing our prospects for future performance. Management believes percentage sales growth in constant currency and the other adjusted measures described above are important indicators of our operations because they exclude items that may not be indicative of or are unrelated to our core operating results and provide a baseline for analyzing trends in our underlying businesses. Management uses these non-GAAP financial measures for reviewing the operating results of reportable business segments and analyzing potential future business trends in connection with our budget process and bases certain management incentive compensation on these non-GAAP financial measures. To measure percentage sales growth in constant currency, we remove the impact of changes in foreign currency exchange rates that affect the comparability and trend of sales. Percentage sales growth in constant currency is calculated by translating current and prior year results at the same foreign currency exchange rate. To measure percentage organic sales growth, we remove the impact of changes in foreign currency exchange rates, acquisitions and the impact of the adoption of ASC 606, which affect the comparability and trend of sales. Percentage organic sales growth is calculated by translating current year results at prior year average foreign currency exchange rates excluding the impact of acquisitions and the adoption of ASC 606. To measure earnings performance on a consistent and comparable basis, we exclude certain items that affect the comparability of operating results and the trend of earnings. These adjustments are irregular in timing and may not be indicative of our past and future performance. The following are examples of the types of adjustments that may be included in a period:

1. Acquisition and integration-related costs. Costs related to integrating recently acquired businesses and specific costs

Dollar amounts in millions except per share amounts or as otherwise specified. 11

(e.g., inventory step-up and deal costs) related to the consummation of the acquisition process.

2. Amortization of purchased intangible assets. Periodic amortization expense related to purchased intangible assets.

3. Restructuring-related and other charges. Costs associated with the termination of sales relationships in certain countries, workforce reductions, elimination of product lines, weather-related asset impairments and associated costs and other restructuring-related activities.

4. Medical Device Regulations. Costs specific to updating our quality system, product labeling, asset write-offs and product remanufacturing to comply with the medical device reporting regulations and other requirements of the European Union and China regulations for medical devices.

5. Recall-related matters. Our best estimate of the minimum of the range of probable loss to resolve the Rejuvenate, LFIT V40 and other product recalls.

6. Regulatory and legal matters. Our best estimate of the minimum of the range of probable loss to resolve certain regulatory matters and other legal settlements.

7. Tax matters. Charges represent the impact of accounting for certain significant and discrete tax items, including adjustments related to the Tax Act.

Because non-GAAP financial measures are not standardized, it may not be possible to compare these financial measures with other companies' non-GAAP financial measures having the same or similar names. These adjusted financial measures should not be considered in isolation or as a substitute for reported sales growth, gross profit, selling, general and administrative expenses, amortization of intangible assets, operating income, effective income tax rate, net earnings and net earnings per diluted share, the most directly comparable GAAP financial measures. These non-GAAP financial measures are an additional way of viewing aspects of our operations when viewed with our GAAP results and the reconciliations to corresponding GAAP financial measures at the end of the discussion of Consolidated Results of Operations below. We strongly encourage investors and shareholders to review our financial statements and publicly-filed reports in their entirety and not to rely on any single financial measure.
The weighted-average diluted shares outstanding used in the calculation of non-GAAP net earnings per diluted share are the same as those used in the calculation of reported net earnings per diluted share for the respective period.

Reconciliation of the Most Directly Comparable GAAP Financial Measure to Non-GAAP Financial Measure

2018	Gross Profit	Selling, General & Administrative Expenses	Amortization of Intangible Assets	Operating Income	Net Earnings	Effective Tax Rate	Diluted EPS
Reported	$8,938	$ 5,099	$ 417	$ 2,537	$ 3,553	(50.8)%	$9.34
Acquisition and integration-related charges:							
Inventory stepped up to fair value	16	—	—	15	9	0.2	0.02
Other acquisition and integration-related	—	(108)	—	108	90	—	0.24
Amortization of purchased intangible assets	—	—	(417)	417	338	0.4	0.89
Restructuring-related and other charges	27	(192)	—	220	179	0.1	0.47
Medical device regulations	2	—		12	10	—	0.03
Recall-related matters	—	—	—	23	18	—	0.05
Regulatory and legal matters	—	(185)	—	185	141	0.6	0.37
Tax Matters	—	—	—	—	(1,559)	66.2	(4.10)
Adjusted	$8,983	$ 4,614	$ —	$ 3,517	$ 2,779	16.7 %	$7.31

2017	Gross Profit	Selling, General & Administrative Expenses	Amortization of Intangible Assets	Operating Income	Net Earnings	Effective Tax Rate	Diluted EPS

Reported	$8,180	$ 4,552	$ 371	$ 2,297	$ 1,020	50.6 %	$ 2.68
Acquisition and integration-related charges:							
Inventory stepped up to fair value	22	—	—	22	20	(0.1)	0.05
Other acquisition and integration-related	—	(42)	—	42	31	0.2	0.09
Amortization of purchased intangible assets	—	—	(371)	371	250	3.0	0.67
Medical device regulations	—	—	—	—	—	—	—
Restructuring-related and other charges	57	(137)	—	194	155	0.4	0.41
Recall-related matters	—	—	—	173	131	0.7	0.34
Regulatory and legal matters	—	(39)	—	39	25	0.4	0.06
Tax Matters	—	—	—	—	833	(39.6)	2.19
Adjusted	$8,259	$ 4,334	$ —	$ 3,138	$ 2,465	15.6 %	$ 6.49

Dollar amounts in millions except per share amounts or as otherwise specified. 12

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2016	Gross Profit	Selling, General & Administrative Expenses	Amortization of Intangible Assets	Operating Income	Net Earnings	Effective Tax Rate	Diluted EPS
Reported	$7,504	$ 4,137	$ 319	$ 2,175	$ 1,647	14.3 %	$4.35
Acquisition and integration-related charges:							
Inventory stepped up to fair value	36	—	—	36	23	0.4	0.06
Other acquisition and integration-related	—	(95)	—	95	77	0.1	0.20
Amortization of purchased intangible assets	—	—	(319)	319	221	2.2	0.59
Restructuring-related and other charges	15	(110)	—	125	98	0.3	0.26
Medical device regulations	—	—	—	—	—	—	—
Recall-related matters	—	—	—	158	127	0.1	0.34
Regulatory and legal matters	—	12	—	(12)	(7)	(0.2)	(0.02)
Tax Matters	—	—	—	—	8	0.1	0.02
Adjusted	$7,555	$ 3,944	$ —	$ 2,896	$ 2,194	17.3 %	$5.80

FINANCIAL CONDITION AND LIQUIDITY

	2018	2017	2016
Net cash provided by operating activities	$2,610	$1,559	$1,915
Net cash used in investing activities	(2,857)	(1,613)	(4,191)
Net cash provided by (used in) financing activities	1,329	(794)	2,258
Effect of exchange rate changes	(8)	74	(45)
Change in cash and cash equivalents	$1,074	$(774)	$(63)

We believe our financial condition continues to be of high quality, as evidenced by our ability to generate substantial cash from operations and to readily access capital markets at competitive rates. Operating cash flow provides the primary source of cash to fund operating needs and capital expenditures. Excess operating cash is used first to fund acquisitions to complement our portfolio of businesses. Other discretionary uses include dividends and share repurchases. We supplement operating cash flow with debt to fund our activities as necessary. Our overall cash position reflects our strong business results and a global cash management strategy that takes into account liquidity management, economic factors and tax considerations.

Operating Activities

Cash provided by operations was $2,610, $1,559, and $1,915 in 2018, 2017 and 2016. The increase was primarily due to lower recall-related payments, higher net earnings and cash receipts related to contracts with customers for unsatisfied performance obligations (partially due to the adoption of ASC 606) and cash receipts from an interest rate hedge settlement, partially offset by payments related to the Tax Cuts and Jobs Act of 2017. The net of accounts receivable, inventory and accounts payable resulted in the consumption of $329, $461, and $507 of cash in 2018, 2017 and 2016.

Investing Activities

Cash used in investing activities was ($2,857), ($1,613) and ($4,191) in 2018, 2017 and 2016. The increase in cash used in 2018 was primarily due to increased payments for acquisitions, primarily the $697 acquisition of Entellus and $1,400 acquisition of K2M. In 2017 we acquired NOVADAQ and certain other businesses and related assets. In 2016 the primary acquisitions were Sage and Physio.

Financing Activities

Cash provided by (used in) financing activities was $1,329, ($794), and $2,258 in 2018, 2017 and 2016. The increase in cash provided was primarily due to higher net borrowings, primarily the issuance of €2,250 of senior unsecured notes, partially offset by $70 higher repurchases of our common stock and a $67 increase in dividends paid.

We maintain debt levels that we consider appropriate after evaluating a number of factors including cash requirements for ongoing operations, investment and financing plans (including

acquisitions and share repurchase activities) and overall cost of capital. Refer to Note 10 to our Consolidated Financial Statements for further information.

	2018	2017	2016
Dividends paid per common share	$1.88	$1.70	$1.52
Total dividends paid to common shareholders	$703	$636	$568
Total amount paid to repurchase common stock	$300	$230	$13
Shares of repurchased common stock (in millions)	1.9	1.9	0.1

Liquidity

Cash, cash equivalents and marketable securities were $3,699 and $2,793, and our current assets exceeded current liabilities by $4,926 and $4,508 on December 31, 2018 and 2017. We anticipate being able to support our short-term liquidity and operating needs from a variety of sources, including cash from operations, commercial paper and existing credit lines. We raised funds in the capital markets in 2018 and may continue to do so from time to time. We continue to have strong investment-grade short-term and long-term debt ratings that we believe should enable us to refinance our debt as needed.

We have existing credit facilities should additional funds be required. We have a borrowing capacity available under our main credit facility of $1,500. The amount of commercial paper we have issuable under the commercial paper program is $1,500.

Our cash, cash equivalents and marketable securities held in locations outside the United States was approximately 25% and 62% on December 31, 2018 and 2017. We intend to use this cash to expand operations organically and through acquisitions.

Guarantees and Other Off-Balance Sheet Arrangements

We do not have guarantees or other off-balance sheet financing arrangements, including variable interest entities, of a magnitude that we believe could have a material impact on our financial condition or liquidity.

CONTRACTUAL OBLIGATIONS AND FORWARD-LOOKING CASH REQUIREMENTS

As further described in Note 7 to our Consolidated Financial Statements, in 2018 we recorded charges to earnings related to the Rejuvenate and ABG II and LFIT Anatomic CoCr V40 Femoral Heads recall matters. Recorded charges represent the minimum of the range of probable cost to resolve these matters. The final outcome of these matters is dependent on many variables that are difficult to predict. The ultimate cost to entirely resolve these matters may be materially different than the amount of the current estimates and could have a material adverse effect on our financial position, results of operations and cash flows. We are not able to reasonably estimate the future periods in which payments will be made.

As further described in Note 11 to our Consolidated Financial Statements, on December 31, 2018 we had a reserve for uncertain

income tax positions of $528. Due to uncertainties regarding the ultimate resolution of income tax audits, we are not able to reasonably estimate the future periods in which any income tax payments to settle these uncertain income tax positions will be made.

As further described in Note 12 to our Consolidated Financial Statements, on December 31, 2018 our defined benefit pension plans were underfunded by $359, of which approximately $336 related to plans outside the United States. Due to the rules affecting tax-deductible contributions in the jurisdictions in which the plans are offered and the impact of future plan asset performance, changes in interest rates and potential changes in legislation in the United States and other foreign jurisdictions, we are not able to reasonably estimate the amounts that may be required to fund defined benefit pension plans.

Contractual Obligations

	Total	2019	2020 - 2021	2022 - 2023	After 2023
Total debt	9,952	1,373	1,594	630	6,355
Interest payments	3,408	281	496	455	2,176
Unconditional purchase obligations	1,411	1,306	80	13	12
Operating leases	342	107	92	54	89
United States Tax Cuts and Jobs Act Transition Tax	748	48	132	187	381
Other	123	10	15	5	93
Total	$15,984	$3,125	$2,409	$1,344	$9,106

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

In preparing our financial statements in accordance with generally accepted accounting principles, there are certain accounting policies, which may require substantial judgment or estimation in their application. We believe these accounting policies and the others set forth in Note 1 to our Consolidated Financial Statements are critical to understanding our results of operations and financial condition. Actual results could differ from our estimates and assumptions, and any such differences could be material to our results of operations and financial condition.

Inventory Reserves

We maintain reserves for excess and obsolete inventory resulting from the potential inability to sell certain products at prices in excess of current carrying costs. We make estimates regarding the future recoverability of the costs of these products and record provisions based on historical experience, expiration of sterilization dates and expected future trends. If actual product life cycles, product demand or acceptance of new product introductions are less favorable than projected by management, additional inventory write downs may be required, which could unfavorably affect future operating results.

Income Taxes

Our annual tax rate is determined based on our income, statutory tax rates and the tax impacts of items treated differently for tax purposes than for financial reporting purposes. Tax law requires certain items be included in the tax return at different times than the items are reflected in the financial statements. Some of these differences are permanent, such as expenses that are not deductible in our tax return, and some differences are temporary and reverse over time, such as depreciation expense. These temporary differences create deferred tax assets and liabilities. Deferred tax assets generally represent the tax effect of items that can be used as a tax deduction or credit in future years for which we have already recorded the tax benefit in our income statement. Deferred tax liabilities generally represent tax expense recognized in our financial statements for which payment was deferred, the tax effect of expenditures for which a deduction was taken in our tax

return but has not yet been recognized in our financial statements or assets recorded at fair value in business combinations for which there was no corresponding tax basis adjustment.

Inherent in determining our annual tax rate are judgments regarding business plans, tax planning opportunities and expectations about future outcomes. Realization of certain deferred tax assets is dependent upon generating sufficient taxable income in the appropriate jurisdiction prior to the expiration of the carryforward periods. Although realization is not assured, management believes it is more likely than not that our deferred tax assets, net of valuation allowances,

will be realized.

We operate in multiple jurisdictions with complex tax policy and regulatory environments. In certain of these jurisdictions, we may take tax positions that management believes are supportable but are potentially subject to successful challenge by the applicable taxing authority. These differences of interpretation with the respective governmental taxing authorities can be impacted by the local economic and fiscal environment. We evaluate our tax positions and establish liabilities in accordance with the applicable accounting guidance on uncertainty in income taxes. We review these tax uncertainties in light of changing facts and circumstances, such as the progress of tax audits, and adjust them accordingly. We have a number of audits in process in various jurisdictions. Although the resolution of these tax positions is uncertain, based on currently available information, we believe that it is more likely than not that the ultimate outcomes will not have a material adverse effect on our financial position, results of operations or cash flows.

Due to the number of estimates and assumptions inherent in calculating the various components of our tax provision, certain changes or future events, such as changes in tax legislation, geographic mix of earnings, completion of tax audits or earnings repatriation plans, could have an impact on those estimates and our effective tax rate.

Acquisitions, Goodwill and Intangibles, and Long-Lived Assets

Our financial statements include the operations of an acquired business starting from the completion of the acquisition. In addition, the assets acquired and liabilities assumed are recorded on the date of acquisition at their respective estimated fair values, with any excess of the purchase price over the estimated fair values of the net assets acquired recorded as goodwill.

Significant judgment is required in estimating the fair value of intangible assets and in assigning their respective useful lives. Accordingly, we typically obtain the assistance of third-party valuation specialists for significant items. The fair value estimates are based on available historical information and on future expectations and assumptions deemed reasonable by management but are inherently uncertain. We typically use an income method to estimate the fair value of intangible assets, which is based on forecasts of the expected future cash flows attributable to the respective assets. Significant estimates and assumptions inherent in the valuations reflect a consideration of other marketplace participants and include the amount and timing of future cash flows (including expected growth rates and profitability), the underlying product or technology life cycles, the economic barriers to entry and the discount rate applied to the cash flows. Unanticipated market or macroeconomic events and circumstances may occur that could affect the accuracy or validity of the estimates and assumptions.

Determining the useful life of an intangible asset also requires judgment. With the exception of certain trade names, the majority of our acquired intangible assets (e.g., certain trademarks or brands, customer and distributor relationships, patents and

technologies) are expected to have determinable useful lives. Our assessment as to the useful lives of these intangible assets is based on a number of factors including competitive environment, market share, trademark, brand history, underlying product life cycles, operating plans and the macroeconomic environment of the countries in which the trademarked or branded products are sold. Our estimates of the useful lives of determinable-lived intangibles are primarily based on these same factors. Determinable-lived intangible assets are amortized to expense over their estimated useful life.

In some of our acquisitions, we acquire in-process research and development (IPRD) intangible assets. For acquisitions accounted for as business combinations IPRD is considered to be an indefinite-lived intangible asset until the research is completed (then it becomes a determinable-lived intangible asset) or determined to have no future use (then it is impaired). For asset acquisitions IPRD is expensed immediately unless there is an alternative future use.

The value of indefinite-lived intangible assets and goodwill is not amortized but is tested at least annually for impairment. Our impairment testing for goodwill is performed separately from our impairment testing of indefinite-lived intangibles. We perform our annual impairment test for goodwill in the fourth quarter of each year. We consider qualitative indicators of the fair value of a reporting unit when it is unlikely that a reporting unit has impaired goodwill. In certain circumstances, we also use a discounted cash flow analysis that requires certain assumptions and estimates be made regarding market conditions and our future profitability. In those circumstances we test goodwill for impairment by reviewing the book value compared to the fair value at the reporting unit level. We test individual indefinite-lived intangibles by reviewing the individual book values compared to the fair value. We determine the fair value of our reporting units and indefinite-lived intangible assets based on the income approach. Under the income approach, we calculate the fair value of our reporting units and indefinite-lived intangible assets based on the present value of estimated future cash flows. Considerable management judgment is necessary to evaluate the impact of operating and macroeconomic changes and to estimate future cash flows to measure fair value. Assumptions used in our impairment evaluations, such as forecasted growth rates and cost of capital, are consistent with internal projections and operating plans. We believe such assumptions and estimates are also comparable to those that would be used by other marketplace participants.

We did not recognize any impairment charges for goodwill in the years presented, as our annual impairment testing indicated that all reporting unit goodwill fair values exceeded their respective recorded values. Future changes in the judgments, assumptions and estimates that are used in our impairment testing for goodwill and indefinite-lived intangible assets, including discount and tax rates and future cash flow projections, could result in significantly different estimates of the fair values. A significant reduction in the estimated fair values could result in impairment charges that could materially affect our results of operations.

We review our other long-lived assets for indicators of impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. The evaluation is performed at the lowest level of identifiable cash flows, which is at the individual asset level or the asset group level. The undiscounted cash flows expected to be generated by the related assets are estimated over their useful life based on updated projections. If the evaluation indicates that the carrying amount of the assets may not be recoverable, any potential impairment is measured based upon the fair value of the related assets or asset group as determined by

an appropriate market appraisal or other valuation technique. Assets classified as held for sale, if any, are recorded at the lower of carrying amount or fair value less costs to sell.

Legal and Other Contingencies

We are involved in various ongoing proceedings, legal actions and claims arising in the normal course of business, including proceedings related to product, labor and intellectual property, and other matters that are more fully described in Note 7 to our Consolidated Financial Statements. The outcomes of these matters will generally not be known for prolonged periods of time. In certain of the legal proceedings, the claimants seek damages, as well as other compensatory and equitable relief, that could result in the payment of significant claims and settlements and/or the imposition of injunctions or other equitable relief. For legal matters for which management had sufficient information to reasonably estimate our future obligations, a liability representing management's best estimate of the probable loss, or the minimum of the range of probable losses when a best estimate within the range is not known, for the resolution

of these legal matters is recorded. The estimates are based on consultation with legal counsel, previous settlement experience and settlement strategies. If actual outcomes are less favorable than those projected by management, additional expense may be incurred, which could unfavorably affect future operating results. We are currently self-insured for product liability-related claims and expenses. The ultimate cost to us with respect to product liability claims could be materially different than the amount of the current estimates and accruals and could have a material adverse effect on our financial position, results of operations and cash flows.

NEW ACCOUNTING PRONOUNCEMENTS

Refer to Note 1 to our Consolidated Financial Statements for further information.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK.

We sell our products globally and, as a result, our financial results could be significantly affected by factors such as weak economic conditions or changes in foreign currency exchange rates. Our operating results are primarily exposed to changes in exchange rates among the United States Dollar, European currencies, in particular the Euro, Swiss Franc and the British Pound, the Japanese Yen, the Australian Dollar and the Canadian Dollar. We develop and manufacture products in the United States, Canada, China, France, Germany, Ireland, Japan, Mexico, Puerto Rico, Sweden, Switzerland and Turkey and incur costs in the applicable local currencies. This global deployment of facilities serves to partially mitigate the impact of currency exchange rate changes on our cost of sales. Refer to Notes 1, 4 and 5 to our Consolidated Financial Statements for information regarding our use of derivative instruments to mitigate these risks. A hypothetical 10% change in foreign currencies relative to the United States Dollar would change the December 31, 2018 fair value of these instruments by approximately $334.

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ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and the Board of Directors of Stryker Corporation

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Stryker Corporation and subsidiaries (the Company) as of December 31, 2018 and 2017, the related consolidated statements of earnings and comprehensive income, shareholder's equity, and cash flows, for each of the three years in the period ended December 31, 2018, and the related notes and the financial statement schedule listed in the Index at Item 15(a) (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Company at December 31, 2018 and 2017, and the consolidated results of its operations and its cash flows for each of the three years in the period ended December 31, 2018, 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 December 31, 2018, 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 February 7, 2019 expressed an unqualified opinion thereon.

Adoption of ASU No. 2016-16

As discussed in Note 1 to the consolidated financial statements, the Company changed its method of accounting for the income tax consequences of intercompany transfers of assets other than inventory in 2018 due to the adoption of Accounting Standards Update (ASU) No. 2016-16, Income Taxes (Topic 740): Intra-Entity Transfers of Assets Other Than Inventory.

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.

/s/ ERNST & YOUNG LLP

We have served as the Company's auditor since 1974

Grand Rapids, Michigan

February 7, 2019

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Stryker Corporation and Subsidiaries
CONSOLIDATED STATEMENTS OF EARNINGS

	2018	2017	2016
Net sales	$13,601	$12,444	$11,325
Cost of sales	4,663	4,264	3,821
Gross profit	$8,938	$8,180	$7,504
Research, development and engineering expenses	862	787	715
Selling, general and administrative expenses	5,099	4,552	4,137
Recall charges, net of insurance proceeds	23	173	158
Amortization of intangible assets	417	371	319
Total operating expenses	$6,401	$5,883	$5,329
Operating income	$2,537	$2,297	$2,175
Other income (expense), net	(181)	(234)	(254)
Earnings before income taxes	$2,356	$2,063	$1,921
Income taxes	(1,197)	1,043	274
Net earnings (loss)	$3,553	$1,020	$1,647
Net earnings (loss) per share of common stock:			
Basic	$9.50	$2.73	$4.40
Diluted	$9.34	$2.68	$4.35
Weighted-average shares outstanding:			
Basic	374.1	374.0	374.1
Effect of dilutive employee stock options	6.2	6.1	4.4
Diluted	380.3	380.1	378.5

Anti-dilutive shares excluded from the calculation of dilutive employee stock options were de minimis in all periods.

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

	2018	2017	2016
Net earnings (loss)	$3,553	$1,020	$1,647
Other comprehensive income (loss), net of tax			
Marketable securities	—	(4)	—
Pension plans	(3)	(2)	(13)
Unrealized gains (losses) on designated hedges	22	4	20
Financial statement translation	(97)	210	(129)
Total other comprehensive income (loss), net of tax	$(78)	$208	$(122)
Comprehensive income	$3,475	$1,228	$1,525

See accompanying notes to Consolidated Financial Statements.

Dollar amounts in millions except per share amounts or as otherwise specified. 17

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Stryker Corporation and Subsidiaries
CONSOLIDATED BALANCE SHEETS

	2018	2017
Assets		
Current assets		
Cash and cash equivalents	$3,616	$2,542
Marketable securities	83	251
Accounts receivable, less allowance of $64 ($59 in 2017)	2,332	2,198
Inventories:		
Materials and supplies	606	528
Work in process	149	148
Finished goods	2,200	1,789
Total inventories	$2,955	$2,465
Prepaid expenses and other current assets	747	537
Total current assets	$9,733	$7,993
Property, plant and equipment:		
Land, buildings and improvements	1,041	936
Machinery and equipment	3,236	2,864
Total property, plant and equipment	4,277	3,800
Less allowance for depreciation	1,986	1,825
Property, plant and equipment, net	$2,291	$1,975
Goodwill	8,563	7,168
Other intangibles, net	4,163	3,477
Noncurrent deferred income tax assets	1,678	283
Other noncurrent assets	801	1,301
Total assets	$27,229	$22,197
Liabilities and shareholders' equity		
Current liabilities		
Accounts payable	$646	$487
Accrued compensation	917	838
Income taxes	158	143
Dividend payable	192	178
Accrued expenses and other liabilities	1,521	1,207
Current maturities of debt	1,373	632
Total current liabilities	$4,807	$3,485
Long-term debt, excluding current maturities	8,486	6,590
Income taxes	1,228	1,261
Other noncurrent liabilities	978	881
Total liabilities	$15,499	$12,217
Shareholders' equity		
Common stock, $0.10 par value	37	37
Additional paid-in capital	1,559	1,496
Retained earnings	10,765	8,986
Accumulated other comprehensive loss	(631)	(553)
Total Stryker shareholders' equity	$11,730	$9,966
Noncontrolling interest	—	14
Total shareholders' equity	$11,730	$9,980
Total liabilities & shareholders' equity	$27,229	$22,197

See accompanying notes to Consolidated Financial Statements.

STRYKER CORPORATION 2018 FORM 10-K

Stryker Corporation and Subsidiaries
CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY

	2018		2017		2016	
	Shares	Amount	Shares	Amount	Shares	Amount
Common stock						
Beginning	374.4	$37	374.6	$37	373.0	$37
Issuance of common stock under stock option and benefit plans	1.9	—	1.7	—	1.7	—
Repurchase of common stock	(1.9)	—	(1.9)	—	(0.1)	—
Ending	374.4	$37	374.4	$37	374.6	$37
Additional paid-in capital						
Beginning		$1,496		$1,432		$1,321
Issuance of common stock under stock option and benefit plans		(49)		(42)		15
Repurchase of common stock		(7)		(7)		(1)
Share-based compensation		119		113		97
Ending		$1,559		$1,496		$1,432
Retained earnings						
Beginning		$8,986		$8,842		$7,792
Cumulative effect of accounting changes		(759)		—		—
Net earnings		3,553		1,020		1,647
Repurchase of common stock		(293)		(223)		(12)
Cash dividends declared		(722)		(653)		(585)
Ending		$10,765		$8,986		$8,842
Accumulated other comprehensive (loss) income						
Beginning		$(553)		$(761)		$(639)
Other comprehensive income (loss)		(78)		208		(122)
Ending		$(631)		$(553)		$(761)
Total Stryker shareholders' equity		$11,730		$9,966		$9,550
Non-controlling interest						
Beginning		$14		$—		$—
Acquisitions		—		114		—
Interest purchased		(15)		(99)		—
Net earnings attributable to noncontrolling interest		—		—		—
Foreign currency exchange translation adjustment		1		(1)		—
Ending		$—		14		$—
Total shareholders' equity		$11,730		$9,980		$9,550

See accompanying notes to Consolidated Financial Statements.

Dollar amounts in millions except per share amounts or as otherwise specified. 19

STRYKER CORPORATION 2018 FORM 10-K

Stryker Corporation and Subsidiaries
CONSOLIDATED STATEMENTS OF CASH FLOWS

	2018	2017	2016
Operating activities			
Net earnings	$3,553	$1,020	$1,647
Adjustments to reconcile net earnings to net cash provided by operating activities:			
Depreciation	306	271	227
Amortization of intangible assets	417	371	319
Share-based compensation	119	113	97
Recall charges, net of insurance proceeds	23	173	158
Sale of inventory stepped up to fair value at acquisition	16	22	36
Deferred income tax (benefit) expense	(1,582)	36	(46)
Changes in operating assets and liabilities:			
Accounts receivable	(60)	(162)	(192)
Inventories	(385)	(320)	(299)
Accounts payable	116	21	(16)
Accrued expenses and other liabilities	289	90	241
Recall-related payments	(90)	(526)	(190)
Income taxes	(156)	704	(128)
Other, net	44	(254)	61
Net cash provided by operating activities	$2,610	$1,559	$1,915
Investing activities			
Acquisitions, net of cash acquired	(2,451)	(831)	(4,332)
Purchases of marketable securities	(226)	(270)	(151)
Proceeds from sales of marketable securities	394	87	785
Purchases of property, plant and equipment	(572)	(598)	(490)
Other investing, net	(2)	(1)	(3)
Net cash used in investing activities	$(2,857)	$(1,613)	$(4,191)
Financing activities			
Proceeds and payments on short-term borrowings, net	(1)	(200)	209
Proceeds from issuance of long-term debt	3,126	499	3,453
Payments on long-term debt	(669)	—	(750)
Dividends paid	(703)	(636)	(568)
Repurchase of common stock	(300)	(230)	(13)
Cash paid for taxes from withheld shares	(120)	(95)	(67)
Payments to purchase noncontrolling interest	(14)	(99)	—
Other financing, net	10	(33)	(6)
Net cash provided by (used in) financing activities	$1,329	$(794)	$2,258
Effect of exchange rate changes on cash and cash equivalents	(8)	74	(45)
Change in cash and cash equivalents	$1,074	$(774)	$(63)
Cash and cash equivalents at beginning of year	2,542	3,316	3,379
Cash and cash equivalents at end of year	$3,616	$2,542	$3,316
Supplemental cash flow disclosure:			
Cash paid for income taxes, net of refunds	$539	$312	$510
Cash paid for interest on debt	$248	$231	$180

See accompanying notes to Consolidated Financial Statements.

Dollar amounts in millions except per share amounts or as otherwise specified. 20

STRYKER CORPORATION 2018 FORM 10-K

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE 1 - SIGNIFICANT ACCOUNTING POLICIES

Nature of Operations: Stryker (the "Company," "we," "us," or "our") is one of the world's leading medical technology companies and, together with its customers, is driven to make healthcare better. The Company offers innovative products and services in Orthopaedics, Medical and Surgical, and Neurotechnology and Spine that improve patient and hospital outcomes. Our products include implants used in joint replacement and trauma surgeries; surgical equipment and surgical navigation systems; endoscopic and communications systems; patient handling, emergency medical equipment and intensive care disposable products; neurosurgical, neurovascular and spinal devices; as well as other products used in a variety of medical specialties.

Basis of Presentation and Consolidation: The Consolidated Financial Statements include the Company and its subsidiaries. All significant intercompany accounts and transactions are eliminated in consolidation. We have no material interests in variable interest entities and none that require consolidation. Certain prior year amounts have been reclassified to conform to the presentation of our Consolidated Financial Statements in 2018.

Use of Estimates: The preparation of financial statements in conformity with accounting principles generally accepted in the United States (GAAP) requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities on the date of the financial statements and the reported amounts of net sales and expenses in the reporting period. Actual results could differ from those estimates.

Revenue Recognition: Sales are recognized as the performance obligations to deliver products or services are satisfied and are recorded based on the amount of consideration we expect to receive in exchange for satisfying the performance obligations. Our sales continue to be recognized primarily when we transfer control to the customer, which can be on the date of shipment, the date of receipt by the customer or, for most Orthopaedics products, when we have received a purchase order and appropriate notification the product has been used or implanted. Products and services are primarily transferred to customers at a point in time, with some transfers of services taking place over time. A provision for estimated sales returns, discounts and rebates is recognized as a reduction of sales in the same period that the sales are recognized. Our estimate of the provision for sales returns has been established based on contract terms with our customers and historical business practices and current trends. Shipping and handling costs charged to customers are included in net sales.

Cost of Sales: Cost of sales is primarily comprised of direct materials and supplies consumed in the manufacture of product, as well as manufacturing labor, depreciation expense and direct overhead expense necessary to acquire and convert the purchased materials and supplies into finished product. Cost of sales also includes the cost to distribute products to customers, inbound freight costs, warehousing costs and other shipping and handling activity.

Research, Development and Engineering Expenses: Research and development costs are charged to expense as incurred. Costs include research, development and engineering activities relating to the development of new products, improvement of existing products, technical support of products and compliance with governmental regulations for the protection of customers and patients. Costs primarily consist of salaries, wages, consulting and depreciation and maintenance of research facilities and equipment.

Selling, General and Administrative Expenses: Selling, general and administrative expense is primarily comprised of selling expenses, marketing expenses, administrative and other indirect overhead costs, amortization of loaner instrumentation, depreciation and amortization expense of non-manufacturing assets and other miscellaneous operating items.

Currency Translation: Financial statements of subsidiaries outside the United States generally are measured using the local currency as the functional currency. Adjustments to translate those statements into United States Dollars are recorded in other comprehensive income (OCI). Transactional exchange gains and losses are included in earnings.

Cash Equivalents: Highly liquid investments with remaining stated maturities of three months or less when purchased are considered cash equivalents and recorded at cost.

Marketable Securities: Marketable securities consist of marketable debt securities, certificates of deposit and mutual funds. Mutual funds are acquired to offset changes in certain liabilities related to deferred compensation arrangements

and are expected to be used to settle these liabilities. Pursuant to our investment policy, all individual marketable security investments must have a minimum credit quality of single A (Standard & Poor's and Fitch) and A2 (Moody's Corporation) at the time of acquisition, while the overall portfolio of marketable securities must maintain a minimum average credit quality of double A (Standard & Poor's and Fitch) or Aa (Moody's Corporation). In the event of a rating downgrade below the minimum credit quality subsequent to purchase, the marketable security investment is evaluated to determine the appropriate action to take to minimize the overall risk to our marketable security investment portfolio. Our marketable securities are classified as available-for-sale and trading securities. Investments in trading securities represent participant-directed investments of deferred employee compensation.

Accounts Receivable: Accounts receivable consists of trade and other miscellaneous receivables. An allowance is maintained for doubtful accounts for estimated losses in the collection of accounts receivable. Estimates are made regarding the ability of customers to make required payments based on historical credit experience and expected future trends. Accounts receivable are written off when all reasonable collection efforts are exhausted.

Inventories: Inventories are stated at the lower of cost or market, with cost generally determined using the first-in, first-out (FIFO) cost method. For excess and obsolete inventory resulting from the potential inability to sell specific products at prices in excess of current carrying costs, reserves are maintained to reduce current carrying cost to market prices.

Financial Instruments: Our financial instruments consist of cash, cash equivalents, marketable securities, accounts receivable, other investments, accounts payable, debt and foreign currency exchange contracts. The carrying value of our financial instruments, with the exception of our senior unsecured notes, approximates fair value on December 31, 2018 and 2017. Refer to Notes 3 and 10 for further details.

All marketable securities are recognized at fair value. Adjustments to the fair value of marketable securities that are classified as available-for-sale are recorded as increases or decreases, net of income taxes, within accumulated other comprehensive income (AOCI) in shareholders' equity and adjustments to the fair value of marketable securities that are classified as trading are recorded in earnings. The amortized cost of marketable debt securities is adjusted for amortization of premiums and discounts to maturity computed under the effective interest method. Such amortization and interest and realized gains and losses are included in other

income (expense), net. The cost of securities sold is determined by the specific identification method.

We review declines in the fair value of our investments classified as available-for-sale to determine whether the decline in fair value is other-than-temporary. The resulting losses from other-than-temporary impairments of available-for-sale marketable securities are included in earnings.

Derivatives: All derivatives are recognized at fair value and reported on a gross basis. We enter into forward currency exchange contracts to mitigate the impact of currency fluctuations on transactions denominated in nonfunctional currencies, thereby limiting our risk that would otherwise result from changes in exchange rates. The periods of the forward currency exchange contracts correspond to the periods of the exposed transactions, with realized gains and losses included in the measurement and recording of transactions denominated in the nonfunctional currencies. All forward currency exchange contracts are recorded at their fair value each period.

Forward currency exchange contracts designated as cash flow hedges are designed to hedge the variability of cash flows associated with forecasted transactions denominated in a foreign currency that will take place in the future. These nonfunctional currency exposures principally relate to forecasted intercompany sales and purchases of manufactured products and generally have maturities up to eighteen months. Changes in value of derivatives designated as cash flow hedges are recorded in AOCI on the Consolidated Balance Sheets until earnings are affected by the variability of the underlying cash flows. At that time, the applicable amount of gain or loss from the derivative instrument that is deferred in shareholders' equity is reclassified into earnings and is included in cost of goods sold in the Consolidated Statements of Earnings. Cash flows associated with these hedges are included in cash from operations in the same category as the cash flows from the items being hedged.

Derivative forward contracts are used to offset our exposure to the change in value of specific foreign currency denominated assets and liabilities, primarily intercompany payables and receivables. These derivatives are not designated as hedges and, therefore, changes in the value of these forward contracts are recognized in earnings, thereby offsetting the current earnings effect of the related changes in value of foreign currency denominated assets and liabilities. The estimated fair value of our forward currency exchange contracts represents the measurement of the contracts at month-end spot rates as adjusted by current forward points.

From time to time, we designate derivative and non-derivative financial instruments as net investment hedges of our investments in certain international subsidiaries. For derivative instruments that are designated and qualify as a net investment hedge, the effective portion of the derivative's gain or loss is recognized in OCI and reported as a component of AOCI. We use the forward method to measure ineffectiveness. Under this method the change in the carrying value related to the effective portion of the derivative instrument due to remeasurement is reported as a component of AOCI. The remaining change in the carrying value, if any, is considered to be ineffective and recognized in other income (expense), net. The gain or loss related to settled net investment hedges will be subsequently reclassified into net earnings when the hedged net investment is either sold or substantially liquidated.

From time to time, we designate forward starting interest rate derivative instruments as cash flow hedges to manage the exposure to interest rate volatility with regard to future issuance and refinancing of debt. The effective portion of the gain or loss on a forward starting interest rate derivative instrument that is designated

and qualifies as a cash flow hedge is reported as a component of AOCI. Beginning in the period in which the debt refinancing occurs and the related derivative instruments is terminated, the effective portion of the gains or losses is then reclassified into interest expense over the term of the related debt.

Interest rate derivative instruments designated as fair value hedges have been used in the past to manage the exposure to interest rate movements and to reduce borrowing costs by converting fixed-rate debt into floating-rate debt. Under these agreements, we agree to exchange, at specified intervals, the difference between fixed and floating interest amounts calculated by reference to an agreed-upon notional principal amount. At December 31, 2018, there were no open cash flow or fair value interest rate hedges.

Property, Plant and Equipment: Property, plant and equipment is stated at cost. Depreciation is generally computed by the straight-line method over the estimated useful lives of three to 30 years for buildings and improvements and three to 10 years for machinery and equipment.

Goodwill and Other Intangible Assets: Goodwill represents the excess of purchase price over fair value of tangible net assets of acquired businesses at the acquisition date, after amounts allocated to other identifiable intangible assets. Factors that contribute to the recognition of goodwill include synergies that are specific to our business and not available to other market participants and are expected to increase net sales and profits; acquisition of a talented workforce; cost savings opportunities; the strategic benefit of expanding our presence in core and adjacent markets; and diversifying our product portfolio.

The fair values of other identifiable intangible assets are primarily determined using the income approach. Other intangible assets include, but are not limited to, developed technology, customer and distributor relationships (which reflect expected continued customer or distributor patronage) and trademarks and patents. Intangible assets with determinable useful lives are amortized on a straight-line basis over their estimated useful lives of four to 40 years. Certain acquired trade names are considered to have indefinite lives and are not amortized, but are assessed annually for potential impairment as described below.

In some of our acquisitions, we acquire in-process research and development (IPRD) intangible assets. For acquisitions accounted for as business combinations IPRD is considered to be an indefinite-lived intangible asset until the research is completed (then it becomes a determinable-lived intangible asset) or determined to have no future use (then it is impaired). For asset acquisitions IPRD is expensed immediately unless there is an alternative future use.

Goodwill, Intangibles and Long-Lived Asset Impairment Tests: We perform our annual impairment test for goodwill in the fourth quarter of each year. We consider qualitative indicators of the fair value of a reporting unit when it is unlikely that a reporting unit has impaired goodwill. In certain circumstances, we may also utilize a discounted cash flow analysis that requires certain assumptions and estimates be made regarding market conditions and our future profitability. Indefinite-lived intangible assets are also tested at least annually for impairment by comparing the individual carrying values to the fair value.

We review long-lived assets for indicators of impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. The evaluation is performed at the lowest level of identifiable cash flows. Undiscounted cash flows expected to be generated by the related assets are estimated over the asset's useful life based on updated projections. If the evaluation indicates that the carrying amount of the asset may not be recoverable, any potential impairment is measured based upon the

fair value of the related asset or asset group as determined by an appropriate market appraisal or other valuation technique. Assets classified as held for sale are recorded at the lower of carrying amount or fair value less costs to sell.

Share-Based Compensation: We use share based compensation in the form of stock options, restricted stock units (RSUs) and performance-based restricted stock units (PSUs). Stock options are granted under long-term incentive plans to certain key employees and non-employee directors at an exercise price not less than the fair market value of the underlying common stock, which is the quoted closing price of our common stock on the day prior to the date of grant. The options are granted for periods of up to 10 years and become exercisable in varying installments.

We grant RSUs to key employees and non-employee directors and PSUs to certain key employees under our long-term incentive plans. The fair value of RSUs is determined based on the number of shares granted and the quoted closing price of our common stock on the date of grant, adjusted for the fact that RSUs do not include anticipated dividends. RSUs generally vest in one-third increments over a three-year period and are settled in stock. PSUs are earned over a three-year performance cycle and vest in March of the year following the end of that performance cycle. The number of PSUs that will ultimately be earned is based on our performance relative to pre-established goals in that three-year performance cycle. The fair value of PSUs is determined based on the quoted closing price of our common stock on the day of grant.

Compensation expense is recognized in the Consolidated Statements of Earnings based on the estimated fair value of the awards on the grant date. Compensation expense recognized reflects an estimate of the number of awards expected to vest after taking into consideration an estimate of award forfeitures based on actual experience and is recognized on a straight-line basis over the requisite service period, which is generally the period required to obtain full vesting. Management expectations related to the achievement of performance goals associated with PSU grants is assessed regularly and that assessment is used to determine whether PSU grants are expected to vest. If performance-based milestones related to PSU grants are not met or not expected to be met, any compensation expense recognized associated with such grants will be reversed.

Income Taxes: Deferred income tax assets and liabilities are determined based on differences between financial reporting and income tax bases of assets and liabilities and are measured using the enacted income tax rates in effect for the years in which the differences are expected to reverse. Deferred income tax benefits generally represent the change in net deferred income tax assets and liabilities in the year. Other amounts result from adjustments related to acquisitions and foreign currency as appropriate.

We operate in multiple income tax jurisdictions both within the United States and internationally. Accordingly, management must determine the appropriate allocation of income to each of these jurisdictions based on current interpretations of complex income tax regulations. Income tax authorities in these jurisdictions regularly perform audits of our income tax filings. Income tax audits associated with the allocation of this income and other complex issues, including inventory transfer pricing and cost sharing, product royalty and foreign branch arrangements, may require an extended period of time to resolve and may result in significant income tax adjustments if changes to the income allocation are required between jurisdictions with different income tax rates.

New Accounting Pronouncements Not Yet Adopted

We evaluate all Accounting Standards Updates (ASUs) issued by

the Financial Accounting Standards Board (FASB) for consideration of their applicability. ASUs not included in our disclosures were assessed and determined to be either not applicable or are not expected to have a material impact on our Consolidated Financial Statements.

In August 2018 the FASB issued ASU 2018-15, Intangibles - Goodwill and Other - Internal Use Software - Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract, which amends the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract to align with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software. The update is effective for fiscal years beginning after December 15, 2020, including interim periods within those fiscal years. Early adoption is permitted. We are in the process of evaluating the impact on our Consolidated Financial Statements and the timing of adoption of this update.

In August 2017 the FASB issued ASU 2017-12, Derivatives and Hedging - Targeted Improvements to Accounting for Hedging Activities, which amends and simplifies hedge accounting guidance, as well as improves presentation and disclosure to align the economic effects of risk management strategies in the financial statements. The update is effective for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. Early adoption is permitted. We have performed a preliminary assessment of the impact from this update and do not expect the adoption of this standard to have a material impact on our Consolidated Financial Statements. We plan to adopt this update on January 1, 2019.

In February 2016 the FASB issued ASU 2016-02, Leases (Topic 842), which requires lease assets and liabilities to be recorded on the balance sheet for leases with terms greater than twelve months. We will adopt this ASU and related amendments on January 1, 2019 and expect to elect certain practical expedients permitted under the transition guidance. Additionally, we will elect the optional transition method that allows for a cumulative-effect adjustment in the period of adoption and will not restate prior periods. We are substantially complete in assessing the transitional impact from adopting the standard; however, we are still assessing the lessor provisions under the standard but do not expect any material adjustments to the estimated right of use asset and/or lease liability. We currently estimate the impact of the adoption will result in the recognition of right of use assets and lease liabilities of approximately $350 as of January 1, 2019. We do not believe the adoption will have a material impact on net earnings or cash flows.

Accounting Pronouncements Recently Adopted

On January 1, 2018 we adopted ASU 2014-09, Revenue from Contracts with Customers. Refer to Note 2 for further information.

On January 1, 2018 we adopted ASU 2016-16, Income Taxes - Intra-Entity Transfers of Assets Other Than Inventory, which requires companies to account for the income tax effect of intercompany sales and transfers of assets other than inventory when the transfer occurs. Under previous guidance, we deferred the income tax effects of intercompany transfers of assets until the asset had been sold to an outside party or otherwise recognized. We recorded a $695 cumulative-effect adjustment to decrease the opening balance of retained earnings as of January 1, 2018.

On January 1, 2018 we adopted ASU 2017-07, Compensation - Retirement Benefits, which revises the presentation of the elements of net pension benefit costs. We have retrospectively applied the change in presentation of the non-service cost components of net periodic pension cost by reclassifying these amounts to other income (expense), net within our Consolidated Statements of

Earnings. The adoption of this update did not have a material impact on our Consolidated Financial Statements.
On January 1, 2018 we adopted ASU 2017-09, Compensation - Stock Compensation, which revises the guidance related to changes in terms or conditions of a share-based payment award. The adoption of this update did not have a material impact on our Consolidated Financial Statements.
On January 1, 2018 we adopted ASU 2018-02, Income Statements - Reporting Comprehensive Income: Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income, which was issued in February 2018 and provides guidance allowing for the reclassification of stranded tax effects resulting from the Tax Cuts and Jobs Act of 2017 from accumulated other comprehensive income to retained earnings. The adoption of this update did not have a material impact on our Consolidated Financial Statements.
No other new accounting pronouncements were issued or became effective in the period that had, or are expected to have, a material impact on our Consolidated Financial Statements.

NOTE 2 - REVENUE RECOGNITION

On January 1, 2018 we adopted ASU 2014-09 Revenue from Contracts with Customers (ASC 606) using the modified retrospective method for contracts that were not completed as of January 1, 2018. The cumulative effect of initially applying ASC 606 was an adjustment to decrease the opening balance of retained earnings by $64 as of January 1, 2018.
With the adoption of ASC 606, we elected to apply certain permitted practical expedients. In evaluating the cumulative-effect adjustment to retained earnings, we adopted the standard only for contracts that were not complete as of the date of adoption. For contracts containing elements of variable consideration, we have elected to use the transaction price at the date the contract was deemed complete. For contracts that were modified prior to the adoption date, we have elected to present the aggregate effect of all contract modifications in determining the transaction price and for the allocation to the satisfied and unsatisfied performance obligations.
The impact of ASC 606 on our results of operations for 2018 was not material and related primarily to the reclassification of certain costs previously presented as selling, general and administrative expenses to net sales.
Sales are recognized as the performance obligations to deliver products or services are satisfied and are recorded based on the amount of consideration we expect to receive in exchange for satisfying the performance obligations. In the United States most of our products and services are marketed directly to doctors, hospitals and other healthcare facilities through company-owned subsidiaries and branches. Our products are also sold in over 80 countries through company-owned subsidiaries and branches as well as third-party dealers and distributors.
Sales represent the amount of consideration we expect to receive from customers in exchange for transferring products and services. Net sales exclude sales, value added and other taxes we collect from customers. Other costs to obtain and fulfill contracts are expensed as incurred due to the short-term nature of most of our sales. We extend terms of payment to our customers based on commercially reasonable terms for the markets of our customers, while also considering their credit quality. A provision for estimated sales returns, discounts and rebates is recognized as a reduction of sales in the same period that the sales are recognized. Our estimate of the provision for sales returns has been established based on contract terms with our customers and historical business practices. Shipping and handling costs charged to customers are included in net sales.

Our sales continue to be recognized primarily when title to the product, ownership and risk of loss transfer to the customer, which can be on the date of shipment, the date of receipt by the customer or, for most Orthopaedics products, when we have received a purchase order and appropriate notification the product has been used or implanted. Products and services are primarily transferred to customers at a point in time, with some transfers of services taking place over time. In 2018 less than 10% of our sales were recognized as services transferred over time.
We disaggregate our net sales by product line and geographic location for each of our segments as we believe it best depicts how the nature, amount, timing and certainty of our net sales and cash flows are affected by economic factors.
Segment Net Sales

Orthopaedics:	2018	2017	2016
Knees	$1,701	$1,595	$1,490
Hips	1,336	1,303	1,283

Trauma and Extremities	1,580	1,478	1,364
Other	374	337	285
	$4,991	$4,713	$4,422
MedSurg:			
Instruments	$1,822	$1,678	$1,553
Endoscopy	1,846	1,652	1,470
Medical	2,118	1,969	1,633
Sustainability	259	258	238
	$6,045	$5,557	$4,894
Neurotechnology and Spine:			
Neurotechnology	$1,737	$1,423	$1,255
Spine	828	751	754
	$2,565	$2,174	$2,009
Total	$13,601	$12,444	$11,325

United States Net Sales			
Orthopaedics:	2018	2017	2016
Knees	$1,244	$1,169	$1,087
Hips	838	820	804
Trauma and Extremities	1,001	950	856
Other	300	276	234
	$3,383	$3,215	$2,981
MedSurg:			
Instruments	$1,424	$1,304	$1,207
Endoscopy	1,432	1,290	1,130
Medical	1,630	1,525	1,296
Sustainability	257	257	236
	$4,743	$4,376	$3,869
Neurotechnology and Spine:			
Neurotechnology	$1,115	$900	$809
Spine	607	568	571
	$1,722	$1,468	$1,380
Total	$9,848	$9,059	$8,230

Dollar amounts in millions except per share amounts or as otherwise specified. 24

International Net Sales			
Orthopaedics:	2018	2017	2016
Knees	$457	$426	$403
Hips	498	483	479
Trauma and Extremities	579	528	508
Other	74	61	51
	$1,608	$1,498	$1,441
MedSurg:			
Instruments	$398	$374	$346
Endoscopy	414	362	341
Medical	488	444	337
Sustainability	2	1	1
	$1,302	$1,181	$1,025
Neurotechnology and Spine:			
Neurotechnology	$622	$523	$446
Spine	221	183	183
	$843	$706	$629
Total	$3,753	$3,385	$3,095

Orthopaedics

Orthopaedics products consist primarily of implants used in hip and knee joint replacements and trauma and extremity surgeries. Substantially all Orthopaedics sales are recognized when we have received a purchase order and appropriate notification the product has been used or implanted. For certain Orthopaedic products in the "other" category, we recognize sales at a point in time, as well as over time for performance obligations that may include an obligation to complete installation, provide training and ongoing services. These performance obligations are satisfied within one year.

MedSurg

MedSurg products include surgical equipment and surgical navigation systems (Instruments), endoscopic and communications systems (Endoscopy), patient handling, emergency medical equipment and intensive care disposable products (Medical), reprocessed and remanufactured medical devices (Sustainability) and other medical device products used in a variety of medical specialties. Substantially all MedSurg sales are recognized when a purchase order has been received and control has transferred. For certain Endoscopy, Instruments and Medical services, we may recognize sales over time as we satisfy performance obligations that may include an obligation to complete installation, provide training and perform ongoing services and are generally performed within one year.

Neurotechnology and Spine

Neurotechnology and Spine products include both neurosurgical and neurovascular devices. Our spinal implant products include cervical, thoracolumbar and interbody systems used in spinal injury, deformity and degenerative therapies. Substantially all Neurotechnology and Spine sales are recognized when a purchase order has been received and control has transferred.

Contract Assets and Liabilities

The nature of our products and services do not generally give rise to contract assets as we typically do not incur costs to fulfill a contract before a product or service is provided to a customer. Our costs to obtain contracts are typically in the form of sales commissions paid to employees of Stryker or third-party agents. We have elected to expense sales commissions associated with obtaining a contract as incurred as the amortization period is generally less than one year. These costs have been presented within selling, general and administrative expenses. On December 31, 2018 there were no contract assets recorded in our Consolidated Balance Sheets.

Our contract liabilities arise as a result of unearned revenue received from customers at inception of contracts for certain businesses or where the timing of billing for services precedes satisfaction of our performance obligations. We

generally satisfy performance obligations within one year from the contract inception date. On January 1, 2018 our contract liabilities were $381, which were reported in accrued expenses and other liabilities and other noncurrent liabilities in our Consolidated Balance Sheets, $333 of which were recognized in sales during 2018. On December 31, 2018 our contract liabilities were $327.

NOTE 3 - FAIR VALUE MEASUREMENTS

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Financial assets and liabilities carried at fair value are classified in their entirety based on the lowest level of input and disclosed in one of the following three categories:

Level 1	Quoted market prices in active markets for identical assets or liabilities.
Level 2	Observable market-based inputs or unobservable inputs that are corroborated by market data.
Level 3	Unobservable inputs reflecting our assumptions or external inputs from active markets.

Use of observable market data, when available, is required in making fair value measurements. When inputs used fall within different levels of the hierarchy, the level within which the fair value measurement is categorized is based on the lowest level input that is significant to the fair value measurement. We determine fair value for Level 1 instruments using exchange-traded prices for identical instruments. We determine fair value of Level 2 instruments using exchange-traded prices of similar instruments, where available, or utilizing other observable inputs that take into account our credit risk and that of our counterparties. Foreign currency exchange contracts and interest rate hedges are included in Level 2 and we use inputs other than quoted prices that are observable for the asset or liability. The Level 2 derivative instruments are primarily valued using standard calculations and models that use readily observable market data as their basis. Our Level 3 liabilities are comprised of contingent consideration arising from recently completed acquisitions. We determine fair value of these Level 3 liabilities using a discounted cash flow technique. Significant unobservable inputs were used in our assessment of fair value, including assumptions regarding future business results, discount rates, discount periods and probability assessments based on likelihood of reaching various targets. We remeasure the fair value of our assets and liabilities each reporting period. We record the changes in fair value within selling, general and administrative expense and the changes in the time value of money within other income (expense), net.

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Assets Measured at Fair Value

	2018	2017
Cash and cash equivalents	$3,616	$2,542
Trading marketable securities	118	121
Level 1 - Assets	$3,734	$2,663
Available-for-sale marketable securities:		
Corporate and asset-backed debt securities	$38	$125
Foreign government debt securities	—	2
United States agency debt securities	11	27
United States treasury debt securities	23	70
Certificates of deposit	11	27
Total available-for-sale marketable securities	$83	$251
Foreign currency exchange forward contracts	77	15
Interest rate swap asset	—	49
Level 2 - Assets	$160	$315
Total assets measured at fair value	$3,894	$2,978

Liabilities Measured at Fair Value

	2018	2017
Deferred compensation arrangements	$118	$121
Level 1 - Liabilities	$118	$121
Foreign currency exchange forward contracts	$20	$37
Level 2 - Liabilities	$20	$37
Contingent consideration:		
Beginning	$32	$86
Additions	77	3
Change in estimate	15	2
Settlements	(7)	(59)
Ending	$117	$32
Level 3 - Liabilities	$117	$32
Total liabilities measured at fair value	$255	$190

Fair Value of Available for Sale Securities by Maturity

	2018	2017
Due in one year or less	$ 51	$107
Due after one year through three years	$ 32	$144

On December 31, 2018 the aggregate difference between the cost and fair value of available-for-sale marketable securities was nominal. Interest receivable was $1 and $1 in 2018 and 2017 related to our marketable security portfolio. Interest and marketable securities income was $119, $60, and $29 in 2018, 2017, and 2016, which was recorded in other income (expense), net.

Our investments in available-for-sale marketable securities had a minimum credit quality rating of A2 (Moody's), A (Standard & Poor's) and A (Fitch). We do not plan to sell the investments, and it is not more likely than not that we will be required to sell the investments before recovery of their amortized cost basis, which may be maturity. We do not consider these investments to be other-than-temporarily impaired on December 31, 2018. On December 31, 2018 the majority of our investments with unrealized losses that were not deemed to be other-than-temporarily impaired were in a continuous unrealized loss position for less than twelve months, and the losses were not material.

Securities in a Continuous Unrealized Loss Position

	Number of Investments	Fair Value
Corporate and Asset-Backed	75	$ 34

Foreign government	0	—
United States Agency	8	10
United States Treasury	17	19
Certificate of Deposit	15	7
Total	115	$ 70

NOTE 4 - DERIVATIVE INSTRUMENTS

Foreign Currency Hedges

We use operational and economic hedges, foreign currency exchange forward contracts, net investment hedges (both derivative and non-derivative financial instruments) and interest rate derivative instruments to manage the impact of currency exchange and interest rate fluctuations on earnings, cash flow and equity. We do not enter into derivative instruments for speculative purposes. We are exposed to potential credit loss in the event of nonperformance by counterparties on our outstanding derivative instruments but do not anticipate nonperformance by any of our counterparties. Should a counterparty default, our maximum exposure to loss is the asset balance of the instrument.

2018	Designated	Non-Designated	Total
Gross notional amount	$ 870	$ 5,466	$6,336
Maximum term in days			586
Fair value:			
Other current assets	$ 15	$ 28	$43
Other noncurrent assets	1	33	34
Other current liabilities	(5)	(15)	(20)
Other noncurrent liabilities	—	—	—
Total fair value	$ 11	$ 46	$57
2017			
Gross notional amount	$ 1,104	$ 4,767	$5,871
Maximum term in days			548
Fair value:			
Other current assets	$ 11	$ 4	$15
Other noncurrent assets	1	—	1
Other current liabilities	(7)	(29)	(36)
Other noncurrent liabilities	(1)	—	(1)
Total fair value	$ 4	$ (25)	$(21)

In November 2018 we designated the issuance of €2,250 of senior unsecured notes as a net investment hedge to selectively hedge portions of our investment in certain international subsidiaries. The currency effects of our euro-denominated senior unsecured notes are reflected in AOCI within shareholders' equity where they offset gains and losses recorded on our net investment in international subsidiaries.

On December 31, 2018 the total after-tax loss in AOCI related to our designated net investment hedges was $19. We evaluate the effectiveness of our net investment hedges quarterly. We have not recognized any ineffectiveness in 2018.

Net Currency Exchange Rate Gains (Losses)

Recorded in:	2018	2017	2016
Cost of sales	$ 7	$(6)	$—
Other income (expense), net	(6)	(9)	(19)
Total	$ 1	$(15)	$(19)

On December 31, 2018 pretax gains recorded in AOCI on derivatives designated as hedges that are expected to be reclassified to earnings within 12 months of the balance sheet date were $13 compared with $7 on December 31, 2017. This reclassification is primarily due to the sale of inventory that includes previously hedged purchases. There was a $1 gain in 2018 due to ineffective portions of derivatives, which is included in the table above.

Interest Rate Hedges

In conjunction with our offering of senior unsecured notes in March 2018 we terminated cash flow hedges with gross notional amounts of $600 designated as hedges of our interest rates, the impact of which will be recognized over time

as a benefit within interest expense.

We also elected to terminate interest rate swaps with gross notional amounts of $500 designated as fair value hedges of underlying fixed rate obligations representing a portion of our $600 unsecured notes due in 2024. The remaining fair value is presented in long-term

debt and will be reclassified to interest expense over the term of the debt.

There was no hedge ineffectiveness recorded as a result of these fair value hedges in 2018. At December 31, 2018 there are no open cash flow or fair value interest rate hedges.

NOTE 5 - ACCUMULATED OTHER COMPREHENSIVE (LOSS) INCOME (AOCI)

	Marketable Securities	Pension Plans	Hedges	Financial Statement Translation	Total
2016	$ —	$ (132)	$ 24	$ (653)	$ (761)
OCI	(7)	(27)	(4)	163	125
Income taxes	1	19	4	47	71
Reclassifications to:					
Cost of Sales	—	8	6	—	14
Other income	2	—	—	—	2
Income taxes	—	(2)	(2)	—	(4)
Net OCI	(4)	(2)	4	210	208
2017	$ (4)	$ (134)	$ 28	$ (443)	$ (553)
OCI	2	(16)	36	(115)	(93)
Income taxes	—	1	(9)	18	10
Reclassifications to:					
Cost of Sales	—	9	(7)	—	2
Other Income	(2)	1	—	—	(1)
Income taxes	—	2	2	—	4
Net OCI	—	(3)	22	(97)	(78)
2018	$ (4)	$ (137)	$ 50	$ (540)	$ (631)

NOTE 6 - ACQUISITIONS

In 2018, 2017 and 2016 total cash paid for acquisitions net of cash acquired was $2,451, $831 and $4,332. We acquired stock in companies and various assets that continue to support our capital deployment and product development strategies.

In November 2018 we completed the acquisition of K2M Group Holdings, Inc. (K2M) for $27.50 per share, or an aggregate purchase price of approximately $1,380. K2M is a global leader of complex spine and minimally invasive solutions focused on achieving three-dimensional Total Body Balance. K2M is part of our Spine business within Neurotechnology and Spine. Goodwill attributable to the acquisition of K2M is not deductible for tax purposes.

In February 2018 we completed the acquisition of Entellus Medical, Inc. (Entellus) for $24.00 per share, or an aggregate purchase price of $697, net of cash acquired. Entellus is focused on delivering superior patient and physician experiences through products designed for the minimally invasive treatment of various ear, nose and throat (ENT) disease states. Entellus is part of our Neurotechnology business within Neurotechnology and Spine. Goodwill attributable to the acquisition of Entellus is not deductible for tax purposes.

In September 2017 we completed the acquisition of NOVADAQ Technologies Inc. (NOVADAQ) for an aggregate purchase price of $674, net of cash acquired. NOVADAQ is a leading developer of fluorescence imaging technology that provides surgeons with visualization of blood flow in vessels and related tissue perfusion in cardiac, cardiovascular, gastrointestinal, plastic, microsurgical, and reconstructive procedures. NOVADAQ is part of our Endoscopy business within the MedSurg segment. Goodwill attributable to the acquisition of NOVADAQ is not deductible for tax purposes.

Purchase Price Allocation of Acquired Net Assets

	2018		2017
	K2M	Entellus	NOVADAQ
Tangible assets acquired:			
Accounts receivable	67	17	11

Inventory	136	14	25
Other assets	118	72	7
Contingent consideration	—	(78)	—
Liabilities	(247)	(92)	(56)
Intangible assets:			
Customer relationship	34	33	18
Distributor relationship	1	—	—
Trade name	10	—	1
Developed technology and patents	473	256	141
Internally developed software	2	—	—
Goodwill	786	475	527
Purchase price, net of cash acquired	$1,380	$ 697	$ 674
Weighted average life of intangible assets	14	16	15

Purchase price allocations for K2M, Entellus and other acquisitions in 2018 and 2017 were based on preliminary valuations, primarily related to intangible assets and inventory. Our estimates and assumptions are subject to change within the measurement period. The purchase price allocation for the acquisition of NOVADAQ was finalized in 2018.

NOTE 7 - CONTINGENCIES AND COMMITMENTS

We are involved in various ongoing proceedings, legal actions and claims arising in the normal course of business, including proceedings related to product, labor, intellectual property and other matters that are more fully described below. The outcomes of these matters will generally not be known for prolonged periods of time. In certain of the legal proceedings, the claimants seek damages as well as other compensatory and equitable relief that could result in the payment of significant claims and settlements and/or the imposition of injunctions or other equitable relief. For legal matters for which management had sufficient information to reasonably estimate our future obligations, a liability representing management's best estimate of the probable loss, or the minimum of the range of probable losses when a best estimate within the range is not known, is recorded. The estimates are based on consultation with legal counsel, previous settlement experience and settlement strategies. If actual outcomes are less favorable than those estimated by management, additional expense may be incurred, which could unfavorably affect future operating results. We are self-insured for product liability claims and expenses. The ultimate cost to us with respect to product liability claims could be materially different than the amount of the current estimates and accruals and could have a material adverse effect on our financial position, results of operations and cash flows.

In 2010 we filed a lawsuit in federal court against Zimmer Biomet Holdings, Inc. (Zimmer), alleging that a Zimmer product infringed on three of our patents. In 2013 following a jury trial favorable to us, the trial judge entered a final judgment that, among other things, awarded us damages of $76 and ordered Zimmer to pay us enhanced damages. Zimmer appealed this ruling. In December 2014 the Federal Circuit affirmed the damages awarded to us, reversed the order for enhanced damages and remanded the issue of attorney fees to the trial court. In May 2015 the trial court entered a stipulated judgment that, among other things, required Zimmer to pay us the base amount of damages and interest, while the issues of enhanced damages and attorney fees continue to be pursued. In June 2015 we recorded a $54 gain, net of legal costs, which was recorded within selling, general and administrative expenses. On June 13, 2016 the United States Supreme Court vacated the decision of the Federal Circuit that reversed our judgment for

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enhanced damages and remanded the case to the Federal Circuit to reconsider the issue. On September 12, 2016 the Federal Circuit issued an opinion that, among other things, remanded the issue of enhanced damages to the trial court. On July 12, 2017 the trial court reaffirmed its award of enhanced damages and entered a judgment of $164 in our favor. Zimmer appealed, and on December 10, 2018 the Federal Circuit affirmed the decision. Zimmer filed a petition on January 23, 2019 to seek a rehearing of this ruling by the entire Federal Circuit.

Recall Matters

In June 2012 we voluntarily recalled our Rejuvenate and ABG II Modular-Neck hip stems and terminated global distribution of these hip products. Product liability lawsuits relating to this voluntary recall have been filed against us. In November 2014 we entered into a settlement agreement to compensate eligible United States patients who had revision surgery prior to November 3, 2014 and in December 2016 the settlement program was extended to patients who had revision surgery prior to December 19, 2016. We continue to offer support for recall-related care and reimburse patients who are not eligible to enroll in the settlement program for testing and treatment services, including any necessary revision surgeries. In addition, there are remaining lawsuits that we will continue to defend against.

In August 2016 and May 2018 we voluntarily recalled certain lot-specific sizes and offsets of LFIT Anatomic CoCr V40 Femoral Heads. Product liability lawsuits and claims relating to this voluntary recall have been filed against us. In November 2018 we entered into a settlement agreement to resolve a significant number of claims and lawsuits related to the recalls. The specific terms of the settlement agreement, including the financial terms, are confidential. We have incurred, and expect to incur in the future, costs associated with the settlement of these matters. Based on the information that has been received, we have estimated the remaining range of probable loss to resolve these matters globally to be approximately $255 to $400. We have recorded charges to earnings representing the minimum of the range of probable loss. The final outcomes of these matters are dependent on many factors that are difficult to predict. Accordingly, the ultimate cost to entirely resolve these matters globally may be materially different than the amount of our current estimate and accruals and could have a material adverse effect on our results of operations and cash flows.

Future Obligations

We have purchase commitments for materials, supplies, services and property, plant and equipment as part of the normal course of business. In addition, we lease various manufacturing, warehousing and distribution facilities, administrative and sales offices as well as equipment under operating leases. Rent expense totaled $138, $125, and $112 in 2018, 2017 and 2016. Refer to Note 10 for more information on the debt obligations.

Future Obligations

	2019	2020	2021	2022	2023	Thereafter
Debt repayments	$1,373	$844	$750	$ —	$630	$ 6,355
Purchase obligations	$1,306	$74	$6	$ 6	$7	$ 12
Minimum lease payments	$107	$53	$39	$ 30	$24	$ 89

NOTE 8 - GOODWILL AND OTHER INTANGIBLE ASSETS

We completed our annual impairment tests of goodwill in 2018 and 2017 and concluded in each year that no impairments exist.

Summary of Other Intangible Assets

Weighted Average Amortization Period (Years)	Gross Carrying Amount	Less Accumulated Amortization	Net Carrying Amount
Developed technologies			
2018 13	$ 3,426	$ 1,115	$ 2,311
2017 12	2,416	917	1,499
Customer relationships			
2018 15	$ 2,155	$ 703	$ 1,452
2017 15	2,088	561	1,527
Patents			

2018	12		$ 332	$ 231	$ 101
2017	10		340	227	113
Trademarks					
2018	18		$ 349	$ 108	$ 241
2017	18		352	84	268
In-process research and development					
2018	N/A		$ 6	—	$ 6
2017	N/A		25	—	25
Other					
2018	11		$ 128	$ 76	$ 52
2017	9		93	48	45
Total					
2018	14		$ 6,396	$ 2,233	$ 4,163
2017	14		$ 5,314	$ 1,837	$ 3,477

Changes in the Net Carrying Value of Goodwill by Segment

	Orthopaedics	MedSurg	Neurotechnology and Spine	Total
2016	$ 2,372	$ 2,934	$ 1,050	$ 6,356
Additions and adjustments	2	553	109	664
Foreign exchange	52	22	74	148
2017	$ 2,426	$ 3,509	$ 1,233	$ 7,168
Additions and adjustments	4	100	1,366	1,470
Foreign exchange	(31)	(28)	(16)	(75)
2018	$ 2,399	$ 3,581	$ 2,583	$ 8,563

Estimated Amortization Expense

2019	2020	2021	2022	2023
$438	$413	$400	$392	$372

NOTE 9 - CAPITAL STOCK

The aggregate number of shares of all classes of stock with which we are authorized to issue is up to 1,000,500,000, divided into two classes consisting of 500,000 shares of $1 par value preferred stock and 1,000,000,000 shares of common stock with a par value of $0.10. No shares of preferred stock were outstanding on December 31, 2018.

In 2018 we repurchased 1.9 million shares at a cost of $300. The manner, timing and amount of repurchases are determined by management based on an evaluation of market conditions, stock price and other factors and are subject to regulatory considerations. Purchases are made from time-to-time in the open market, in privately negotiated transactions or otherwise. On December 31, 2018 the total dollar value of shares that could be purchased under our authorized repurchase program was $1,340.

Shares reserved for future compensation grants of our common stock were 33 million and 37 million on December 31, 2018 and 2017.

Stock Options

We measure the cost of employee stock options based on the grant-date fair value and recognize that cost using the straight-line method over the period in which a recipient is required to provide services in exchange for the options, typically the vesting period. The

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weighted-average fair value per share of options is estimated on the date of grant using the Black-Scholes option pricing model.

Option Value and Assumptions

	2018	2017	2016
Weighted-average fair value per share	$28.52	$22.43	$17.73
Assumptions:			
Risk-free interest rate	2.7 %	2.0 %	1.3 %
Expected dividend yield	1.2 %	1.5 %	1.6 %
Expected stock price volatility	16.8 %	19.4 %	20.5 %
Expected option life (years)	6.0	6.0	6.1

The risk-free interest rate for periods within the expected life of options granted is based on the United States Treasury yield curve in effect at the time of grant. Expected stock price volatility is based on the historical volatility of our stock. The expected option life, representing the period of time that options granted are expected to be outstanding, is based on historical option exercise and employee termination data.

2018 Stock Option Activity

	Shares (in millions)	Weighted Average Exercise Price	Weighted-Average Remaining Term (in years)	Aggregate Intrinsic Value
Outstanding January 1	14.7	$ 83.71		
Granted	2.4	154.50		
Exercised	(2.5)	66.98		
Canceled	(0.5)	114.98		
Outstanding December 31	14.1	$ 97.69	6.1	$ 834.5
Exercisable December 31	7.3	$ 74.10	4.4	$ 598.4
Options expected to vest	6.2	$ 121.48	7.8	$ 220.7

The aggregate intrinsic value of options, which represents the cumulative difference between the fair market value of the underlying common stock and the option exercise prices, exercised was $247, $184, and $128 in 2018, 2017 and 2016. Exercise prices for options outstanding ranged from $38.88 to $169.42 on December 31, 2018. On December 31, 2018 there was $99 of unrecognized compensation cost related to nonvested stock options granted under the long-term incentive plans; that cost is expected to be recognized over the weighted-average period of approximately 1.5 years.

Restricted Stock Units (RSUs) and Performance Stock Units (PSUs) Activity

	Shares (in millions)		Weighted Average Grant Date Fair Value	
	RSUs	PSUs	RSUs	PSUs
Nonvested on January 1	1.0	0.3	$104.85	$104.51
Granted	0.5	0.1	150.23	153.67
Vested	(0.5)	(0.1)	100.32	92.96
Canceled or forfeited	(0.1)	—	117.86	—
Nonvested on December 31	0.9	0.3	$129.90	$122.39

On December 31, 2018 there was $63 of unrecognized compensation cost related to nonvested RSUs. That cost is expected to be recognized as expense over the weighted-average period of approximately one year. The weighted-average grant date fair value per share of RSUs granted was $150.23 and $117.44 in 2018 and 2017. The fair value of RSUs and PSUs vested in 2018 was $47 and $8. On December 31, 2018 there was $15 of unrecognized compensation cost related to nonvested PSUs; the cost is expected to be recognized as expense over the

weighted-average period of approximately one year.

Employee Stock Purchase Plans (ESPP)

Full- and part-time employees may participate in our ESPP provided they meet certain eligibility requirements. The purchase price for our common stock under the terms of the ESPP is defined as 95% of the closing stock price on the last trading day of a purchase period. We issued 168,626 and 163,415 shares under the ESPP in 2018 and 2017.

NOTE 10 - DEBT AND CREDIT FACILITIES

In March 2018 we issued $600 of senior unsecured notes with a fixed interest rate of 3.650% due on March 7, 2028. Our annual interest expense arising from the issuance of the notes will be reduced by the benefit from the cash flow hedges that were terminated in conjunction with the issuance. Refer to Note 4 for further information. In April 2018 we repaid $600 of our senior unsecured notes with a coupon of 1.300%. In November 2018 we issued €300 of senior unsecured notes with a floating interest rate (Three Month EURIBOR plus 28 bps) due on November 30, 2020, €550 of senior unsecured notes with a fixed interest rate of 1.125% due on November 30, 2023, €750 of senior unsecured notes with a fixed interest rate of 2.125% due on November 30, 2027 and €650 of senior unsecured notes with a fixed interest rate of 2.625% due on November 30, 2030. In January 2019 we repaid $500 of our senior unsecured notes with a coupon of 1.800% that were due on January 15, 2019.

Our commercial paper program allows us to have a maximum of $1,500 in commercial paper outstanding with maturities up to 397 days from the date of issuance. On December 31, 2018 there were no amounts outstanding under our commercial paper program.

We have lines of credit issued by various financial institutions that are available to fund our day-to-day operating needs. Certain of our credit facilities require us to comply with financial and other covenants. We were in compliance with all covenants on December 31, 2018.

Summary of Total Debt

		2018	2017
Senior unsecured notes:			
Rate	Due		
1.300%	April 1, 2018	$—	$600
1.800%	January 15, 2019	500	499
2.000%	March 8, 2019	750	748
4.375%	January 15, 2020	499	498
Variable	November 30, 2020	343	—
2.625%	March 15, 2021	747	746
1.125%	November 30, 2023	627	—
3.375%	May 15, 2024	584	598
3.375%	November 1, 2025	746	745
3.500%	March 15, 2026	990	988
2.125%	November 30, 2027	853	—
3.650%	March 7, 2028	595	—
2.625%	November 30, 2030	733	—

4.100%	April 1, 2043	391	391
4.375%	May 15, 2044	395	394
4.625%	March 15, 2046	980	980
Commercial paper		—	—
Other		126	35
Total debt		$9,859	$7,222
Less current maturities		1,373	632
Total long-term debt		$8,486	$6,590

Unamortized debt issuance costs	$50	$39
Borrowing capacity on existing facilities	$1,548	$1,547
Fair value of senior unsecured notes	$9,746	$7,521

Dollar amounts in millions except per share amounts or as otherwise specified. 29

The fair value of the senior unsecured notes was estimated using quoted interest rates, maturities and amounts of borrowings based on quoted active market prices and yields that took into account the underlying terms of the debt instruments. Substantially all of our debt is classified within Level 2 of the fair value hierarchy.

Interest expense, including required fees incurred on outstanding debt and credit facilities that were included in other expense, totaled $264, $247, and $228 in 2018, 2017 and 2016.

NOTE 11 - INCOME TAXES

Our effective tax rate was (50.8)%, 50.6% and 14.3% for 2018, 2017 and 2016. The effective income tax rate for 2018 reflects the tax effect related to the transfer of intellectual properties between tax jurisdictions, the continuing impact of complying with the Tax Cuts and Jobs Act of 2017 (the Tax Act), and continued lower effective income tax rates as a result of our European operations. The effective income tax rate for 2017 reflects compliance with the Tax Act offset by lower effective income tax rates as a result of our European operations. The effective income tax rate for 2016 reflects lower effective income tax rates as a result of our European operations.

Effective Income Tax Rate Reconciliation

	2018	2017	2016
United States federal statutory rate	21.0 %	35.0 %	35.0 %
United States state and local income taxes, less federal deduction	0.4	1.2	1.7
Foreign income tax at rates other than 21%	(6.5)	(21.0)	(22.2)
Tax Cuts and Jobs Act of 2017 transition tax	2.2	38.0	—
Tax Cuts and Jobs Act of 2017 deferred tax changes	(0.6)	2.3	—
Tax related to repatriation of foreign earnings	0.5	—	(0.3)
Intellectual property transfer	(63.8)	—	—
Other	(4.0)	(4.9)	0.1
Effective income tax rate	(50.8)%	50.6 %	14.3 %

In December 2017 the Tax Act was signed into law in the United States. The law includes significant changes to the United States corporate income tax system, including a federal corporate rate reduction, limitations on the deductibility of certain expenses, and the transition of United States international taxation from a worldwide tax system to a territorial tax system. As part of the transition to a territorial tax system, the Tax Act requires taxpayers to calculate a one-time transition tax based on undistributed earnings of foreign subsidiaries. In 2017 and 2018 we recorded provisional amounts for certain enactment-date effects of the Tax Act by applying guidance in SAB 118 because we had not yet completed the enactment-date accounting for these effects.

We applied the guidance of SAB 118 when accounting for the enactment date effects of the Tax Act in 2017 and throughout 2018. As of December 31, 2017 we had not completed our accounting for all of the enactment-date income tax effects of the Tax Act for the following aspects: remeasurement of deferred tax assets and liabilities, transition tax, and tax on global intangible low-taxed income (GILTI).

Upon further analysis of the Tax Act and notices and regulations issued and proposed by the United States Department of Treasury and the Internal Revenue Service, we finalized our calculations and completed our accounting for the enactment-date income tax effects of the Tax Act in December 2018. We elected to pay our transition tax over the eight-year period provided by the Tax Act and adjusted our December 2017 provisional estimate. We adjusted our December 2017 transition tax provision by $51 which increased our effective income tax rate by 2.2%. We also adjusted our December 2017 provisional estimate for remeasuring our deferred tax assets

and liabilities by $13. The deferred tax assets and liabilities adjustment decreased our effective income tax rate by 0.6%.

The Tax Act subjects a United States shareholder to tax on GILTI earned by certain foreign subsidiaries. The FASB Staff Q&A, Topic 740, No. 5 states that an entity can make an accounting policy election to either recognize deferred taxes related to GILTI or to provide for the tax expense related to GILTI in the year the tax is incurred as a period expense only. We have elected to account for GILTI tax in the year the tax is incurred.

Earnings Before Income Taxes

2018 2017 2016

United States	$509	$499	$542
International	1,847	1,564	1,379
Total	$2,356	$2,063	$1,921

Components of Income Tax Expense (Benefit)

Current income tax expense:	2018	2017	2016
United States federal	$178	$836	$94
United States state and local	30	38	50
International	177	133	176
Total current income tax expense	$385	$1,007	$320
Deferred income tax (benefit) expense:			
United States federal	$(44)	$84	$(17)
United States state and local	(20)	(9)	(12)
International	(1,518)	(39)	(17)
Total deferred income tax (benefit) expense	$(1,582)	$36	$(46)
Total income tax (benefit) expense	$(1,197)	$1,043	$274

Interest and penalties included in other income (expense), net were expense of ($9), ($28) and ($1) in 2018, 2017 and 2016. The United States federal deferred income tax benefit (expense) includes the utilization of net operating loss carryforwards of $31, $32 and $28 in 2018, 2017 and 2016.

Deferred Income Tax Assets and Liabilities

Deferred income tax assets:	2018	2017
Inventories	$390	$480
Product-related liabilities	60	34
Other accrued expenses	222	204
Depreciation and amortization	1,504	—
State income taxes	70	46
Share-based compensation	47	46
Net operating loss carryforwards	134	52
Other	177	105
Total deferred income tax assets	$2,604	$967
Less valuation allowances	(66)	(49)
Net deferred income tax assets	$2,538	$918
Deferred income tax liabilities:		
Depreciation and amortization	$(865)	$(598)
Undistributed earnings	(46)	(81)
Other	(3)	(3)
Total deferred income tax liabilities	$(914)	$(682)
Net deferred income tax assets	$1,624	$236
Reported as:		
Noncurrent deferred income tax assets	$1,678	$283
Noncurrent liabilities—Other liabilities	(54)	(47)
Total	$1,624	$236

Accrued interest and penalties were $85 and $60 on December 31, 2018 and 2017 which were reported in current and non-current accrued expenses and other liabilities.

Net operating loss carryforwards totaling $606 on December 31, 2018 are available to reduce future taxable earnings of certain domestic and foreign subsidiaries. United States loss carryforwards of $489 expire through 2028. International loss carryforwards of $117 began to expire in 2018; however, some have no expiration. Of these carryforwards, $56 are subject to a full valuation allowance.

Dollar amounts in millions except per share amounts or as otherwise specified. 30

We also have a tax credit carryforward of $55 with $52 being subject to a full valuation allowance. The credits with a full valuation allowance have no expiration; however, we do not anticipate generating income tax in excess of the credits in the foreseeable future.

We recorded a transition tax on undistributed foreign earnings as required by the Tax Act. No other provision was made for income taxes that may result from future remittances of the undistributed earnings of foreign subsidiaries that are determined to be indefinitely reinvested. Determination of the total amount of unrecognized deferred income tax on undistributed earnings of foreign subsidiaries is not practicable.

Uncertain Income Tax Positions

	2018	2017
Beginning uncertain tax positions	$540	$287
Increases related to current year income tax positions	22	123
Increases related to prior year income tax positions	25	131
Decreases related to prior year income tax positions:		
Settlements and resolutions of income tax audits	(37)	(9)
Statute of limitations expirations	(14)	(4)
Foreign currency translation	(8)	12
Ending uncertain tax positions	$528	$540
Reported as:		
Noncurrent liabilities—Income taxes	528	540
Total	$528	$540

Our income tax expense would have been reduced by $521 and $232 on December 31, 2018 and 2017 had these uncertain income tax positions been favorably resolved. It is reasonably possible that the amount of unrecognized tax benefits will significantly change due to one or more of the following events in the next 12 months: expiring statutes, audit activity, tax payments, competent authority proceedings related to transfer pricing or final decisions in matters that are the subject of controversy in various taxing jurisdictions in which we operate, including inventory transfer pricing, cost sharing, product royalty and foreign branch arrangements. We are not able to reasonably estimate the amount or the future periods in which changes in unrecognized tax benefits may be resolved. Interest and penalties incurred associated with uncertain tax positions are included in other income (expense), net.

In the normal course of business, income tax authorities in various income tax jurisdictions both within the United States and internationally conduct routine audits of our income tax returns filed in prior years. These audits are generally designed to determine if individual income tax authorities are in agreement with our interpretations of complex income tax regulations regarding the allocation of income to the various income tax jurisdictions. Income tax years are open from 2012 through the current year for the United States federal jurisdiction. Income tax years open for our other major jurisdictions range from 2005 through the current year.

NOTE 12 - RETIREMENT PLANS

Defined Contribution Plans

We provide certain employees with defined contribution plans and other types of retirement plans. A portion of our retirement plan expense under the defined contribution plans is funded with Stryker common stock. The use of Stryker common stock represents a non-cash operating activity that is not reflected in our Consolidated Statements of Cash Flows.

	2018	2017	2016
Plan expense	$180	$181	$166
Expense funded with Stryker common stock	29	25	22
Stryker common stock held by plan:			
Dollar amount	358	353	272
Shares (in millions)	2.3	2.3	2.3
Value as a percentage of total plan assets	12 %	11 %	11 %

Defined Benefit Plans

Certain of our subsidiaries have both funded and unfunded defined benefit pension plans covering some or all of their employees. Substantially all of the defined benefit pension plans have projected benefit obligations in excess of plan assets.

Discount Rate

The discount rates were selected using a hypothetical portfolio of high quality bonds on December 31 that would provide the necessary cash flows to match our projected benefit payments. Effective January 1, 2017, in countries where it was possible, we elected to change the method to calculate the service cost and interest cost components of net periodic benefit costs for our defined benefit plans and will measure these costs by applying the specific spot rates along the yield curve of the projected cash flows for the respective plans. Our defined benefit plans previously utilized the yield curve approach to establish discount rates and we believe the new approach provides a more precise measurement of service and interest costs by improving the correlation between projected cash flows and the corresponding spot yield curve rates. The change does not affect the measurement of our total benefit obligations for those plans and is accounted for as a change in accounting estimate inseparable from a change in accounting principle, which is applied prospectively. The reductions in service and interest costs for 2017 associated with this change in estimate are nominal.

Expected Return on Plan Assets

The expected return on plan assets is determined by applying the target allocation in each asset category of plan investments to the anticipated return for each asset category based on historical and projected returns.

Components of Net Periodic Pension Cost

Net periodic benefit cost:	2018	2017	2016
Service cost	$(44)	$(42)	$(33)
Interest cost	(11)	(10)	(11)
Expected return on plan assets	12	11	10
Amortization of prior service credit	1	1	1
Recognized actuarial loss	(11)	(9)	(9)
Net periodic benefit cost	$(53)	$(49)	$(42)
Changes in assets and benefit obligations recognized in OCI:			
Net actuarial gain (loss)	$11	$(25)	$(26)
Recognized net actuarial loss	10	9	9
Prior service (credit) cost and transition amount	(1)	(1)	(1)
Total recognized in other comprehensive income (loss)	$20	$(17)	$(18)
Total recognized in net periodic benefit cost and OCI	$(33)	$(66)	$(60