BRISTOL MYERS SQUIBB CO
Form 10-K
February 25, 2019

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

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FORM 10-K

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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
For the transition period from _____ to _____
Commission File Number 1-1136

_____

BRISTOL-MYERS SQUIBB COMPANY
(Exact name of registrant as specified in its charter)

_____

Delaware	22-0790350
(State or other jurisdiction of incorporation or organization)	(I.R.S Employer Identification No.)

430 E. 29th Street, 14FL, New York, N.Y. 10016
(Address of principal executive offices)
(212) 546-4000
(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, $0.10 Par Value	New York Stock Exchange
1.000% Notes due 2025	New York Stock Exchange
1.750% Notes due 2035	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act:
Title of each class
$2 Convertible Preferred Stock, $1 Par Value

_____

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes x No ¨
Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ¨ No x
Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (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 the 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 the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer x	Accelerated filer ¨	Non-accelerated filer ¨	Smaller reporting company ¨	Emerging growth company ¨

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

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

The aggregate market value of the 1,630,394,628 shares of voting common equity held by non-affiliates of the registrant, computed by reference to the closing price as reported on the New York Stock Exchange, as of the last business day of the registrant's most recently completed second fiscal quarter (June 30, 2018) was approximately $90,226,038,714. Bristol-Myers Squibb has no non-voting common equity. At February 1, 2019, there were 1,632,675,877 shares of common stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE: Portions of the definitive proxy statement for the registrant's Annual Meeting of Shareholders to be filed within 120 days after the conclusion of the registrant's fiscal year ended December 31, 2018 with the U.S. Securities and Exchange Commission pursuant to Regulation 14A of the Securities Exchange Act of 1934, as amended, are incorporated by reference into Part III of this Annual Report on Form 10-K to the extent described therein.

BRISTOL-MYERS SQUIBB COMPANY
INDEX TO FORM 10-K
DECEMBER 31, 2018

PART I			
	Item 1.	Business	1
		Acquisitions and Divestitures	1
		Products, Intellectual Property and Product Exclusivity	2
		Research and Development	6
		Alliances	9
		Marketing, Distribution and Customers	9
		Competition	10
		Pricing, Price Constraints and Market Access	11
		Government Regulation	12
		Sources and Availability of Raw Materials	13
		Manufacturing and Quality Assurance	14
		Environmental Regulation	14
		Employees	15
		Foreign Operations	15
		Bristol-Myers Squibb Website	15
	Item 1A.	Risk Factors	16
	Item 1B.	Unresolved Staff Comments	24
	Item 2.	Properties	24
	Item 3.	Legal Proceedings	24
	Item 4.	Mine Safety Disclosures	24
PART IA		Executive Officers of the Registrant	25
PART II			
	Item 5.	Market for the Registrant's Common Stock and Other Stockholder Matters	26
	Item 6.	Selected Financial Data	28
	Item 7.	Management's Discussion and Analysis of Financial Condition and Results of Operations	29
	Item 7A.	Quantitative and Qualitative Disclosures About Market Risk	54
	Item 8.	Financial Statements and Supplementary Data	55
		Consolidated Statements of Earnings and Comprehensive Income	55
		Consolidated Balance Sheets	56
		Consolidated Statements of Cash Flows	57
		Notes to the Financial Statements	58
	Item 9.	Changes in and Disagreements with Accountants on Accounting and Financial Disclosure	103
	Item 9A.	Controls and Procedures	103
	Item 9B.	Other Information	103
PART III			
	Item 10.	Directors and Executive Officers of the Registrant	105
	Item 11.	Executive Compensation	105
	Item 12.	Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters	105
	Item 13.	Certain Relationships and Related Transactions	105
	Item 14.	Auditor Fees	105

PART IV

Item 15. Exhibits and Financial Statement Schedule 106

Item 16. Form 10-K Summary 106

SIGNATURES 107

SUMMARY OF ABBREVIATED TERMS 108

EXHIBIT INDEX 109

* Indicates brand names of products which are trademarks not owned by BMS. Specific trademark ownership information is included in the Exhibit Index at the end of this 2018 Form 10-K.

PART I
Item 1. BUSINESS.

General

Bristol-Myers Squibb Company was incorporated under the laws of the State of Delaware in August 1933 under the name Bristol-Myers Company, as successor to a New York business started in 1887. In 1989, Bristol-Myers Company changed its name to Bristol-Myers Squibb Company as a result of a merger. We are engaged in the discovery, development, licensing, manufacturing, marketing, distribution and sale of biopharmaceutical products on a global basis. Refer to the Summary of Abbreviated Terms at the end of this 2018 Form 10-K for terms used throughout the document.

We operate in one segment—BioPharmaceuticals. For additional information about business segments, refer to “Item 8. Financial Statements and Supplementary Data—Note 1. Accounting Policies and Recently Issued Accounting Standards.” Our principal strategy is to combine the resources, scale and capability of a pharmaceutical company with the speed and focus on innovation of the biotech industry. Our focus as a specialty biopharmaceutical company is on discovering, developing and delivering transformational medicines for patients facing serious diseases. Our four strategic priorities are to drive business performance, continue to further build a leading franchise in IO, maintain a diversified portfolio both within and outside of IO, and continue our disciplined approach to capital allocation, including establishing partnerships, collaborations and in-licensing or acquiring investigational compounds as an essential component of successfully delivering transformational medicines to patients. We expect that our planned acquisition of Celgene that we announced in January 2019 will enable us to create a leading focused specialty biopharmaceutical company that is well positioned to address the needs of patients with cancer, inflammatory, immunologic or cardiovascular diseases through high-value innovative medicines and leading scientific capabilities. We plan to remain focused while broadening our portfolio of marketed medicines and pipeline assets. With complementary disease areas, the combined company will operate with global reach and scale, the speed and agility that is core to each company's strategic approach. For a further discussion of our strategy initiatives, see “Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations—Strategy.”

We compete with other worldwide research-based drug companies, smaller research companies and generic drug manufacturers. Our products are sold worldwide, primarily to wholesalers, retail pharmacies, hospitals, government entities and the medical profession. We manufacture products in the U.S., Puerto Rico and in four foreign countries. Most of our revenues come from products in the following therapeutic classes: oncology; cardiovascular and immunoscience.

The percentage of revenues by significant region/country were as follows:

	Year Ended December 31,					
Dollars in Millions	2018		2017		2016	
United States	56	%	55	%	55	%
Europe	25	%	24	%	22	%
Rest of the World	19	%	21	%	23	%
Total Revenues	$22,561		$20,776		$19,427	

Acquisitions, Divestitures and Licensing Arrangements

Acquisitions, divestitures and licensing arrangements allow us to focus our resources behind growth opportunities which drive the greatest long-term value. On January 3, 2019, we announced that we have entered into a definitive merger agreement with Celgene under which we will acquire Celgene. For further discussion on our pending

acquisition with Celgene and on our other acquisitions, divestitures and licensing arrangements, refer to “Item 1A. Risk Factors,” “Item 8. Financial Statements and Supplementary Data—Note 4. Acquisitions, Divestitures, Licensing and Other Arrangements” and “—Note 19. Subsequent Event.”

Products, Intellectual Property and Product Exclusivity

Our pharmaceutical products include chemically-synthesized or small molecule drugs and products produced from biological processes, called "biologics." Small molecule drugs are typically administered orally, e.g., in the form of a pill or tablet, although other drug delivery mechanisms are used as well. Biologics are typically administered to patients through injections or by intravenous infusion.

Below is a product summary including approved indications. For information about our alliance arrangements for the products below, refer to "—Alliances" below and "Item 8. Financial Statements and Supplementary Data—Note 3. Alliances."

Opdivo	Opdivo (nivolumab), a biological product, is a fully human monoclonal antibody that binds to the PD-1 on T and NKT cells. Opdivo has received approvals for several anti-cancer indications including bladder, blood, colon, head and neck, kidney, liver, lung, melanoma and stomach. The Opdivo+Yervoy regimen also is approved in multiple markets for the treatment of melanoma, RCC, and CRC. There are several ongoing potentially registrational studies for Opdivo across other tumor types and disease areas, in monotherapy and in combination with Yervoy and various anti-cancer agents.
Eliquis	Eliquis (apixaban) is an oral Factor Xa inhibitor, targeted at stroke prevention in adult patients with NVAF and the prevention and treatment of VTE disorders.
Orencia	Orencia (abatacept), a biological product, is a fusion protein indicated for adult patients with moderately to severely active RA and PSA and is also indicated for reducing signs and symptoms in certain pediatric patients with moderately to severely active polyarticular JIA.
Sprycel	Sprycel (dasatinib) is an oral inhibitor of multiple tyrosine kinase indicated for the first-line treatment of patients with Philadelphia chromosome-positive CML in chronic phase, the treatment of adults with chronic, accelerated, or myeloid or lymphoid blast phase CML with resistance or intolerance to prior therapy, including Gleevec* (imatinib mesylate) and the treatment of children and adolescents aged 1 year to 18 years with chronic phase Philadelphia chromosome-positive CML.
Yervoy	Yervoy (ipilimumab), a biological product, is a monoclonal antibody for the treatment of patients with unresectable or metastatic melanoma.
Empliciti	Empliciti (elotuzumab), a biological product, is a humanized monoclonal antibody for the treatment of multiple myeloma.
Baraclude	Baraclude (entecavir) is an oral antiviral agent for the treatment of chronic hepatitis B.
Reyataz Franchise	The Reyataz (atazanavir sulfate) Franchise includes Reyataz - a protease inhibitor for the treatment of HIV and Evotaz (atazanavir 300 mg and cobicistat 150 mg) - a combination therapy containing Reyataz and Tybost* (cobicistat).
Sustiva Franchise	The Sustiva (efavirenz) Franchise is a non-nucleoside reverse transcriptase inhibitor for the treatment of HIV, which includes Sustiva, an antiretroviral drug, and bulk efavirenz, which is also included in the combination therapy, Atripla*.
Hepatitis C Franchise	Daklinza (daclatasvir) is an NS5A replication complex inhibitor. Sunvepra (asunaprevir) is an NS3 protease inhibitor. Beclabuvir is an NS5B inhibitor.

We own or license a number of patents in the U.S. and foreign countries primarily covering our products. We have also developed many brand names and trademarks for our products. We consider the overall protection of our patents, trademarks, licenses and other intellectual property rights to be of material value and act to protect these rights from infringement.

In the pharmaceutical industry, the majority of an innovative product's commercial value is usually realized during the period in which the product has market exclusivity. A product's market exclusivity is generally determined by two forms of intellectual property: patent rights held by the innovator company and any regulatory forms of exclusivity to

which the innovative drug is entitled.

Patents are a key determinant of market exclusivity for most branded pharmaceuticals. Patents provide the innovator with the right to exclude others from practicing an invention related to the medicine. Patents may cover, among other things, the active ingredient(s), various uses of a drug product, pharmaceutical formulations, drug delivery mechanisms and processes for (or intermediates useful in) the manufacture of products. Protection for individual products extends for varying periods in accordance with the expiration dates of patents in the various countries. The protection afforded, which may also vary from country to country, depends upon the type of patent, its scope of coverage and the availability of meaningful legal remedies in the country.

Market exclusivity is also sometimes influenced by RDP exclusivity rights. Many developed countries provide certain non-patent incentives for the development of medicines. For example, in the U.S., EU, Japan and certain other countries, RDP exclusivity rights are offered as incentives for research on medicines for rare diseases, or orphan drugs, and on medicines useful in treating pediatric patients. These incentives can provide a market exclusivity period on a product that expires beyond the patent term.

The U.S., EU and Japan each provide RDP, a period of time after the approval of a new drug during which the regulatory agency may not rely upon the innovator's data to approve a competitor's generic copy. In certain markets where patent protection and other forms of market exclusivity may have expired, RDP can be of particular importance. However, most regulatory forms of exclusivity do not prevent a competitor from gaining regulatory approval prior to the expiration of RDP exclusivity on the basis of the competitor's own safety and efficacy data on its drug, even when that drug is identical to that marketed by the innovator. When these patent rights and other forms of exclusivity expire and generic versions of a medicine are approved and marketed, there are often substantial and rapid declines in the sales of the original innovative product. For further discussion of the impact of generic competition on our business, refer to "—Competition" below.

Specific aspects of the law governing market exclusivity and data regulatory protection for pharmaceuticals vary from country to country. The following summarizes key exclusivity rules in markets representing significant sales:

United States

In the U.S., most of our key products are protected by patents with varying terms depending on the type of patent and the filing date. A significant portion of a product's patent life, however, is lost during the time it takes an innovative company to develop and obtain regulatory approval of a new drug. As compensation at least in part for the lost patent term due to regulatory review periods, the innovator may, depending on a number of factors, apply to the government to restore lost patent term by extending the expiration date of one patent up to a maximum term of five years, provided that the extension cannot cause the patent to be in effect for more than 14 years from the date of drug approval.

A company seeking to market an innovative pharmaceutical in the U.S. must submit a complete set of safety and efficacy data to the FDA. If the innovative pharmaceutical is a chemical product, the company files an NDA. If the medicine is a biological product, a BLA is filed. The type of application filed affects RDP exclusivity rights.

Chemical products

A competitor seeking to launch a generic substitute of a chemical innovative drug in the U.S. must file an aNDA with the FDA. In the aNDA, the generic manufacturer needs to demonstrate only "bioequivalence" between the generic substitute and the approved NDA drug. The aNDA relies upon the safety and efficacy data previously filed by the innovator in its NDA.

An innovator company is required to list certain of its patents covering the medicine with the FDA in what is commonly known as the Orange Book. Absent a successful patent challenge, the FDA cannot approve an aNDA until after the innovator's listed patents expire. However, after the innovator has marketed its product for four years, a generic manufacturer may file an aNDA and allege that one or more of the patents listed in the Orange Book under an innovator's NDA is either invalid or not infringed. This allegation is commonly known as a Paragraph IV certification. The innovator then must decide whether to file a patent infringement suit against the generic manufacturer. From time to time, aNDAs, including Paragraph IV certifications, are filed with respect to certain of our products. We evaluate these aNDAs on a case-by-case basis and, where warranted, file suit against the generic manufacturer to protect our patent rights.

In addition to patent protection, certain innovative pharmaceutical products can receive periods of regulatory exclusivity. An NDA that is designated as an orphan drug can receive seven years of exclusivity for the orphan indication. During this time period, neither NDAs nor aNDAs for the same drug product can be approved for the same orphan use. A company may also earn six months of additional exclusivity for a drug where specific clinical studies are conducted at the written request of the FDA to study the use of the medicine to treat pediatric patients, and submission to the FDA is made prior to the loss of basic exclusivity.

Medicines approved under an NDA can also receive several types of RDP. An innovative chemical pharmaceutical product is entitled to five years of RDP in the U.S., during which the FDA cannot approve generic substitutes. If an innovator's patent is challenged, as described above, a generic manufacturer may file its aNDA after the fourth year of the five-year RDP period. A pharmaceutical drug product that contains an active ingredient that has been previously approved in an NDA, but is approved in a new formulation, but not for the drug itself, or for a new indication on the basis of new clinical studies, may receive three years of RDP for that formulation or indication.

Biologic products

The U.S. healthcare legislation enacted in 2010 created an approval pathway for biosimilar versions of innovative biological products that did not previously exist. Prior to that time, innovative biologics had essentially unlimited regulatory exclusivity. Under the new regulatory mechanism, the FDA can approve products that are similar to (but not generic copies of) innovative biologics on the basis of less extensive data than is required by a full BLA. After an innovator has marketed its product for four years, any manufacturer may file an application for approval of a "biosimilar" version of the innovator product. However, although an application for approval of a biosimilar version may be filed four years after approval of the innovator product, qualified innovative biological products will receive 12 years of regulatory exclusivity, meaning that the FDA may not approve a biosimilar version until 12 years after the innovative biological product was first approved by the FDA. The law also provides a mechanism for innovators to enforce the patents that protect innovative biological products and for biosimilar applicants to challenge the patents. Such patent litigation may begin as early as four years after the innovative biological product is first approved by the FDA.

In the U.S., the increased likelihood of generic and biosimilar challenges to innovators' intellectual property has increased the risk of loss of innovators' market exclusivity. First, generic companies have increasingly sought to challenge innovators' basic patents covering major pharmaceutical products. Second, statutory and regulatory provisions in the U.S. limit the ability of an innovator company to prevent generic and biosimilar drugs from being approved and launched while patent litigation is ongoing. As a result of all of these developments, it is not possible to predict the length of market exclusivity for a particular product with certainty based solely on the expiration of the relevant patent(s) or the current forms of regulatory exclusivity.

European Union

Patents on pharmaceutical products are generally enforceable in the EU and, as in the U.S., may be extended to compensate for the patent term lost during the regulatory review process. Such extensions are granted on a country-by-country basis.

The primary route we use to obtain marketing authorization of pharmaceutical products in the EU is through the "centralized procedure." This procedure is compulsory for certain pharmaceutical products, in particular those using biotechnological processes, and is also available for certain new chemical compounds and products. A company seeking to market an innovative pharmaceutical product through the centralized procedure must file a complete set of safety data and efficacy data as part of an MAA with the EMA. After the EMA evaluates the MAA, it provides a recommendation to the EC and the EC then approves or denies the MAA. It is also possible for new chemical products to obtain marketing authorization in the EU through a "mutual recognition procedure," in which an application is made to a single member state, and if the member state approves the pharmaceutical product under a national procedure, then the applicant may submit that approval to the mutual recognition procedure of some or all other member states.

After obtaining marketing authorization approval, a company must obtain pricing and reimbursement for the pharmaceutical product, which is typically subject to member state law. In certain EU countries, this process can take place simultaneously while the product is marketed but in other EU countries, this process must be completed before the company can market the new product. The pricing and reimbursement procedure can take months and sometimes years to complete.

Throughout the EU, all products for which marketing authorizations have been filed after October/November 2005 are subject to an "8+2+1" regime. Eight years after the innovator has received its first community authorization for a medicinal product, a generic company may file a MAA for that product with the health authorities. If the MAA is approved, the generic company may not commercialize the product until after either 10 or 11 years have elapsed from

the initial marketing authorization granted to the innovator. The possible extension to 11 years is available if the innovator, during the first eight years of the marketing authorization, obtains an additional indication that is of significant clinical benefit in comparison with existing treatments. For products that were filed prior to October/November 2005, there is a 10-year period of data protection under the centralized procedures and a period of either six or 10 years under the mutual recognition procedure (depending on the member state).

In contrast to the U.S., patents in the EU are not listed with regulatory authorities. Generic versions of pharmaceutical products can be approved after data protection expires, regardless of whether the innovator holds patents covering its drug. Thus, it is possible that an innovator may be seeking to enforce its patents against a generic competitor that is already marketing its product. Also, the European patent system has an opposition procedure in which generic manufacturers may challenge the validity of patents covering innovator products within nine months of grant.

In general, EU law treats chemically-synthesized drugs and biologically-derived drugs the same with respect to intellectual property and data protection. In addition to the relevant legislation and annexes related to biologic medicinal products, the EMA has issued guidelines that outline the additional information to be provided for biosimilar products, also known as generic biologics, in order to review an application for marketing approval.

Japan

In Japan, medicines of new chemical entities are generally afforded eight years of data exclusivity for approved indications and dosage. Patents on pharmaceutical products are enforceable. Generic copies can receive regulatory approval after data exclusivity and patent expirations. As in the U.S., patents in Japan may be extended to compensate for the patent term lost during the regulatory review process.

In general, Japanese law treats chemically-synthesized and biologically-derived drugs the same with respect to intellectual property and market exclusivity.

Rest of the World

In countries outside of the U.S., the EU and Japan, there is a wide variety of legal systems with respect to intellectual property and market exclusivity of pharmaceuticals. Most other developed countries utilize systems similar to either the U.S. or the EU. Among developing countries, some have adopted patent laws and/or regulatory exclusivity laws, while others have not. Some developing countries have formally adopted laws in order to comply with WTO commitments, but have not taken steps to implement these laws in a meaningful way. Enforcement of WTO actions is a long process between governments, and there is no assurance of the outcome. Thus, in assessing the likely future market exclusivity of our innovative drugs in developing countries, we take into account not only formal legal rights but political and other factors as well.

The following chart shows our key products together with the year in which the earliest basic exclusivity loss (patent rights or data exclusivity) occurred or is currently estimated to occur in the U.S., the EU and Japan. We also sell our pharmaceutical products in other countries; however, data is not provided on a country-by-country basis because individual country revenues are not significant outside the U.S., the EU and Japan. In many instances, the basic exclusivity loss date listed below is the expiration date of the patent that claims the active ingredient of the drug or the method of using the drug for the approved indication, if there is only one approved indication. In some instances, the basic exclusivity loss date listed in the chart is the expiration date of the data exclusivity period. In situations where there is only data exclusivity without patent protection, a competitor could seek regulatory approval by submitting its own clinical study data to obtain marketing approval prior to the expiration of data exclusivity.

We estimate the market exclusivity period for each of our products for the purpose of business planning only. The length of market exclusivity for any of our products is impossible to predict with certainty because of the complex interaction between patent and regulatory forms of exclusivity and the inherent uncertainties regarding patent litigation. There can be no assurance that a particular product will enjoy market exclusivity for the full period of time that appears in the estimate or that the exclusivity will be limited to the estimate.

Generally, the estimated LOE in the table below pertains to RDP or the Composition of Matter (COM) patent expiration for the respective products and patent term restoration (PTR) if granted.

	Estimated LOE		
	U.S.	EU[a]	Japan
Prioritized Brands			
Opdivo (nivolumab)	2028	2030	2031
Eliquis (apixaban)	2026	2026	2026
Orencia (abatacept) [b]	2021	2021	2019
Sprycel (dasatinib)	2020[c]	^^	2021
Yervoy (ipilimumab)	2025	2026	2025
Empliciti (elotuzumab)	2029	2029	2029

Established Brands				
Reyataz (atazanavir sulfate) Franchise	Expired	2019	2019	
Hepatitis C Franchise [(d)]	2028	2027	2028	

^^ In December 2018, the EPO's Opposition Division upheld the validity of the patent directed to the use of dasatinib to treat CML, which expires in 2024. Refer to “Item 8. Financial Statements and Supplementary Data—Note 18. Legal Proceedings and Contingencies” for more information.

(a) In EU countries where there is no granted PTR, the LOE is based on the COM patent or RDP expiry which is 2026 for Opdivo, 2022 for Eliquis, 2020 for Yervoy, and 2026 for Empliciti.

(b) BMS is not aware of an Orencia biosimilar on the market in the U.S., EU or Japan. For the U.S. and the EU, estimated LOE dates are based on method of use patents that expires in 2021. Formulation and additional patents expire in 2026 and beyond.

(c) In 2013, BMS entered into a settlement agreement with Apotex regarding a patent infringement suit covering the monohydrate form of dasatinib whereby Apotex can launch its generic dasatinib monohydrate aNDA product in September 2024, or earlier in certain circumstances.

(d) Hepatitis C Franchise relates to products containing daclatasvir. The LOE dates in the U.S. and EU do not reflect pending PTRs.

Research and Development

R&D is critical to our long-term competitiveness. We concentrate our R&D efforts in the following disease areas with significant unmet medical needs: oncology, including IO; immunoscience with priorities in psoriasis, lupus, RA and inflammatory bowel disease; cardiovascular with priority in heart disease; and fibrotic disease with priorities in lung (IPF) and liver (NASH). We also continue to analyze and may selectively pursue promising leads in other areas. Our R&D pipeline includes potential medicines in various modalities that are mostly small (chemically manufactured) molecules and large (protein) molecules—also known as biologics—but also include millamolecules, antibody drug conjugates, and gene therapies. In addition to discovering and developing new molecular entities, we look for ways to expand the value of existing products through new indications and formulations that can provide additional benefits to patients.

In order for a new drug to reach the market, industry practice and government regulations in the U.S., the EU and most foreign countries provide for the determination of a drug's effectiveness and safety through preclinical tests and controlled clinical evaluation. The clinical development of a potential new drug typically includes Phase I, Phase II and Phase III clinical studies that have been designed specifically to support an NDA for a particular indication, assuming the studies are successful.

Phase I clinical studies involve a small number of healthy volunteers or patients suffering from the indicated disease to test for safety and proper dosing. Phase II clinical studies involve a larger patient population to investigate side effects, efficacy and optimal dosage of the drug candidate. Phase III clinical studies are conducted to confirm Phase II results in a significantly larger patient population over a longer term and to provide reliable and conclusive data regarding the safety and efficacy of a drug candidate. Although regulatory approval is typically based on the results of Phase III clinical studies, there are times when approval can be granted based on data from earlier studies.

We consider our registrational studies to be our significant R&D programs. These programs may include both investigational compounds in Phases II and III development for initial indications and marketed products that are in development for additional indications or formulations. Expanding our currently marketed products, particularly Opdivo in combination with Yervoy and other agents in both first and second-line therapy with new indications, is a substantial portion of our R&D program strategy.

Drug development is time consuming, expensive and risky. The R&D process typically takes about fourteen years, with approximately two and a half years often spent in Phase III, or late-stage, development. On average, only about one in 10,000 molecules discovered by pharmaceutical industry researchers proves to be both medically effective and safe enough to become an approved medicine. Drug candidates can fail at any stage of the process, and even late-stage product candidates sometimes fail to receive regulatory approval. According to the KMR Group, based on industry success rates from 2013-2017, approximately 92% of small molecules that enter Phase I development fail to achieve regulatory approval. Small molecules that enter Phase II development have a failure rate of approximately 81% while approximately 32% fail Phase III development. For biologics, the failure rate is approximately 90% from Phase I development, approximately 78% from Phase II development and approximately 20% from Phase III development.

Total R&D expenses include the costs of discovery research, preclinical development, early-stage and late-stage clinical development, drug formulation, post-commercialization and medical support of marketed products, proportionate allocations of enterprise-wide costs and upfront and contingent milestone payments for licensing and acquiring assets. R&D expenses were $6.3 billion in 2018, $6.5 billion in 2017 and $5.0 billion in 2016, including license and asset acquisition charges of approximately $1.1 billion in 2018 and 2017 and $440 million in 2016. At the end of 2018, we employed approximately 7,700 people in R&D and related support activities, including a substantial number of physicians, scientists holding graduate or postgraduate degrees and higher-skilled technical personnel.

We manage our R&D programs on a product portfolio basis, investing resources in each stage of R&D from early discovery through late-stage development. We continually evaluate our portfolio of R&D assets to ensure that there is an appropriate balance of early-stage and late-stage programs to support the future growth of the Company. Spending on our late-stage development programs represented approximately 35-45% of our annual R&D expenses in the last three years. Opdivo is the only individual investigational compound or marketed product to represent 10% or more of our R&D expenses in any of the last three years.

As part of our operating model evolution, our R&D geographic footprint will significantly transform to foster speed and innovation in the future. The transformation involves the closing of our Hopewell, New Jersey and Wallingford, Connecticut R&D sites accompanied by additional investment in the expansion and opening of others. For example, we are expanding our Lawrenceville, New Jersey and Redwood City, California sites and opened a new R&D facility in Cambridge, Massachusetts in 2018. We supplement our internal drug discovery and development programs with alliances and collaborative agreements which help us bring new molecular agents, capabilities and platforms into our pipeline. Management continues to emphasize leadership, innovation, productivity and quality as strategies for success in our R&D activities.

Listed below are our investigational compounds that we have in clinical studies as well as the approved and potential indications for our marketed products in the related therapeutic area as of January 1, 2019. Whether any of the listed compounds ultimately becomes a marketed product depends on the results of clinical studies, the competitive landscape of the potential product's market, reimbursement decisions by payers and the manufacturing processes necessary to produce the potential product on a commercial scale, among other factors. There can be no assurance that we will seek regulatory approval of any of these compounds or that, if such approval is sought, it will be obtained. There is also no assurance that a compound which gets approved will be commercially successful. At this stage of development, we cannot determine all intellectual property issues or all the patent protection that may, or may not, be available for these investigational compounds.

ONCOLOGY

PHASE I	PHASE II	PHASE III	APPROVED INDICATIONS
OPDIVO[a]	OPDIVO[a]	OPDIVO[a]	OPDIVO[a]
--Solid Tumors & Hematologic Malignancies	--1L CRC	--1L Glioblastoma	--1L BRAF wild-type Metastatic Melanoma
OPDIVO[a] + YERVOY[a]	--Non-Hodgkin Lymphoma (Diffuse Large B-cell Lymphoma)	--1L HCC	--Adjuvant Melanoma
--Solid Tumors	--Non-Hodgkin Lymphoma (Follicular Lymphoma)	--1L Head & Neck	--Advanced Hodgkin Lymphoma
Relatlimab[a]^	--Ovarian[#]	--1L Head & Neck Locally Advanced	--Melanoma across BRAF status
--Solid Tumors & Hematologic Malignancies	--Pan Tumor TMB High	--2L Esophageal	--Mesothelioma
NLRP3 Agonist^	--Pediatric	--Adjuvant Bladder	--Previously treated advanced RCC
--Solid Tumors	--Primary Testicular Lymphoma	--Adjuvant Esophageal/Gastroesophageal	--Previously treated Gastric cancer (JPN)
Anti-TIM-3^	OPDIVO[a]^	--Adjuvant Gastric	--Previously treated HCC
--Solid Tumors	--Solid Tumors	--Adjuvant HCC	--Previously treated Metastatic Head & Neck
HuMax-IL8^	OPDIVO[a] + YERVOY[a]	--Adjuvant RCC	--Previously treated Metastatic Melanoma
--Solid Tumors	--Prostate	--NSCLC Neoadjuvant	--Previously treated Metastatic MSI-High CRC
EP4[a] Antagonist^	OPDIVO[a] + YERVOY[a]^	--Refractory Hodgkin Lymphoma	--Previously treated Metastatic Non-squamous NSCLC
--Solid Tumors	--Solid Tumors	--Unresectable NSCLC	--Previously treated Metastatic Squamous NSCLC
CD80/ CD3 Oncolytic Virus^	Relatlimab[a] + OPDIVO[a]^	OPDIVO[a] + YERVOY[a]	--Previously treated Metastatic SCLC
--Solid Tumors	--Solid Tumors	--1L Bladder	--Previously treated Metastatic Urothelial
Anti-CTLA-4 Probody^	IDO + OPDIVO[a]^	--1L Esophageal	OPDIVO[a] + YERVOY[a]
--Solid Tumors	--Solid Tumors	--1L Gastric	--1L RCC
Anti-ICOS^	NKTR-214[a] + OPDIVO[a]^	--1L Head & Neck	--BRAF wild-type Metastatic Melanoma
--Solid Tumors	--Solid Tumors	--1L Mesothelioma	
Anti-CTLA-4 NF^	CCR2/5 Dual Antagonist^	--1L NSCLC	
--Solid Tumors	--Solid Tumors	--1L SCLC	
Anti-TIGIT^	Cabiralizumab[a]^	--Adjuvant Melanoma	
--Solid Tumors	--Solid Tumors	--Adjuvant RCC	
Anti-CD73^		--NSCLC EGFR mutant	
--Solid Tumors		OPDIVO[a] + YERVOY[a] + Cabozantinib[a]	
BET Inhibitor		--Metastatic RCC	
--Solid Tumors		OPDIVO[a] + EMPLICITI[a]	
		--Multiple Myeloma	
		OPDIVO[a] + IDO	
		--1L Metastatic Melanoma	

Ulocuplumab
--Hematologic Malignancies

--Neoadjuvant Muscle-Invasive Bladder Cancer
OPDIVO[a] + NKTR-214[a]
--1L Melanoma
--1L RCC[#]
Relatlimab[a] + OPDIVO[a]
--1L Melanoma
EMPLICITI[a]
--1L Multiple Myeloma
Revlimid* Combo

--Melanoma across BRAF status
--Previously treated Metastatic MSI-High CRC
YERVOY[a]
--Adjuvant Melanoma
--Adolescent Metastatic Melanoma
--Metastatic Melanoma
EMPLICITI[a]
--Relapsed/Refractory Multiple Myeloma
Pomalyst* Combo
--Relapsed/Refractory Multiple Myeloma Revlimid* Combo
SPRYCEL[a]
--1L CML
--Pediatric
--Refractory CML

Note: Above pipeline excludes clinical collaborations
[a] Development Partnership: OPDIVO, YERVOY, Relatlimab, EP4: Ono (our collaboration with Ono also includes other early stage compounds); EMPLICITI: AbbVie; NKTR-214: Nektar; Cabiralizumab: Five Prime; Cabozantinib: Exelixis
^ Trial(s) exploring various combinations
# Partner-run study

IMMUNOSCIENCE

PHASE I	PHASE II	PHASE III	APPROVED INDICATIONS
ROR T --Autoimmune Disease S1P1 Agonist --Autoimmune Disease BTK Max --RA TYK2 Inhibitor (2) --Autoimmune Disease TLR 7/8 Antagonist --Autoimmune Disease	TYK2 Inhibitor (1) --Autoimmune Diseases BTK Inhibitor --RA	ORENCIA --Idiopathic Inflammatory Myopathy --Sjögren's Disease TYK2 Inhibitor (1) --Psoriasis NULOJIX --Switch from Calcineurin Inhibitor Renal Transplant	ORENCIA --Early RA --JIA Intravenous --JIA Subcutaneous --Psoriatic Arthritis --RA Auto injector --RA Intravenous --RA Subcutaneous NULOJIX --De Novo Renal Transplant

CARDIOVASCULAR

PHASE I	PHASE II	PHASE III	APPROVED INDICATIONS
FPR-2 Agonist --Heart Failure APJ Agonist --Heart Failure	Nitroxyl Donor --Heart Failure Factor XIa Inhibitor[a] --Thrombosis ELIQUIS[a] --Pediatric Heart Disease	ELIQUIS[a] --Pediatric Venous Thromboembolism Prevention	ELIQUIS[a] --Stroke Prevention in Atrial Fibrillation --Venous Thromboembolism Prevention Orthopedic Surgery --Venous Thromboembolism Treatment

FIBROTIC DISEASES

PHASE I	PHASE II
LPA1 Antagonist --Fibrosis	HSP47[a] --Fibrosis Pegbelfermin (PEG-FGF21) --Non-alcoholic Steatohepatitis

Note: Above pipeline excludes clinical collaborations
[a] Development Partnership: ELIQUIS: Pfizer; Factor XIa Inhibitor: Janssen; HSP47: Nitto Denko

As of January 18, 2019, the following potential registrational study readouts for Opdivo are anticipated through 2020:

Tumor	Study Details	Tumor	Study Details
	CM-227 - Opdivo + Yervoy (1st line) Part 1a		CM-901 - Opdivo + Chemo (1st line)
	CM-227 - Opdivo + Yervoy (1st line) Part 1b	Bladder Cancer	CM-274 - Opdivo (Adjuvant)
	CM-227 - Opdivo + Chemo (1st line) Part 2		CM-648 - Opdivo + Yervoy +/- Chemo (1st line)
Non-Small Cell Lung Cancer	CM-9LA - Opdivo + Yervoy + Chemo (1st line)	Esophageal Cancer	CM-577 - Opdivo (Adjuvant)
	CM-722 - Opdivo + Yervoy (EGFR T790M Mutant)	Renal Cancer	CM-9ER - Opdivo + Chemo (1st line)
	CM-816 - Opdivo + Chemo (Neoadjuvant)	Glioblastoma	CM-548 - Opdivo + Chemo (1st line Methylated)
Hepatocellular Carcinoma	CM-459 - Opdivo (1st line)		CM-498 - Opdivo + Chemo (1st line Un-methylated)
	CM-651 - Opdivo + Yervoy (1st line)	Mesothelioma	CM-743 - Opdivo + Yervoy (1st line)
Head and Neck Cancer	CM-714 - Opdivo + Yervoy (1st line)	Melanoma	CM-915 - Opdivo +/- Yervoy (Adjuvant)
Phase II	Phase III		

Alliances

We enter into alliances with third parties that transfer rights to develop, manufacture, market and/or sell pharmaceutical products. These alliances include licensing, co-development and co-commercial arrangements as well as joint ventures. When such alliances involve sharing research and development costs, the overall investment risk to BMS for compounds that do not lead to revenue-generating products is reduced. However, profitability on alliance products is generally lower because profits from alliance products are shared with our alliance partners via profit sharing or royalties. We actively pursue such arrangements and view alliances as an important complement to our own discovery, development and commercialization activities.

Our alliance arrangements contain customary early termination provisions following material breaches, bankruptcy or product safety concerns. Such arrangements also typically provide for termination by BMS without cause. The amount of notice required for early termination generally ranges from immediately upon notice to 180 days after receipt of notice. Termination immediately upon notice is generally available where the other party files a voluntary bankruptcy petition or if a material safety issue arises with a product such that the medical risk/benefit is incompatible with the welfare of patients to continue to develop or commercialize the product. Termination with a notice period is generally available where an involuntary bankruptcy petition has been filed and has not been dismissed, a material breach by a party has occurred and not been cured or where BMS terminates without cause. Sometimes, BMS's right to terminate without cause may only be exercisable after a specified period of time has elapsed after the alliance agreement is signed. Our alliances typically do not otherwise contain provisions that provide the other party the right to terminate the alliance.

We typically do not retain any rights to another party's product or intellectual property after an alliance terminates. The loss of rights to one or more products that are marketed and sold by us pursuant to an alliance could be material to our results of operations and the loss of cash flows caused by such loss of rights could be material to our financial condition and liquidity. Alliance agreements may be structured to terminate on specific dates, upon the product's patent expiration date or without an expiry date. Profit sharing payments typically have no expiration date while royalty payments cease upon LOE, including patent expiration.

Refer to “Item 8. Financial Statements and Supplementary Data—Note 3. Alliances” for further information on our most significant alliance agreements as well as other alliance agreements.

Marketing, Distribution and Customers

We promote the appropriate use of our products directly to healthcare professionals and organizations such as doctors, nurse practitioners, physician assistants, pharmacists, technologists, hospitals, PBMs and MCOs. We also provide information about the appropriate use of our products to consumers in the U.S. through direct-to-consumer print, radio, television and digital advertising and promotion. In addition, we sponsor general advertising to educate the public about our innovative medical research and corporate mission. For a discussion of the regulation of promotion and marketing of pharmaceuticals, refer to “—Government Regulation” below.

Through our field sales and medical organizations, we explain the risks and benefits of the approved uses of our products to medical professionals. We work to gain access for our products on formularies and reimbursement plans (lists of recommended or approved medicines and other products), including Medicare Part D plans, by providing information about the clinical profiles of our products. Our marketing and sales of prescription pharmaceuticals is limited to the approved uses of the particular product, but we continue to develop scientific data and other information about potential additional uses of our products and provide such information as scientific exchange at scientific congresses or we share information about our products in other appropriate ways, including the development of publications, or in response to unsolicited inquiries from doctors, other medical professionals and MCOs.

Our operations include several marketing and sales organizations. Each product marketing organization is supported by a sales force, which may be responsible for selling one or more products. We also have marketing organizations that focus on certain classes of customers such as managed care entities or certain types of marketing tools, such as digital or consumer communications. Our sales forces focus on communicating information about new approved products or uses, as well as approved uses of established products, and promotion to physicians is increasingly targeted at physician specialists who treat the patients in need of our medicines.

Our products are sold principally to wholesalers, specialty distributors, and to a lesser extent, directly to distributors, retailers, hospitals, clinics, government agencies and pharmacies. Refer to “Item 8. Financial Statements and Supplementary Data—Note 2. Revenue” for gross revenues to the three largest pharmaceutical wholesalers in the U.S. as a percentage of our global gross revenues.

Our U.S. business has DSAs with substantially all of our direct wholesaler and distributor customers that allow us to monitor U.S. wholesaler and distributor inventory levels and requires those wholesalers and distributors to maintain inventory levels that are no more than one month of their demand. The DSAs, including those with our three largest wholesalers, expire in December 2020 subject to certain termination provisions.

Our non-U.S. businesses have significantly more direct customers. Information on available direct customer product level inventory and corresponding out-movement information and the reliability of third-party demand information varies widely. We limit our direct customer sales channel inventory reporting to where we can reliably gather and report inventory levels from our customers.

In a number of countries outside of the U.S., we contract with distributors to support certain products. The services provided by these distributors vary by market, but may include distribution and logistics; regulatory and pharmacovigilance; and/or sales, advertising or promotion. Sales in these distributor-based countries represented approximately 1% of the Company's total revenues in 2018.

Competition

The markets in which we compete are generally broad based and highly competitive. We compete with other worldwide research-based drug companies, many smaller research companies with more limited therapeutic focus and generic drug manufacturers. Important competitive factors include product efficacy, safety and ease of use, price and demonstrated cost-effectiveness, marketing effectiveness, product labeling, customer service and R&D of new products and processes. Sales of our products can be impacted by new studies that indicate a competitor's product is safer or more effective for treating a disease or particular form of disease than one of our products. Our revenues also can be impacted by additional labeling requirements relating to safety or convenience that may be imposed on products by the FDA or by similar regulatory agencies in different countries. If competitors introduce new products and processes with therapeutic or cost advantages, our products can be subject to progressive price reductions, decreased volume of sales or both.

Advancements in treating cancer with IO therapies continue to evolve at a rapid pace. Our IO products, particularly Opdivo, operate in a highly competitive marketplace. In addition to competing for market share with other IO products in approved indications such as lung cancer and melanoma, we face increased competition from existing competing IO products that receive FDA approval for additional indications and for new IO agents that receive FDA approval and enter the market. Furthermore, as therapies combining different IO products or IO products with existing chemotherapy or targeted therapy treatments are investigated for potential expanded approvals, we anticipate that our IO products will continue to experience intense competition.

Another competitive challenge we face is from generic pharmaceutical manufacturers. In the U.S. and the EU, the regulatory approval process exempts generics from costly and time-consuming clinical studies to demonstrate their safety and efficacy, allowing generic manufacturers to rely on the safety and efficacy of the innovator product. As a result, generic pharmaceutical manufacturers typically invest far less in R&D than research-based pharmaceutical companies and therefore can price their products significantly lower than branded products. Accordingly, when a branded product loses its market exclusivity, it normally faces intense price competition from generic forms of the product. Upon the expiration or loss of market exclusivity on a product, we can lose the major portion of that product's revenue in a very short period of time.

After the expiration of exclusivity, the rate of revenue decline of a product varies by country. In general, the decline in the U.S. market is more rapid than in most other developed countries, though we have observed rapid declines in a number of EU countries as well. Also, the declines in developed countries tend to be more rapid than in developing countries. The rate of revenue decline after the expiration of exclusivity has also historically been influenced by product characteristics. For example, drugs that are used in a large patient population (e.g., those prescribed by key primary care physicians) tend to experience more rapid declines than drugs in specialized areas of medicine (e.g., oncology). Drugs that are more complex to manufacture (e.g., sterile injectable products) usually experience a slower decline than those that are simpler to manufacture.

In certain countries outside the U.S., patent protection is weak or nonexistent and we must compete with generic versions shortly after we launch our innovative products. In addition, generic pharmaceutical companies may introduce a generic product before exclusivity has expired, and before the resolution of any related patent litigation. For more information about market exclusivity, refer to "—Products, Intellectual Property and Product Exclusivity."

We believe our long-term competitive position depends upon our success in discovering and developing innovative, cost-effective products that serve unmet medical needs, along with our ability to manufacture products efficiently and to market them effectively in a highly competitive environment.

Pricing, Price Constraints and Market Access

Our medicines are priced based on a number of factors, including the value of scientific innovation for patients and society in the context of overall health care spend, economic factors impacting health care systems' ability to provide appropriate and sustainable access and the necessity to sustain our investment in innovation platforms to address serious unmet medical needs. Central to price is the clinical value that this innovation brings to the market, the current landscape of alternative treatment options and the goals of ensuring appropriate patient access to this innovation and sustaining investment in creative platforms. We continue to explore new pricing approaches to ensure that patients have access to our medicines. Enhancing patient access to medicines is a priority for us. We are focused on offering creative tiered pricing, voluntary licensing, reimbursement support and patient assistance programs to optimize access while protecting innovation; advocating for sustainable healthcare policies and infrastructure, leveraging advocacy/payer's input and utilizing partnerships as appropriate; and improving access to care and supportive services for vulnerable patients through partnerships and demonstration projects. An important factor on which the pricing of our medicines depends is government regulation. We have been subject to increasing international and domestic efforts by various governments to implement or strengthen measures to regulate pharmaceutical market access and product pricing and payment. While we operate globally in countries that have robust government-mandated, cost-containment programs, efforts to control the costs and to manage the use of our products remain strong in certain markets outside of the U.S. In the U.S., we are required to provide discounted pricing rebates to the federal government and respective state governments on purchases of pharmaceutical products under various federal and state healthcare programs. Federal government officials and legislators continue to face intense pressure from the public to manage the perceived high cost of pharmaceuticals and have responded by pursuing legislation and rules that would further reduce the cost of drugs for which the federal government pays. We are also monitoring efforts by states, including laws that have recently been enacted in California, Vermont, Nevada and New York, that are focused on providing drug pricing transparency, seeking additional rebates and limiting state spending on drugs. These international, federal and state legislative and regulatory developments could create new constraints on our ability to set prices and/or impact our market access in certain areas. For further discussion on the pricing pressure and its risk, refer to "Item 1A. Risk Factors."

The growth of MCOs in the U.S. such as Optum (UHC), Silver Scripts (CVS) and Express Scripts (ESI), is also a major factor in the healthcare marketplace. Over half of the U.S. population now participates in some version of managed care. MCOs can include medical insurance companies, medical plan administrators, health-maintenance organizations, Medicare Part D prescription drug plans, alliances of hospitals and physicians and other physician organizations. Those organizations have been consolidating into fewer, larger entities, thus enhancing their purchasing strength and importance to us.

To successfully compete for business with MCOs, we must often demonstrate that our products offer not only medical benefits but also cost advantages as compared with other forms of care. Most new products that we introduce compete with other products already on the market or products that are later developed by competitors. As noted above, generic drugs are exempt from costly and time-consuming clinical studies to demonstrate their safety and efficacy and, as such, often have lower costs than brand-name drugs. MCOs that focus primarily on the immediate cost of drugs often favor generics for this reason. Many governments also encourage the use of generics as alternatives to brand-name drugs in their healthcare programs. Laws in the U.S. generally allow, and in many cases require, pharmacists to substitute generic drugs that have been rated under government procedures to be essentially equivalent to a brand-name drug. The substitution must be made unless the prescribing physician expressly forbids it.

Exclusion of a product from a formulary can lead to its sharply reduced usage in the MCO patient population. Consequently, pharmaceutical companies compete aggressively to have their products included. Where possible, companies compete for inclusion based upon unique features of their products, such as greater efficacy, better patient ease of use or fewer side effects. A lower overall cost of therapy is also an important factor. Products that demonstrate

fewer therapeutic advantages must compete for inclusion based primarily on price. We have been generally, although not universally, successful in having our major products included on MCO formularies.

In many markets outside the U.S., we operate in an environment of government-mandated, cost-containment programs. In these markets, a significant portion of funding for healthcare services and the determination of pricing and reimbursement for pharmaceutical products are subject to either direct government control at the point of care or governments having significant power as large single payers. As a result, our products may face restricted access by both public and private payers and may be subject to assessments of comparative value and effectiveness against competitive products. Several governments have placed restrictions on physician prescription levels and patient reimbursements, emphasized greater use of generic drugs and/or enacted across-the-board price cuts or rebate schemes as methods of cost control. In most EU countries, for example, the government regulates pricing of a new product at launch often through direct price controls, international price comparisons, controlling profits and/or reference pricing. In other EU markets, such as Germany, the government does not set pricing restrictions at launch, but pricing freedom is subsequently limited. Companies may also face significant delays in market access for new products, mainly in France, Spain, Italy and Belgium, and more than a year can elapse before new medicines become available to patients in the market. Additionally, member states of the EU have regularly imposed new or additional cost containment measures for pharmaceuticals such as volume discounts, cost caps, cost sharing for increases in excess of prior year costs for individual products or aggregated market level spending, outcome-based pricing schemes and free products for a portion of the expected therapy period. In recent years, Italy, for example, has imposed mandatory price decreases and a claw-back rebate structure.

The existence of price differentials within the EU due to the different national pricing and reimbursement laws leads to significant parallel trade flows.

Government Regulation

The pharmaceutical industry is subject to extensive global regulations by regional, country, state and local agencies. The Federal Food, Drug, and Cosmetic Act, other Federal statutes and regulations, various state statutes and regulations (including newly enacted state laws regulating drug price transparency, rebates and drug spending), and laws and regulations of foreign governments govern to varying degrees the testing, approval, production, labeling, distribution, post-market surveillance, advertising, dissemination of information and promotion of our products. The lengthy process of laboratory and clinical testing, data analysis, manufacturing, development and regulatory review necessary for required governmental approvals is extremely costly and can significantly delay product introductions in a given market. Promotion, marketing, manufacturing and distribution of pharmaceutical products are extensively regulated in all major world markets. In addition, our operations are subject to complex Federal, state, local and foreign environmental and occupational safety laws and regulations. We anticipate that the laws and regulations affecting the manufacture and sale of current products and the introduction of new products will continue to require substantial scientific and technical effort, time and expense as well as significant capital investments.

The FDA is of particular importance in the U.S. It has jurisdiction over virtually all of our activities and imposes requirements covering the testing, safety, effectiveness, manufacturing, labeling, marketing, advertising and post-marketing surveillance of our products. In many cases, the FDA requirements have increased the amount of time and money necessary to develop new products and bring them to market in the U.S. The regulatory review process is a resource intensive undertaking for both the FDA and the pharmaceutical manufacturer. Improvements in the efficiency of this process can have significant impact on bringing new therapies to patients more quickly. The FDA can employ several tools to expedite certain applications, including fast track designation, accelerated approval and others. Recently, the FDA Oncology Center of Excellence (OCE) established two new pilot projects to test novel approaches to regulatory review for oncology drugs: the Real-Time Oncology Review (RTOR) and the Assessment Aid (AAid). Under the AAid pilot program, the FDA approved Empliciti on November 6, 2018 for an additional multiple myeloma indication in combination with pomalidomide and dexamethasone for the treatment of adult patients who have received at least two prior therapies, including lenalidomide and a proteasome inhibitor. This approval was achieved more than 7 weeks before the priority review Prescription Drug User Fee Act (PDUFA) date.

The FDA mandates that drugs be manufactured, packaged and labeled in conformity with cGMP established by the FDA. In complying with cGMP regulations, manufacturers must continue to expend time, money and effort in production, recordkeeping and quality control to ensure that products meet applicable specifications and other requirements to ensure product safety and efficacy. The FDA periodically inspects our drug manufacturing facilities to ensure compliance with applicable cGMP requirements. Failure to comply with the statutory and regulatory requirements subjects us to possible legal or regulatory action, such as suspension of manufacturing, seizure of product or voluntary recall of a product. Adverse experiences with the use of products must be reported to the FDA and could result in the imposition of market restrictions through labeling changes or product removal. Product approvals may be withdrawn if compliance with regulatory requirements is not maintained or if problems concerning safety or efficacy occur following approval.

The Federal government has extensive enforcement powers over the activities of pharmaceutical manufacturers, including authority to withdraw or delay product approvals, to commence actions to seize and prohibit the sale of unapproved or non-complying products, to halt manufacturing operations that are not in compliance with cGMPs, and to impose or seek injunctions, voluntary recalls, civil, monetary and criminal penalties. Such a restriction or prohibition on sales or withdrawal of approval of products marketed by us could materially adversely affect our business, financial condition and results of operations and cash flows.

Marketing authorization for our products is subject to revocation by the applicable governmental agencies. In addition, modifications or enhancements of approved products or changes in manufacturing locations are in many circumstances subject to additional FDA approvals, which may or may not be received and may be subject to a lengthy application process.

The distribution of pharmaceutical products is subject to the PDMA as part of the Federal Food, Drug, and Cosmetic Act, which regulates such activities at both the Federal and state level. Under the PDMA and its implementing regulations, states are permitted to require registration of manufacturers and distributors that provide pharmaceuticals even if such manufacturers or distributors have no place of business within the state. States are also permitted to adopt regulations limiting the distribution of product samples to licensed practitioners. The PDMA also imposes extensive licensing, personnel recordkeeping, packaging, quantity, labeling, product handling and facility storage and security requirements intended to prevent the sale of pharmaceutical product samples or other product diversions.

The FDA Amendments Act of 2007 imposed additional obligations on pharmaceutical companies and delegated more enforcement authority to the FDA in the area of drug safety. Key elements of this legislation give the FDA authority to (1) require that companies conduct post-marketing safety studies of drugs, (2) impose certain safety related drug labeling changes, (3) mandate risk mitigation measures such as the education of healthcare providers and the restricted distribution of medicines, (4) require companies to publicly disclose data from clinical studies and (5) pre-review television advertisements.

The marketing practices of all U.S. pharmaceutical manufacturers are subject to Federal and state healthcare laws that are used to protect the integrity of government healthcare programs. The OIG oversees compliance with applicable Federal laws, in connection with the payment for products by government funded programs, primarily Medicaid and Medicare. These laws include the Federal anti-kickback statute, which criminalizes the offering of something of value to induce the recommendation, order or purchase of products or services reimbursed under a government healthcare program. The OIG has issued a series of guidances to segments of the healthcare industry, including the 2003 Compliance Program Guidance for Pharmaceutical Manufacturers, which includes a recommendation that pharmaceutical manufacturers, at a minimum, adhere to the PhRMA Code, a voluntary industry code of marketing practices. We subscribe to the PhRMA Code and have implemented a compliance program to address the requirements set forth in the guidance and our compliance with the healthcare laws. Failure to comply with these healthcare laws could subject us to administrative and legal proceedings, including actions by Federal and state government agencies. Such actions could result in the imposition of civil and criminal sanctions, which may include fines, penalties and injunctive remedies; the impact of which could materially adversely affect our business, financial condition and results of operations and cash flows.

We are also subject to the jurisdiction of various other Federal and state regulatory and enforcement departments and agencies, such as the Federal Trade Commission, the Department of Justice and the Department of Health and Human Services in the U.S. We are also licensed by the U.S. Drug Enforcement Administration to procure and produce controlled substances. We are, therefore, subject to possible administrative and legal proceedings and actions by these organizations. Such actions may result in the imposition of civil and criminal sanctions, which may include fines, penalties and injunctive or administrative remedies.

The U.S. healthcare industry is subject to various government-imposed regulations authorizing prices or price controls that have and will continue to have an impact on our total revenues. We participate in state government Medicaid programs, as well as certain other qualifying Federal and state government programs whereby discounts and rebates are provided to participating state and local government entities. We also participate in government programs that specify discounts to certain government entities; the most significant of which are the U.S. Department of Defense and the U.S. Department of Veterans Affairs. These entities receive minimum discounts based off a defined “non-federal average manufacturer price” for purchases. As a result of HR 3590 and the reconciliation bill containing a package of changes to the healthcare bill, we have and will continue to experience additional financial costs and certain other changes to our business. For example, minimum rebates on our Medicaid drug sales have increased from 15.1% to 23.1% and Medicaid rebates have also been extended to drugs used in risk-based Medicaid managed care plans. In addition, we extend discounts to certain critical access hospitals, cancer hospitals and other covered entities as required by the expansion of the 340B Drug Pricing Program under the Public Health Service Act.

We are required to provide a 50% discount (rising to 70% in 2019 and thereafter) on our brand-name drugs to patients who fall within the Medicare Part D coverage gap, also referred to as the “donut hole”, and pay an annual non-tax-deductible fee to the federal government based on an allocation of our market share of branded drug sales to certain government programs including Medicare, Medicaid, Department of Veterans Affairs, Department of Defense and TRICARE. The amount of the annual fee imposed on pharmaceutical manufacturers as a whole was $4.0 billion in 2017 and $4.1 billion in 2018. The fee will decrease to $2.8 billion in 2019 and thereafter.

Our activities outside the U.S. are also subject to regulatory requirements governing the testing, approval, safety, effectiveness, manufacturing, labeling and marketing of our products. These regulatory requirements vary from country to country. Whether or not FDA or EC approval has been obtained for a product, approval of the product by comparable regulatory authorities of countries outside of the U.S. or the EU, as the case may be, must be obtained prior to marketing the product in those countries. The approval process may be more or less rigorous from country to country and the time required for approval may be longer or shorter than that required in the U.S. Approval in one country does not assure that a product will be approved in another country.

For further discussion of these rebates and programs, refer to “Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations—GTN Adjustments” and “—Critical Accounting Policies.”

Sources and Availability of Raw Materials

In general, we purchase our raw materials and supplies required for the production of our products in the open market. For some products, we purchase our raw materials and supplies from one source (the only source available to us) or a single source (the only approved source among many available to us), thereby requiring us to obtain such raw materials and supplies from that particular source. We attempt, if possible, to mitigate our raw material supply risks through inventory management and alternative sourcing strategies. For further discussion of sourcing, refer to “—Manufacturing and Quality Assurance” below and discussions of particular products.

Manufacturing and Quality Assurance

We operate and manage our manufacturing network in a manner that permits us to improve efficiency while maintaining flexibility to reallocate manufacturing capacity. Pharmaceutical production processes are complex, highly regulated and vary widely from product to product. Given that shifting or adding manufacturing capacity can be a lengthy process requiring significant capital and other expenditures as well as regulatory approvals, we maintain and operate a flexible manufacturing network, consisting of internal and external resources that minimize unnecessary product transfers and inefficient uses of manufacturing capacity. For further discussion of the regulatory impact on our manufacturing, refer to "—Government Regulation" above.

Our significant pharmaceutical manufacturing facilities are located in the U.S., Puerto Rico, Ireland, France and Italy and require significant ongoing capital investment for both maintenance and compliance with increasing regulatory requirements. In addition, as our product portfolio continues to evolve, we expect to continue modification of our existing manufacturing network to meet complex processing standards that may be required for newly introduced products, including biologics. Biologics manufacturing involves more complex processes than those of traditional pharmaceutical operations. The FDA approved our large scale multi-product bulk biologics manufacturing facility in Devens, Massachusetts in May 2012 and we continue to make capital investments in this facility. We are in the startup phase of our new large-scale biologics manufacturing facility in Cruiserath, Ireland, which is expected to be approved for commercial use in early 2020.

We rely on third parties to manufacture or supply us with all or a portion of the active product ingredient or drug substance necessary for us to manufacture various products, such as Opdivo, Eliquis, Orencia, Sprycel, Yervoy, Baraclude, Reyataz and the Sustiva Franchise, and we continue to shift towards using third-party manufacturers for supply of our established brands. To maintain a stable supply of these products, we take a variety of actions including inventory management and maintenance of additional quantities of materials, when possible, that are designed to provide for a reasonable level of these ingredients to be held by the third-party supplier, us or both, so that our manufacturing operations are not interrupted. Certain supply arrangements extend over multiple years with committed amounts using expected near or long-term demand requirements that are subject to change. As an additional protection, in some cases, we take steps to maintain an approved back-up source where available. For example, we have the capability to manufacture Opdivo internally and also have arrangements with third-party manufacturers to meet demand.

In connection with acquisitions, divestitures, licensing and collaboration arrangements or distribution agreements of certain of our products, or in certain other circumstances, we have entered into agreements under which we have agreed to supply such products to third parties and intend to continue to enter into such agreements in the future. In addition to liabilities that could arise from our failure to supply such products under the agreements, these arrangements could require us to invest in facilities for the production of non-strategic products, result in additional regulatory filings and obligations or cause an interruption in the manufacturing of our own products.

Our success depends in great measure upon customer confidence in the quality of our products and in the integrity of the data that support their safety and effectiveness. Product quality arises from a total commitment to quality in all parts of our operations, including research and development, purchasing, facilities planning, manufacturing and distribution. We maintain records to demonstrate the quality and integrity of technical information and production processes.

Control of production processes involves established specifications and standards for ingredients, equipment and facilities, manufacturing methods and operations, packaging materials and labeling. We perform tests at various stages of production processes, on the final product and on product samples held on stability to ensure that the product meets regulatory requirements and conforms to our standards. These tests may involve chemical and physical analyses,

microbiological testing or a combination of these along with other analyses. Quality control testing is provided by business unit/site and third-party laboratories. Quality assurance groups routinely monitor manufacturing procedures and systems used by us, our subsidiaries and third-party suppliers to assure quality and compliance requirements are met.

Environmental Regulation

Our facilities and operations are subject to extensive U.S. and foreign laws and regulations relating to environmental protection and human health and safety, including those governing discharges of pollutants into the air and water; the use, management and disposal of hazardous, radioactive and biological materials and wastes; and the cleanup of contamination. Pollution controls and permits are required for many of our operations, and these permits are subject to modification, renewal or revocation by the issuing authorities.

Our environment, health and safety group monitors our operations around the world, providing us with an overview of regulatory requirements and overseeing the implementation of our standards for compliance. We also incur operating and capital costs for such matters on an ongoing basis, which were not material for 2018, 2017 and 2016. In addition, we invested in projects that reduce resource use of energy and water. Although we believe that we are in substantial compliance with applicable environmental, health and safety requirements and the permits required for our operations, we nevertheless could incur additional costs, including civil or criminal fines or penalties, clean-up costs or third-party claims for property damage or personal injury, for violations or liabilities under these laws.

Many of our current and former facilities have been in operation for many years, and over time, we and other operators of those facilities have generated, used, stored or disposed of substances or wastes that are considered hazardous under Federal, state and/or foreign environmental laws, including CERCLA. As a result, the soil and groundwater at or under certain of these facilities is or may be contaminated, and we may be required to make significant expenditures to investigate, control and remediate such contamination, and in some cases to provide compensation and/or restoration for damages to natural resources. Currently, we are involved in investigation and remediation at 13 current or former facilities. We have also been identified as a PRP under applicable laws for environmental conditions at approximately 18 former waste disposal or reprocessing facilities operated by third parties at which investigation and/or remediation activities are ongoing.

We may face liability under CERCLA and other Federal, state and foreign laws for the entire cost of investigation or remediation of contaminated sites, or for natural resource damages, regardless of fault or ownership at the time of the disposal or release. In addition, at certain sites we bear remediation responsibility pursuant to contractual obligations. Generally, at third-party operator sites involving multiple PRPs, liability has been or is expected to be apportioned based on the nature and amount of hazardous substances disposed of by each party at the site and the number of financially viable PRPs. For additional information about these matters, refer to “Item 8. Financial Statements and Supplementary Data—Note 18. Legal Proceedings and Contingencies.”

Employees

We have approximately 23,300 employees as of December 31, 2018.

Foreign Operations

We have significant operations outside the U.S. They are conducted both through our subsidiaries and through distributors.

International operations are subject to certain risks, which are inherent in conducting business abroad, including, but not limited to, currency fluctuations, possible nationalization or expropriation, price and exchange controls, counterfeit products, limitations on foreign participation in local enterprises and other restrictive governmental actions. Our international businesses are also subject to government-imposed constraints, including laws on pricing or reimbursement for use of products.

Bristol-Myers Squibb Website

Our internet website address is www.bms.com. On our website, we make available, free of charge, our annual, quarterly and current reports, including amendments to such reports, as soon as reasonably practicable after we electronically file such material with, or furnish such material to, the SEC pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”). These documents are also available on the SEC’s website at www.sec.gov.

Information relating to corporate governance at Bristol-Myers Squibb, including our Principles of Integrity, Code of Ethics for Senior Financial Officers, Code of Business Conduct and Ethics for Directors, (collectively, the “Codes”), Corporate Governance Guidelines, and information concerning our Executive Committee, Board of Directors, including Board Committees and Committee charters, and transactions in Bristol-Myers Squibb securities by directors and executive officers, is available on our website under the “About Us—Our Company,” “—Leadership” and “Investors” captions and in print to any stockholder upon request. Any waivers to the Codes by directors or executive officers and any material amendment to the Code of Business Conduct and Ethics for Directors and Code of Ethics for Senior Financial Officers will be posted promptly on our website. Information relating to stockholder services, including our

Dividend Reinvestment Plan and direct deposit of dividends, is available on our website under the "Investors—Shareholder Services" caption. In addition, information about our sustainability programs is available on our website under the "About Us—Sustainability" caption. The foregoing information regarding our website and its content is for your convenience only. The information contained in or connected to our website is not deemed to be incorporated by reference in this 2018 Form 10-K or filed with the SEC.

We incorporate by reference certain information from parts of our definitive proxy statement for our 2019 Annual Meeting of Shareholders ("2019 Proxy Statement"). The SEC allows us to disclose important information by referring to it in that manner. Please refer to such information. Our 2019 Proxy Statement will be available on our website under the "Investors—SEC Filings" caption within 120 days after the end of our fiscal year.

Item 1A. RISK FACTORS.

Any of the risks and uncertainties described below could significantly and negatively affect our business, prospects, financial condition, operating results, or credit ratings, which could cause the trading price of our common stock to decline. Additional risks and uncertainties not presently known to us, or risks that we currently consider immaterial, could also impair our business operations or financial condition. The following discussion of risk factors contains "forward-looking" statements, as discussed in "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations—Special Note Regarding Forward-Looking Statements."

We also face certain risks in connection with our proposed acquisition of Celgene as described above in Item 1 of this Form 10-K. We encourage you to consider the risks below under the caption "—Risks Related to the Proposed Acquisition of Celgene" and the risk factors set forth in our registration statement on Form S-4 (Registration No. 333-229464), initially filed with the SEC on February 1, 2019 and subsequently amended on February 1, 2019 and February 20, 2019, for additional risk factors relating to our proposed acquisition of Celgene.

Risks Related to Our Business

The public announcement of data from our clinical studies, or those of our competitors, or news of any developments related to our, or our competitors', products or late-stage compounds may cause significant volatility in our stock price and depending on the data, may result in an adverse impact on our business, financial condition or results of operations. If the development of any of our key IO compounds, whether alone or as part of a combination therapy, is delayed or discontinued or a clinical study does not meet one or more of its primary endpoints, our stock price could decline significantly and there may be an adverse impact on our business, financial condition or results of operations. We are focusing our efforts and resources in disease areas of high unmet need. With our more focused portfolio, investors are placing heightened scrutiny on some of our products or late-stage compounds. In particular, Opdivo is the backbone of our IO portfolio. During 2018, we announced multiple regulatory milestones for Opdivo that resulted in label expansions for new indications. We have, however, also experienced setbacks and may continue to do so as there are further developments in our clinical studies. In 2019, we expect to receive further data from ongoing clinical studies, including further information from CheckMate-227, a combination study in the first-line lung cancer setting and decisions from health authorities regarding potential label expansions.

The announcement of data from our clinical studies, or those of our competitors, or news of any developments related to our, or our competitors', products or late-stage compounds, such as Opdivo, may cause significant volatility in our stock price and depending on the news, may result in an adverse impact on our business, financial condition or results of operations. Furthermore, the announcement of any negative or unexpected data or the discontinuation of development of any of our key IO compounds, whether alone or as part of a combination therapy, any delay in our anticipated timelines for filing for regulatory approval or a significant advancement of a competitor, may cause our stock price to decline significantly and may have an adverse impact on our business, financial condition or results of operations. There is no assurance that data from our clinical studies will support filings for regulatory approval, or that our key IO compounds may prove to be effective or as effective as other competing compounds, or even if approved, that any of our key IO compounds will become commercially successful for all approved indications.

We depend on several key products for most of our revenues, cash flows and earnings.
We derive a majority of our revenue and earnings from several key products. Our six prioritized brands comprised approximately 86% of revenues in 2018. Growth products such as Opdivo and Eliquis represented, and are expected to increasingly represent, a significant part of our revenue, earnings and cash flows. A reduction in revenue from any of these products could adversely impact our earnings and cash flows. Also, if one of our major products were to become subject to issues such as loss of patent protection, significant changes in demand, formulary access changes, material product liability, unexpected side effects, regulatory proceedings, negative publicity, supply disruption from

our manufacturing operations or third-party supplier or a significant advancement of competing products, we may incur an adverse impact on our business, financial condition, results of operations or trading price of our stock.

We may experience difficulties or delays in the development and commercialization of new products. Compounds or products may appear promising in development but fail to reach market within the expected or optimal timeframe, or at all. In addition, product extensions or additional indications may not be approved. Furthermore, products or indications approved under the U.S. FDA's Accelerated Approval Program may be contingent upon verification and description of clinical benefit in confirmatory studies and such studies may not be successful. For example, in November 2018, we announced that the CheckMate-451 study did not meet its primary endpoint of overall survival with Opdivo+Yervoy versus placebo as a maintenance therapy in patients with extensive-stage SCLC after completion of first-line platinum-based chemotherapy.

Developing and commercializing new compounds and products include inherent risks and uncertainties, including (i) due to efficacy and safety concerns, delayed or denied regulatory approvals, delays or challenges with producing products on a commercial scale or excessive costs to manufacture them; (ii) failure to enter into or implement optimal alliances for the development and/or commercialization of new products; (iii) failure to maintain a consistent scope and variety of promising late-stage products; (iv) failure of one or more of our products to achieve or maintain commercial viability; and (v) changes in regulatory approval processes may cause delays or denials of new product approvals.

Regulatory approval delays are especially common when a product is expected to have a Risk Evaluation and Mitigation Strategy, as required by the FDA to address significant risk/benefit issues. The inability to bring a product to market or a significant delay in the expected approval and related launch date of a new product could negatively impact our revenues and earnings. In addition, if certain acquired pipeline programs are canceled or we believe their commercial prospects have been reduced, we may recognize material non-cash impairment charges for those programs. Finally, losing key molecules and intermediaries or our compound library through a natural or man-made disaster or act of sabotage could negatively impact the product development cycle.

We face intense competition from other manufacturers.
BMS is dependent on the market access, uptake and expansion for marketed brands, new product introductions, new indications, product extensions and co-promotional activities with alliance partners, to deliver future growth. Competition is keen and includes (i) lower-priced generics and increasingly aggressive generic commercialization tactics, (ii) new competitive products entering the market, particularly in IO, (iii) lower prices for other companies' products, real or perceived superior efficacy (benefit) or safety (risk) profiles or other differentiating factors, (iv) technological advances and patents attained by our competitors, (v) clinical study results from our products or a competitor’s products that affect the value proposition for our products, (vi) business combinations among our competitors and major third-party payers and (vii) competing interests for external partnerships to develop and bring new products to markets. If we are unable to compete successfully against our competitors' products in the marketplace, this could have a material negative impact on our revenues and earnings.

We could lose market exclusivity of a product earlier than expected.
In the pharmaceutical and biotechnology industries, the majority of an innovative product’s commercial value is realized during its market exclusivity period. In the U.S. and in some other countries, when market exclusivity expires and generic versions are approved and marketed or when biosimilars are introduced (even if only for a competing product), there are usually very substantial and rapid declines in a product’s revenues.

Market exclusivity for our products is based upon patent rights and certain regulatory forms of exclusivity. The scope of our patent rights varies from country to country and may also be dependent on the availability of meaningful legal remedies in a country. The failure to obtain patent and other intellectual property rights, or limitations on the use or loss of such rights, could be material to us. In some countries, including certain EU member states, basic patent protections for our products may not exist because certain countries did not historically offer the right to obtain specific types of patents and/or we (or our licensors) did not file in those countries. In addition, the patent environment can be unpredictable and the validity and enforceability of patents cannot be predicted with certainty. Absent relevant patent protection for a product, once the data exclusivity period expires, generic versions can be approved and marketed.

Generic and biosimilar product manufacturers as well as other groups seeking financial gain are also increasingly seeking to challenge patents before they expire, and we could face earlier-than-expected competition for any products at any time. Patents covering our key products have been, and are likely to continue to be, subject to patent litigation. For example, in February 2017 one of the EU patents for Sprycel was revoked by the Opposition Division of the EPO. We may experience a decline in European revenues upon the entry of generics into the market. Refer to “Item 8.

Financial Statements and Supplementary Data—Note 18. Legal Proceedings and Contingencies" for further information. In some cases, manufacturers may seek regulatory approval by submitting their own clinical study data to obtain marketing approval or choose to launch a generic product "at risk" before the expiration of the applicable patent(s) and/or before the final resolution of related patent litigation. There is no assurance that a particular product will enjoy market exclusivity for the full time period that appears in the estimates disclosed in this 2018 Form 10-K or that we assume when we provide our financial guidance. In addition, some countries, such as India, are allowing competitors to manufacture and sell competing generic products, which negatively impacts the protections afforded the Company. Lower-priced biosimilars for BMS biologic products or competing biologics could negatively impact our volumes and prices.

Litigation claiming infringement of intellectual property may adversely affect our future revenues and operating earnings.

Third parties may claim that we infringe upon their intellectual property. Resolving an intellectual property infringement claim can be costly and time consuming and may require us to enter into license agreements, which may not be available on commercially reasonable terms. A successful claim of patent or other intellectual property infringement could subject us to significant damages or an injunction preventing the manufacture, sale, or use of the affected product or products. Any of these events could have a material adverse effect on our profitability and financial condition. In addition, if the proposed Celgene acquisition is consummated, we will also be subject to certain intellectual property claims of Celgene.

Adverse outcomes in other legal matters could negatively affect our business.
Current or future lawsuits, claims, proceedings and government investigations could preclude or delay the commercialization of our products or could adversely affect our operations, profitability, liquidity or financial condition, after any possible insurance recoveries, where available. Such legal matters include (i) intellectual property disputes; (ii) adverse decisions in litigation, including product liability and commercial cases; (iii) anti-bribery regulations, such as the U.S. Foreign Corrupt Practice Act or UK Bribery Act, including compliance with ongoing reporting obligations to the government resulting from any settlements; (iv) recalls or withdrawals of pharmaceutical products or forced closings of manufacturing plants; (v) the failure to fulfill obligations under supply contracts with the government and other customers; (vi) product pricing and promotional matters; (vii) lawsuits and claims asserting, or investigations into, violations of securities, antitrust, Federal and state pricing, consumer protection, data privacy and other laws; (viii) environmental, health, safety and sustainability matters; and (ix) tax liabilities resulting from assessments from tax authorities.

Increased pricing pressure and other restrictions in the U.S. and abroad from MCOs, institutional purchasers and government agencies and programs, among others, could negatively affect our revenues and profit margins.
Our products continue to be subject to increasing pressures across the portfolio from market access, pricing and discounting and other restrictions in the U.S., the EU and other regions around the world, including from (i) rules and practices of MCOs and institutional and governmental purchasers; (ii) government administrative and policy changes and changes in laws and regulations for federal healthcare programs such as Medicare and Medicaid, other government actions and inquiries at the federal level (including the proposals contained in the "American Patient First Blueprint") that seek to amend pharmaceutical pricing and rebate reimbursement practices such as using international pricing indexes, modifying the federal Anti-Kickback statute discount safe harbor, accelerating generic drug approval processes, promoting the use of biosimilar drugs and the option of applying step therapy, listing prices of products in advertising and granting additional authority to governmental agencies to manage drug utilization and negotiate drug prices and laws at the state level that have recently been enacted in California, Vermont, Nevada and New York that are focused on drug pricing transparency and/or limiting state spending on drugs; (iii) the potential impact of changes to pharmaceutical reimbursement, changes resulting from our implementation of the guidance in the final rule issued by the Centers for Medicare & Medicaid Services ("CMS") on the calculation of Average Manufacturer Price and Best Price and changes that are required based on the guidance from the CMS from the rule that was deferred; (iv) the impact of the increased pricing pressure from Medicare Part D formularies, Medicare Part B reimbursement rates to physicians, expanded utilization under the 340B Drug Pricing Program, as well as commercial formularies in general; (v) reimbursement delays; (vi) government price erosion mechanisms across Europe and in other countries, resulting in deflation for pharmaceutical product pricing; (vii) collection delays or failures to pay in government-funded public hospitals outside the U.S.; (viii) the impact on pricing from parallel trade and drug importation across borders; (ix) other developments in technology and/or industry practices that could impact the reimbursement policies and practices of third-party payers; and (x) inhibited market access due to real or perceived differences in value propositions for our products compared to competing products.

We are subject to a variety of U.S. and international laws and regulations.
We are currently subject to a number of government laws and regulations and in the future, could become subject to new government laws and regulations. The costs of compliance with such laws and regulations, or the negative results of non-compliance, could adversely affect our business, our operating results and the financial condition of our Company; these include (i) additional healthcare reform initiatives in the U.S. or in other countries, including additional mandatory discounts or fees; (ii) new laws, regulations and judicial or other governmental decisions affecting pricing, drug reimbursement, receivable payments and access or marketing within or across jurisdictions; (iii) changes in intellectual property law; (iv) changes in accounting standards; (v) new and increasing data privacy regulations and enforcement, particularly in the EU and the U.S.; (vi) emerging and new global regulatory requirements for reporting payments and other value transfers to healthcare professionals; and (vii) the potential impact of importation restrictions, legislative and/or other regulatory changes.

Changes to tax regulations could negatively impact our earnings.
We are subject to income taxes in the U.S. and various other countries globally. In particular, although the passage of the Tax Cuts and Jobs Act of 2017 reduced the U.S. tax rate to 21%, our future earnings could be negatively impacted by changes in tax legislation including changing tax rates and tax base such as limiting, phasing-out or eliminating deductions or tax credits, taxing certain excess income from intellectual property, changing rules for earnings repatriations and changing other tax laws in the U.S. or other countries.

Third-party royalties represent a significant percentage of our pretax income and operating cash flow.
We have entered into several arrangements which entitle us to potential royalties from third parties for out-licensed intellectual property, commercialization rights and sales-based contingent proceeds related to the divestiture of businesses. In many of these arrangements we have minimal, if any, continuing involvement that contribute to the financial success of those activities. Royalties have continued to represent a significant percentage of our pretax income, including royalties related to the divestiture of Plavix* and Avapro*/Avalide*, our Erbitux* and diabetes businesses (including the transfer of certain future royalty rights pertaining to Amylin, Onglyza* and Farxiga* product sales), our Sanofi arrangement, out-licensed intellectual property and the Merck patent infringement settlement. Pretax income generated from royalties was approximately $1.7 billion in 2018. Our pretax income could be adversely affected if the royalty streams decline in future periods.

The failure of third parties to meet their contractual, regulatory and other obligations could adversely affect our business.

We rely on suppliers, vendors, outsourcing partners, alliance partners and other third parties to research, develop, manufacture, commercialize, co-promote and sell our products, manage certain marketing, selling, human resource, finance, IT and other business unit and functional services and meet their contractual, regulatory and other obligations. Using these third parties poses a number of risks, such as: (i) they may not perform to our standards or legal requirements, for example, in relation to the outsourcing of significant clinical development activities for innovative medicines to some contract research organizations; (ii) they may not produce reliable results; (iii) they may not perform in a timely manner; (iv) they may not maintain confidentiality of our proprietary information; (v) they may incur a significant cyberattack or business disruption; (vi) disputes may arise with respect to ownership of rights to technology developed with our partners; and (vii) disagreements could cause delays in, or termination of, the research, development or commercialization of the product or result in litigation or arbitration. Moreover, some third parties are located in markets subject to political and social risk, corruption, infrastructure problems and natural disasters, in addition to country specific privacy and data security risk given current legal and regulatory environments. The failure of any critical third party to meet its obligations, including for future royalty and milestone payments; adequately deploy business continuity plans in the event of a crisis; and/or satisfactorily resolve significant disagreements with us or address other factors, could have a material adverse impact on our operations and results. In addition, if these third parties violate, or are alleged to have violated, any laws or regulations, including the local pharmaceutical code, U.S. Foreign Corrupt Practice Act, UK Bribery Act and other similar laws and regulations, during the performance of their obligations for us, it is possible that we could suffer financial and reputational harm or other negative outcomes, including possible legal consequences.

Failure to execute our business strategy could adversely impact our growth and profitability.

Our strategy is focused on delivering innovative, transformational medicines to patients in a focused set of disease areas. If we are unable to successfully execute on this strategy, this could negatively impact our future results of operations and market capitalization. In connection with this strategy, we are in the process of acquiring Celgene, a leading innovative biotech company that complements our existing portfolio of medicines and pipeline assets across our key disease areas of focus. Our ability to successfully complete the acquisition and successfully integrate Celgene could impact our results of operations. If we are not able to achieve the cost savings that we expect, this could negatively impact our operating margin and earnings results. In addition, we may be unable to consistently maintain an adequate pipeline, through internal R&D programs or transactions with third parties, to support future revenue growth. Competition among pharmaceutical companies for acquisition and product licensing opportunities is intense, and we may not be able to locate suitable acquisition targets or licensing partners at reasonable prices, or successfully execute such transactions. If we are unable to support and grow our marketed products, successfully execute the launches of newly approved products, advance our late-stage pipeline, manage change from our operating model evolution and manage our costs effectively, our operating results and financial condition could be negatively impacted.

Failure to attract and retain highly qualified personnel could affect our ability to successfully develop and commercialize products.

Our success is largely dependent on our continued ability to attract and retain highly qualified scientific, technical and management personnel, as well as personnel with expertise in clinical R&D, governmental regulation and commercialization. Competition for qualified personnel in the biopharmaceutical field is intense. We cannot be sure that we will be able to attract and retain quality personnel or that the costs of doing so will not materially increase.

Any businesses or assets that we acquire in the future may underperform, we may not be able to successfully integrate them into our existing business and the occurrence of a number of unexpected factors could prevent or substantially delay the consummation of an anticipated acquisition, divestiture or merger.

We have acquired, or in-licensed, a number of other assets and we expect to continue to support our pipeline with compounds or products obtained through licensing and acquisitions. Future revenues, profits and cash flows of an acquired company's products, technologies and pipeline candidates, may not materialize due to low product uptake, delayed or missed pipeline opportunities, the inability to capture expected synergies, increased competition, safety concerns, regulatory issues, supply chain problems or other factors beyond our control. Substantial difficulties, costs and delays could result from integrating our acquisitions, including for (i) R&D, manufacturing, distribution, sales, marketing, promotion and information technology activities; (ii) policies, procedures, processes, controls and compliance; and (iii) tax considerations. In addition, due to the substantial amount of debt that we expect to incur to finance the cash portion of the proposed Celgene acquisition consideration, there can be no assurance that, if the acquisition is consummated, we will choose to continue to invest in these technologies.

We could experience difficulties and delays in the manufacturing, distribution and sale of our products.
Our product supply and related patient access could be negatively impacted by, among other things: (i) product seizures or recalls or forced closings of manufacturing plants; (ii) our failure, or the failure of any of our suppliers, to comply with cGMP and other applicable regulations or quality assurance guidelines that could lead to manufacturing shutdowns, product shortages or delays in product manufacturing; (iii) manufacturing, quality assurance/quality control, supply problems or governmental approval delays; (iv) the failure of a sole source or single source supplier to provide us with the necessary raw materials, supplies or finished goods within a reasonable timeframe and with required quality; (v) the failure of a third-party manufacturer to supply us with bulk active or finished product on time; (vi) construction or regulatory approval delays for new facilities or the expansion of existing facilities, including those intended to support future demand for our biologics products, such as Opdivo; (vii) the failure to meet new and emerging regulations requiring products to be tracked throughout the distribution channels using unique identifiers to verify their authenticity in the supply chain; (viii) other manufacturing or distribution issues, including limits to manufacturing capacity and changes in the types of products produced, such as biologics, physical limitations or other business interruptions; and (ix) disruption in supply chain continuity, including from natural disasters, acts of war or terrorism or other external factors over which we have no control impacting one or more of our facilities or at a critical supplier. For example, our new biologics manufacturing facility in Cruiserath, Ireland is expected to be approved for commercial use in early 2020. A delay in the planned opening of the site could impact the supply of our products or require us to obtain product supply from third parties at a significant cost.

Product labeling changes for our marketed products could result in a negative impact on revenues and profit margins.
We or regulatory authorities may need to change the labeling for any pharmaceutical product, including after a product has been marketed for several years. These changes are often the result of additional data from post-marketing studies, head-to-head studies, adverse events reports, studies that identify biomarkers (objective characteristics that can indicate a particular response to a product or therapy) or other studies or post-marketing experience that produce important additional information about a product. New information added to a product's label can affect its risk-benefit profile, leading to potential recalls, withdrawals or declining revenue, as well as product liability claims. Sometimes additional information from these studies identifies a portion of the patient population that may be non-responsive to a medicine or would be at higher risk of adverse reactions and labeling changes based on such studies may limit the patient population. The studies providing such additional information may be sponsored by us, but they could also be sponsored by competitors, insurance companies, government institutions, MCOs, scientists, investigators or other interested parties. While additional safety and efficacy information from such studies assist us and healthcare providers in identifying the best patient population for each product, it can also negatively impact our revenues due to inventory returns and a more limited patient population going forward. Additionally, certain study results, especially from head-to-head studies, could affect a product's formulary listing, which could also adversely affect revenues.

The illegal distribution and sale by third parties of counterfeit or unregistered versions of our products or stolen products could have a negative impact on our revenues, earnings, reputation and business.
Third parties may illegally distribute and sell counterfeit versions of our products, which do not meet our rigorous manufacturing and testing standards. A patient who receives a counterfeit drug may be at risk for a number of dangerous health consequences. Our reputation and business could suffer harm as a result of counterfeit drugs sold under our brand name. Thefts of inventory at warehouses, plants or while in-transit, which are then not properly stored and are later sold through unauthorized channels, could adversely impact patient safety, our reputation and our business. In addition, diversion of products from their authorized market into other channels may result in reduced revenues and negatively affect our profitability.

We are dependent on information technology and our systems and infrastructure face certain risks, including from cybersecurity breaches and data leakage.
We rely extensively on IT systems, networks and services, including internet sites, data hosting and processing facilities and tools, physical security systems and other hardware, software and technical applications and platforms,

some of which are managed, hosted provided and/or used for third-parties or their vendors, to assist in conducting our business. A significant breakdown, invasion, corruption, destruction or interruption of critical information technology systems or infrastructure, by our workforce, others with authorized access to our systems or unauthorized persons could negatively impact operations. The ever-increasing use and evolution of technology, including cloud-based computing, creates opportunities for the unintentional dissemination or intentional destruction of confidential information stored in our, or our third-party providers', systems, portable media or storage devices. We could also experience a business interruption, theft of confidential information or reputational damage from industrial espionage attacks, malware or other cyber-attacks, which may compromise our system infrastructure or lead to data leakage, either internally or at our third-party providers. Although the aggregate impact on our operations and financial condition has not been material to date, we have been the target of events of this nature and expect them to continue as cybersecurity threats have been rapidly evolving in sophistication and becoming more prevalent in the industry. We have invested in industry appropriate protections and monitoring practices of our data and IT to reduce these risks and continue to monitor our systems on an ongoing basis for any current or potential threats. While we maintain cyber insurance, this insurance may not, however, be sufficient to cover the financial, legal, business or reputational losses that may result from an interruption or breach of our systems. There can be no assurance that our continuing efforts will prevent breakdowns or breaches to our or our third-party providers’ databases or systems that could adversely affect our business.

Adverse changes in U.S. and global economic and political conditions could adversely affect our profitability.
Global economic and political risks pose significant challenges to a company's growth and profitability and are difficult to mitigate. We generated approximately 45% of our revenues outside of the U.S. in 2018. As such, our revenues, earnings and cash flow are exposed to risk from a strengthening U.S. dollar. We have exposure to customer credit risks in Europe, South America and other markets including from government-guaranteed hospital receivables in markets where payments are not received on time. We have significant operations in Europe, including for manufacturing and distribution. The results of our operations could be negatively impacted by any member country exiting the eurozone monetary union or EU, including the planned exit of the UK from the EU, in particular an exit without a withdrawal agreement and associated transition period in place, may have an impact on our research, commercial and general business operations in the UK and the EU, including the approval and supply of our products.

In addition, any discontinuation or modification of the LIBOR and any future initiatives to regulate, reform or change the manner of administration of benchmarks could result in adverse consequences to the return on, value of and market for our securities and other instruments whose returns are linked to any such benchmark. Additionally, future pension plan funding requirements continue to be sensitive to global economic conditions and the related impact on equity markets. Also, disruptions in the credit markets or a downgrade of our current credit rating could increase our future borrowing costs and impair our ability to access capital and credit markets on terms commercially acceptable to us, which could adversely affect our liquidity and capital resources or significantly increase our cost of capital. Finally, our business, operations may be adversely affected by political volatility, conflicts or crises in individual countries or regions, including terrorist activities or war.

There can be no guarantee that we will pay dividends or repurchase stock.
The declaration, amount and timing of any dividends fall within the discretion of our Board of Directors. The Board's decision will depend on many factors, including our financial condition, earnings, capital requirements, debt service obligations, industry practice, legal requirements, regulatory constraints and other factors that our Board may deem relevant. A reduction or elimination of our dividend payments or dividend program could adversely affect our stock price. In addition, we could, at any time, decide not to buy back any more shares in the market, which could also adversely affect our stock price.

Increased use of social media platforms present risks and challenges.
We are increasing our use of social media to communicate Company news and events. The inappropriate and/or unauthorized use of certain media vehicles could cause brand damage or information leakage or could lead to legal implications, including from the improper collection and/or dissemination of personally identifiable information from employees, patients, healthcare professionals or other stakeholders. In addition, negative or inaccurate posts or comments about us on any social networking website could damage our reputation, brand image and goodwill. Further, the disclosure of non-public Company-sensitive information by our workforce or others through external media channels could lead to information loss. Identifying new points of entry as social media continues to expand presents new challenges.

Risks Related to the Proposed Acquisition of Celgene

We may not realize the anticipated benefits and synergies from our proposed acquisition of Celgene.
On January 3, 2019, we announced that we have entered into a definitive merger agreement with Celgene under which we will acquire Celgene. While we and Celgene will continue to operate independently until the completion of the acquisition, the success of the acquisition will depend, in part, on our ability to realize the anticipated benefits from successfully combining our and Celgene's businesses and we plan on devoting substantial management attention and resources to integrating our business practices and operations with Celgene's so that we can fully realize the anticipated benefits of the acquisition. Nonetheless, difficulties may arise during the process of combining the operations of our companies that could result in the failure to achieve the synergies or free cash flow that we anticipate, the loss of key employees that may be difficult to replace in the very competitive pharmaceutical field, the disruption of each company's ongoing businesses or inconsistencies in standards, controls, procedures and policies that adversely affect our ability to maintain relationships with customers, suppliers, distributors, alliance partners, creditors, clinical trial investigators or managers of its clinical trials. As a result, the anticipated benefits of the acquisition may not be realized fully within the expected timeframe or at all or may take longer to realize or cost more than expected, which could materially impact the business, cash flow, financial condition or results of operations as well as adversely impact the price of the shares of the combined company.

In addition, at times, the attention of certain members of each company's management and each company's resources may be focused on completion of the merger and the integration of the businesses of the two companies and diverted from day-to-day business operations, which may disrupt each company's ongoing business and the business of the combined company.

We and Celgene are the targets of a securities class action and derivative lawsuit in connection with the acquisition, described under "Item 8. Financial Statements and Supplementary Data—Note 18. Legal Proceedings and Contingencies," and could become targets of additional actions and lawsuits, which could result in substantial costs and may delay or prevent the acquisition from being completed.

Failure to complete our pending acquisition of Celgene could negatively impact our stock price and our future business and financial results.
Our obligations and the obligations of Celgene to complete the merger are subject to satisfaction or waiver of a number of conditions. There can be no assurance that the conditions to completion of the acquisition will be satisfied or waived or that the acquisition will be completed. If the acquisition is not consummated for any reason, we may receive negative reactions from our shareholders, providers, vendors, regulators and employees and we may be subjected to various material risks, including the possibility that the price of our common stock and other securities may decline to the extent that current market prices reflect a market assumption that the acquisition will be completed.

Also, in the event of a termination of the merger agreement under certain specified circumstances, we could be required to reimburse expenses of Celgene or pay Celgene a termination fee of up to $2.2 billion and we could be subject to litigation related to any failure to complete the merger or to specifically enforce our obligation to perform our obligations under the merger agreement. In addition, the merger agreement places certain restrictions on the conduct of our businesses prior to completion of the merger, and such restrictions, the waiver of which is subject to consent of Celgene, may prevent us from making certain acquisitions, taking certain other specified actions or otherwise pursuing business opportunities during the pendency of the merger that we would have made, taken or pursued if these restrictions were not in place.

If any of these risks materialize, they may materially and adversely affect our businesses, financial condition, financial results, ratings, stock prices and/or bond prices.

We will incur significant additional indebtedness to finance our pending acquisition of Celgene as well as transaction and acquisition-related costs in connection with the acquisition, which will limit our operating flexibility.

Upon completion of the acquisition, we will increase our indebtedness, which will include acquisition debt financing of approximately $33.5 billion and the assumption of approximately $19.9 billion of Celgene's debt, resulting in us having a higher debt-to-equity ratio. In addition, Celgene shareholders will also receive one tradeable contingent value right for each share of Celgene representing the right to receive $9.00 in cash upon the achievement of future regulatory milestones. As a result of the acquisition and increased indebtedness, we anticipate that our corporate credit ratings will be decreased by one or more ratings agencies. The increased indebtedness and any payments pursuant to the contingent value right will significantly reduce the amount of cash flow available to fund our efforts to combine our business with Celgene and realize expected benefits of the pending acquisition, to pursue other acquisitions, and to engage in investments in product development, capital expenditures, dividend payments, share repurchases and other activities, which could, among other things, limit our flexibility in planning for, or reacting to, changes in or challenges relating to our business and industry and, together with any decrease in our credit ratings, increase our borrowing costs. In addition, under certain circumstances, we could be required to repurchase Celgene's outstanding debt securities, and we cannot provide assurances that we would have sufficient funds to do so.

We expect to incur a number of non-recurring costs in connection with the acquisition, whether or not the acquisition is completed, which will be mostly comprised of transaction costs, facilities and systems consolidation costs and employment-related costs. Although we expect that the realization of efficiencies related to the integration of the businesses will offset at least a portion of these costs, this net benefit may not be accomplished in the near term or at all.

We and Celgene may have difficulty attracting, motivating and retaining executives and other key employees in light of the proposed acquisition.

Due to the specialized scientific and managerial nature of our business, we and Celgene rely heavily on our ability to attract and retain qualified scientific, technical and managerial personnel. The competition for qualified personnel in the pharmaceutical field is intense and our success after the transaction will depend in part on our ability to retain scientific and technical personnel and other key employees of Celgene. Uncertainty about the effect of the merger on our and Celgene employees may have an adverse effect on each of us and Celgene separately and consequently the combined business. This uncertainty may impair our and/or Celgene's ability to attract, retain and motivate key personnel. Employee retention may be particularly challenging during the pendency of the merger, as our and Celgene's employees may experience uncertainty about their future roles in the combined business.

Additionally, Celgene's officers and employees may hold shares of Celgene common stock, and, if the merger is completed, these officers and employees may be entitled to cash and/or the merger consideration in respect of such shares of Celgene common stock. Officers and employees may hold Celgene Stock Options, Celgene RSUs, Celgene PSUs and Celgene RSAs that are subject to accelerated vesting upon a termination without cause and/or a resignation for "good reason" following completion of the merger. Pursuant to employment agreements and/or other agreements or arrangements with Celgene, certain key employees of Celgene are also entitled to receive severance payments upon a termination without cause and/or a resignation for "good reason" following completion of the merger. Under these agreements, certain key employees of Celgene potentially could resign from his or her employment following specified circumstances set forth in his or her applicable agreement, including an adverse change in his or her title, authority or responsibilities, compensation and benefits or primary office location. These payments, individually or in the aggregate, could make retention of Celgene officers and employees more difficult.

Furthermore, if our and Celgene's key employees depart or are at risk of departing, including because of issues relating to the uncertainty and difficulty of integration, financial security or a desire not to become employees of the combined business, we may have to incur significant costs in retaining such individuals or in identifying, hiring and retaining replacements for departing employees and may lose significant expertise and talent relating to the business of Celgene, and our ability to realize the anticipated benefits of the merger may be materially and adversely affected. Accordingly, no assurance can be given that we will be able to attract or retain key employees of Celgene to the same extent that Celgene has been able to attract or retain employees in the past.

If our pending acquisition of Celgene is consummated, our stockholders' ownership percentage will be diluted.

If the proposed acquisition is consummated, we will issue to Celgene shareholders shares of our common stock. As a result of the issuance of these shares of our common stock, our shareholders will own a smaller percentage of the combined company after the acquisition and will therefore have a reduced voting interest after the acquisition. Based on preliminary estimates which may materially change after the completion of the merger, the proposed acquisition is expected to be dilutive to our 2019 GAAP EPS, principally due to the amortization of intangible assets associated with Celgene's currently marketed product rights as well as additional interest, acquisition and integration costs. Although we expect the transaction to be accretive to our 2019 non-GAAP EPS, unexpected factors may result in lower or delayed accretion or even in dilution to our EPS in 2019 or in future years.

The combined company will be subject to the risks that Celgene faces, in addition to the risks faced by Bristol-Myers Squibb.

Celgene has several commercialized products as well as a diverse early- and late-stage pipeline that includes five potential near-term product launches. If we consummate our acquisition of Celgene, the combined company may be negatively affected if the expiration or loss of patent protection for any of these commercialized products occurs, or upon the “at-risk” launch by a manufacturer of a generic version of any of these products. In addition, if the combined company fails to obtain timely, or at all, requisite regulatory approvals in the U.S. and internationally for products in development or if research and development for the early-stage pipeline requires greater financial investment than we anticipated, our business, cash flow, financial condition and results of operations may be harmed.

If we consummate our acquisition of Celgene, we will assume Celgene’s risks arising from legal proceedings. Like many pharmaceutical companies in the current legal environment, Celgene is involved in various patent, product liability, consumer, commercial, securities, environmental and tax litigations and claims, government investigations and other legal proceedings that arise from time to time in the ordinary course of its business. We cannot predict with certainty the eventual outcome of Celgene’s pending or future legal proceedings and an adverse outcome in any of these matters could be material to our business, cash flow, financial condition or results of operations.

Item 1B. UNRESOLVED STAFF COMMENTS.

None.

Item 2. PROPERTIES.

Our principal executive offices are located at 430 East 29th Street, 14th Floor, New York, NY. We own or lease manufacturing, R&D, administration, storage and distribution facilities at approximately 160 sites worldwide. We believe our manufacturing properties, in combination with our third-party manufacturers, are in good operating condition and provide adequate production capacity for our current and projected operations. For further information about our manufacturing properties, refer to "Item 1. Business—Manufacturing and Quality Assurance."

Our significant manufacturing and R&D locations by geographic area were as follows at December 31, 2018:

	Manufacturing	R&D
United States	4	5
Europe	3	2
Total	7	7

Item 3. LEGAL PROCEEDINGS.

Information pertaining to legal proceedings can be found in "Item 8. Financial Statements and Supplementary Data—Note 18. Legal Proceedings and Contingencies" and is incorporated by reference herein.

Item 4. MINE SAFETY DISCLOSURES.

Not applicable.

PART IA

Executive Officers of the Registrant

Listed below is information on our executive officers as of February 25, 2019. Executive officers are elected by the Board of Directors for an initial term, which continues until the first Board meeting following the next Annual Meeting of Shareholders, and thereafter, are elected for a one-year term or until their successors have been elected. Executive officers serve at the discretion of the Board of Directors.

Name and Current Position	Age	Employment History for the Past 5 Years
Giovanni Caforio, M.D. Chairman of the Board and Chief Executive Officer Member of the Leadership Team	54	2011 to 2013 – President, U.S. Pharmaceuticals 2013 to 2014 – Executive Vice President and Chief Commercial Officer 2014 to 2015 – Chief Operating Officer and Director of the Company 2015 to 2017 – Chief Executive Officer and Director of the Company 2017 to present – Chairman of the Board and Chief Executive Officer
Charles A. Bancroft Chief Financial Officer and Executive Vice President, Global Business Operations Member of the Leadership Team	59	2011 to 2016 – Chief Financial Officer and Executive Vice President, Global Services 2016 to present – Chief Financial Officer and Executive Vice President, Global Business Operations
Paul Biondi Senior Vice President, Strategy and Business Development Member of the Leadership Team	49	2010 to 2015 – Senior Vice President, R&D Operations 2015 to 2018 – Head of Business Development 2018 to present – Senior Vice President and Head of Strategy & Business Development
Christopher Boerner, Ph.D. Executive Vice President, Chief Commercial Officer Member of the Leadership Team	48	2012 to 2014 – Senior Vice President, Commercial, Seattle Genetics 2014 to 2015 – Executive Vice President, Seattle Genetics 2015 to 2017 – President and Head of U.S. Commercial 2017 to 2018 – President and Head, International Markets 2018 to present – Executive Vice President and Chief Commercial Officer
Adam Dubow Senior Vice President, Chief Compliance and Ethics Officer Member of the Leadership Team	52	2013 to 2015 – Vice President and Assistant General Counsel, China, Japan and Intercon Region and EMAC Region 2015 to 2018 – Vice President and Associate General Counsel, Research and Development 2018 to present – Senior Vice President, Chief Compliance and Ethics Officer
John E. Elicker Senior Vice President, Corporate Affairs and Investor Relations Member of the Leadership Team	59	2012 to 2017 – Senior Vice President, Public Affairs and Investor Relations 2017 to present – Senior Vice President, Corporate Affairs and Investor Relations
Ann Powell Judge Senior Vice President, Chief Human Resources Officer Member of the Leadership Team	53	2009 to 2013 – Chief Human Resources Officer, Shire Pharmaceuticals 2013 to 2016 – Senior Vice President, Global Human Resources 2016 to present – Senior Vice President, Chief Human Resources Officer
Sandra Leung	58	2007 to 2014 – General Counsel and Corporate Secretary

Executive Vice President, General Counsel Member of the Leadership Team		2014 to 2015 – Executive Vice President, General Counsel and Corporate Secretary 2015 to present – Executive Vice President, General Counsel
Thomas J. Lynch., M.D. Executive Vice President and Chief Scientific Officer Member of the Leadership Team	58	2017 to present – Executive Vice President and Chief Scientific Officer
Karen Santiago Senior Vice President and Corporate Controller	48	2012 to 2015 – Vice President Finance, Global Manufacturing and Supply 2015 to 2016 – Vice President Finance, U.S. Commercial and Global Capability Hub 2016 to 2018 – Lead, Enabling Functions and Finance Transformation 2018 to present – Senior Vice President and Corporate Controller
Louis S. Schmukler Senior Vice President and President, Global Product Development and Supply Member of the Leadership Team	63	2011 to 2017 – President, Global Product Development and Supply 2017 to present – Senior Vice President and President, Global Product Development and Supply
Paul von Autenried Senior Vice President, Chief Information Officer Member of the Leadership Team	57	2012 to 2016 – Senior Vice President, Enterprise Services and Chief Information Officer 2016 to present – Senior Vice President, Chief Information Officer

PART II

Item 5. MARKET FOR THE REGISTRANT'S COMMON STOCK AND OTHER STOCKHOLDER MATTERS.

Bristol-Myers Squibb common stock is traded on the New York Stock Exchange (Symbol: BMY).

Holders of Common Stock

The number of record holders of our common stock at January 31, 2019 was 39,418.

The number of record holders is based upon the actual number of holders registered on our books at such date based on information provided by EQ Shareowner Services (formerly Wells Fargo Shareowner Services), our transfer agent, and does not include holders of shares in "street names" or persons, partnerships, associations, corporations or other entities identified in security position listings maintained by depository trust companies.

Equity Compensation Plan Information

Information required by this item will be contained in our 2019 Proxy Statement under the heading "Items to be Voted Upon—Item 2—Advisory Vote to Approve the Compensation of our Named Executive Officers-Equity Compensation Plan Information," which information is incorporated herein by reference.

Performance Graph

The following graph compares the cumulative total stockholders' returns of our common shares with the cumulative total stockholders' returns of the companies listed in the Standard & Poor's 500 Index and a composite peer group of major pharmaceutical companies comprised of AbbVie, Amgen, AstraZeneca, Biogen, Celgene, Gilead, GlaxoSmithKline, Johnson & Johnson, Lilly, Merck, Novartis, Pfizer, Roche and Sanofi. The graph assumes $100 investment on December 31, 2013 in each of our common shares, the S&P 500 Index and the stock of our peer group companies, including reinvestment of dividends, for the years ended December 31, 2014, 2015, 2016, 2017 and 2018. The stock price performance on the following graph is not necessarily indicative of future stock price performance.

	2013	2014	2015	2016	2017	2018
Bristol-Myers Squibb	$100.00	$114.06	$136.04	$117.73	$126.95	$110.82
S&P 500	100.00	113.69	115.26	129.05	157.22	150.33
Peer Group	100.00	113.55	115.40	112.35	130.89	140.60

Unregistered Sales of Equity Securities and Use of Proceeds

The following table summarizes the surrenders of our equity securities during the three months ended December 31, 2018:

Period	Total Number of Shares Purchased[a]	Average Price Paid per Share[a]	Total Number of Shares Purchased as Part of Publicly Announced Programs[b]	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Programs[b]
Dollars in Millions, Except Per Share Data				
October 1 to 31, 2018	7,987	$ 62.01	—	$ 1,348
November 1 to 30, 2018	13,978	52.52	—	1,348
December 1 to 31, 2018	16,110	53.02	—	1,348
Three months ended December 31, 2018	38,075		—	

(a) Includes shares repurchased as part of publicly announced programs and shares of common stock surrendered to the Company to satisfy tax withholding obligations in connection with the vesting of awards under our long-term incentive program.

(b) In May 2010, the Board of Directors authorized the repurchase of up to $3.0 billion of common stock and in June 2012 increased its authorization for the repurchase of common stock by an additional $3.0 billion. In October 2016, the Board of Directors approved a new share repurchase program authorizing the repurchase of an additional $3.0 billion of common stock. The stock repurchase program does not have an expiration date.

Item 6. SELECTED FINANCIAL DATA.

The following table sets forth our selected historical consolidated financial information for each of the five periods indicated. This information should be read together with "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations" and with the consolidated financial statements and related notes included elsewhere in this 2018 Form 10-K.

The selected historical financial information as of and for the years ended December 31, 2018, 2017, 2016, 2015 and 2014 are derived from our audited consolidated financial statements and related notes.

Five Year Financial Summary Amounts in Millions, except per share data	2018	2017	2016	2015	2014
Income Statement Data:					
Total Revenues	$22,561	$20,776	$19,427	$16,560	$15,879
Net Earnings	4,947	975	4,507	1,631	2,029
Net Earnings/(Loss) Attributable to:					
Noncontrolling Interest	27	(32)	50	66	25
BMS	4,920	1,007	4,457	1,565	2,004
Net Earnings per Common Share Attributable to BMS:					
Basic	$3.01	$0.61	$2.67	$0.94	$1.21
Diluted	3.01	0.61	2.65	0.93	1.20
Average common shares outstanding:					
Basic	1,633	1,645	1,671	1,667	1,657
Diluted	1,637	1,652	1,680	1,679	1,670
Cash dividends paid on BMS common and preferred stock	$2,613	$2,577	$2,547	$2,477	$2,398
Cash dividends declared per common share	$1.61	$1.57	$1.53	$1.49	$1.45
Financial Position Data at December 31:					
Cash and cash equivalents	$6,911	$5,421	$4,237	$2,385	$5,571
Marketable securities[(a)]	3,748	3,871	4,832	6,545	6,272
Total Assets	34,986	33,551	33,707	31,748	33,749
Long-term debt[(a)]	6,895	6,975	6,465	6,550	7,242
Equity	14,127	11,847	16,347	14,424	14,983

(a) Includes current and non-current portion.

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

Management's discussion and analysis of results of operations and financial condition is provided as a supplement to and should be read in conjunction with the consolidated financial statements and related notes included elsewhere in this 2018 Form 10-K to enhance the understanding of our results of operations, financial condition and cash flows.

EXECUTIVE SUMMARY

Bristol-Myers Squibb Company is a global specialty biopharmaceutical company whose mission is to discover, develop and deliver innovative medicines that help patients prevail over serious diseases. Refer to the Summary of Abbreviated Terms at the end of this 2018 Form 10-K for terms used throughout the document.

In 2018, we received 14 approvals for new medicines and additional indications and formulations of currently marketed medicines in major markets (the U.S., EU, Japan and China) including multiple regulatory milestone achievements for Opdivo and Opdivo+Yervoy combinations. We are committed to investigating Opdivo alone and in combination with Yervoy and other anti-cancer agents for a wide array of tumor types, including broad programs in lung, head & neck, liver, kidney, bladder and stomach. We continue to believe that the breadth and depth of our IO portfolio positions us well for the future. We have 17 new IO compounds in clinical development and studies across more than 35 different tumor types. In addition, we advanced certain other non-IO R&D programs in our pipeline, including TYK2 inhibitor for the treatment of psoriasis and other autoimmune diseases, Factor XIa inhibitor for the treatment of thrombosis (in collaboration with Janssen), and Pegbelfermin (PEG-FGF21) for the treatment of NASH.

In 2018, our revenues increased 9% as a result of higher demand for our prioritized brands including Opdivo and Eliquis partially offset by increased competition for established brands, primarily HIV brands and Daklinza. The $2.40 increase in GAAP EPS was primarily due to 2017 tax charges attributed to tax reform and higher revenues. These items were partially offset by higher losses on equity investments. After adjusting for the impact of tax reform, equity investment losses and other specified items, non-GAAP EPS increased $0.97 primarily as a result of higher revenues, higher royalties and licensing income and a lower effective tax rate. Cost savings resulting from our transformation initiatives continue to be redeployed in R&D and other areas of higher priorities.

On January 3, 2019, we announced that we have entered into a definitive merger agreement with Celgene under which we will acquire Celgene. For further discussion on our pending acquisition with Celgene and on our other acquisitions, divestitures and licensing arrangements, refer to "Item 1A. Risk Factors," "Item 8. Financial Statements and Supplementary Data—Note 4. Acquisitions, Divestitures, Licensing and Other Arrangements" and "—Note 19. Subsequent Event."

In 2017, our revenues increased 7% as a result of higher demand for our prioritized brands including Opdivo and Eliquis partially offset by increased competition for established brands, primarily Daklinza. The $2.04 decrease in GAAP EPS was due to tax charges attributed to tax reform ($1.76 per share) and to a lesser extent higher license, asset acquisition and restructuring related charges and lower divestiture- related income. These items were partially offset by higher revenues, royalties and licensing income and a patent-infringement settlement. After adjusting for the impact of tax reform and other specified items, non-GAAP EPS increased $0.18 primarily as a result of higher revenues partially offset by product mix and higher R&D expenses supporting Opdivo and other IO programs.

Highlights

The following table summarizes our financial information:

Year Ended December 31,

Dollars in Millions, except per share data	2018	2017	2016
Total Revenues	$22,561	$20,776	$19,427
Diluted Earnings Per Share			
GAAP	$3.01	$0.61	$2.65
Non-GAAP	3.98	3.01	2.83

Our non-GAAP financial measures, including non-GAAP earnings and related EPS information, are adjusted to exclude specified items that represent certain costs, expenses, gains and losses and other items impacting the comparability of financial results. For a detailed listing of all specified items and further information and reconciliations of non-GAAP financial measures refer to “—Non-GAAP Financial Measures.”

Significant Product and Pipeline Approvals

The following is a summary of the 14 significant approvals received in 2018.

Product	Date	Approval
Opdivo	August 2018	Approval in Japan for patients with MPM which has progressed after chemotherapy.
	August 2018	Approval in Japan for adjuvant treatment of melanoma.
	August 2018	FDA approval as the first and only IO treatment option for patients with metastatic SCLC whose cancer has progressed after platinum-based chemotherapy and at least one other line of therapy.
	July 2018	EC approval for the adjuvant treatment of adult patients with melanoma with involvement of lymph nodes or metastatic disease who have undergone complete resection.
	June 2018	Approval in China for the treatment of locally advanced or metastatic NSCLC after prior platinum-based chemotherapy in adult patients without EGFR or ALK genomic tumor aberrations.
Opdivo+Yervoy	August 2018	Approval in Japan of Opdivo plus low-dose Yervoy for the treatment of unresectable or metastatic RCC.
	July 2018	FDA approval of Opdivo plus low-dose Yervoy for the treatment of adult and pediatric patients 12 years and older with MSI-H or dMMR mCRC that has progressed following treatment with fluoropyrimidine, oxaliplatin and irinotecan.
	May 2018	Approval in Japan of Opdivo+Yervoy combination for previously untreated patients with unresectable melanoma.
	April 2018	FDA approval of Opdivo+Yervoy combination for previously untreated patients with intermediate and poor-risk advanced RCC.
Orencia	February 2018	Approval in Japan for an intravenously administered treatment of moderate to severe polyarticular JIA in patients two years of age and older.
Empliciti	November 2018	FDA approval of Empliciti injection for intravenous use in combination with pomalidomide and dexamethasone for the treatment of adult patients with multiple myeloma who have received at least two prior therapies, including lenalidomide and a proteasome inhibitor.
Sprycel	December 2018	FDA expanded the indication for Sprycel to include the treatment of pediatric patients one year of age and older with newly diagnosed Philadelphia chromosome-positive ALL in combination with chemotherapy.
	July 2018	EC expanded the indication for Sprycel to include the treatment of children and adolescents aged 1 year to 18 years with chronic phase Philadelphia chromosome-positive CML and to include a powder for oral suspension.
Yervoy	January 2018	EC approval of advanced (unresectable or metastatic) melanoma in pediatric patients 12 years of age and older.

Refer to "—Product and Pipeline Developments" for all of the developments in our marketed products and late-stage pipeline in 2018 and in early 2019.

Strategy

Our focus as a specialty biopharmaceutical company is on discovering, developing and delivering transformational medicines that address serious unmet medical needs. Our strategy is to combine the resources, scale and capability of a pharmaceutical company with the speed and focus on innovation of the biotech industry. Our four strategic priorities are to drive business performance, continue to build a leading franchise in IO, maintain a diversified portfolio both within and outside of IO, and continue our disciplined approach to capital allocation, including establishing partnerships, collaborations and in-licensing or acquiring investigational compounds as an essential component of successfully delivering transformational medicines to patients.

We are developing new medicines in the following core therapeutic areas: (1) oncology with a priority in certain tumor types; (2) immunoscience with priorities in psoriasis, lupus, RA and inflammatory bowel disease; (3) cardiovascular with a priority in heart disease and; (4) fibrotic disease with priorities in lung and liver. We continue to advance the next wave of innovative medicines by investing significantly in our pipeline both internally and through business development activities. We expect that our planned acquisition of Celgene will further position us as a leading biopharmaceutical company, expanding our oncology and immunoscience portfolios with several near-term assets and additional external partnerships. We continue to invest in our IO portfolio by pursuing both monotherapy and combination approaches, and advancing our next wave of early assets. We entered into several new collaboration agreements across our therapeutic areas of focus and expanded others to research and develop Opdivo and other approved or investigational oncology agents in combination regimens. We remain focused and well-resourced in our cancer development programs and seek to broaden the use of Opdivo in earlier lines of therapy, expand into new tumors, accelerate next wave IO mechanisms and develop treatment options for refractory IO patients. Beyond cancer, we continue to advance our early stage portfolio in immunoscience, cardiovascular and fibrotic diseases and strengthen our partnerships with a diverse group of companies and academic institutions in new and expanded research activities. We believe our differentiated internal and external focus contributes to the advancing of our pipeline of potentially transformational medicines.

Our commercial model has been evolving and revenues from our prioritized brands continue to grow which demonstrates strong execution of our strategy. We continue to drive growth of Opdivo by expanding into additional indications and tumor types both as a monotherapy and in combination with Yervoy and other anti-cancer agents. Eliquis continues to grow, leveraging its best in class clinical profile and extensive real world data and is now the number one novel oral anticoagulant in total prescriptions in the U.S. We are building on the continued success of our other prioritized brands and remain strongly committed to Orencia and Sprycel. Through our operating model transformation, our commercial infrastructure is uniquely leveraged for potential growth.

Our operating model continues to evolve and we have been successful in focusing commercial, R&D and manufacturing resources on prioritized brands and markets, strengthening our R&D capabilities in tumor biology, patient selection and new biomarkers, delivering leaner administrative functions and streamlining our manufacturing network to reflect the importance of biologics in our current and future portfolio. The evolution in our operating model, which focuses on maintaining a disciplined approach in marketing, selling and administrative expenses, will enable us to deliver the necessary strategic, financial and operational flexibility to invest in the highest priority opportunities within our portfolio.

Looking ahead, we will continue to implement our biopharma strategy by driving the growth of prioritized brands, executing product launches, investing in our diverse and innovative pipeline, aided by strategic business development, focusing on prioritized markets, increasing investments in our biologics manufacturing capabilities and maintaining a culture of continuous improvement.

Acquisitions, Divestitures, Licensing and Collaboration Arrangements

Acquisitions, divestitures, licensing and collaboration arrangements allow us to focus our resources behind our growth opportunities that drive the greatest long-term value. We are focused on the following core therapeutic areas: oncology, including IO, immunoscience, cardiovascular and fibrosis. Significant acquisitions, divestitures and licensing and collaboration arrangements during the past three years are summarized below. Refer to “Item 8. Financial Statements and Supplementary Data —Note 3. Alliances” and “—Note 4. Acquisitions, Divestitures, Licensing and Other Arrangements” for further information.

2018 Arrangements

Nektar: BMS and Nektar commenced a worldwide license and collaboration for the development and commercialization of NKTR-214, Nektar’s investigational immuno-stimulatory therapy.

Janssen: BMS and Janssen commenced a worldwide collaboration for the development and commercialization of a Factor XIa program including BMS’s Factor XIa inhibitor, BMS-986177, an investigational anticoagulant compound being studied for the prevention and treatment of major thrombotic conditions.

Promedior: BMS notified Promedior that the Company would not be exercising a warrant obtained in 2015 to purchase all outstanding shares of Promedior.

Rigel: BMS notified Rigel Pharmaceuticals, Inc., that the Company would discontinue its participation in the preclinical collaboration of cancer immunotherapies based on Rigel's small molecule TGF beta receptor kinase inhibitors originally commenced in 2015.

Bavarian Nordic: BMS notified Bavarian Nordic A/S that the Company will not be exercising its option to globally license and commercialize Prostvac*, Bavarian Nordic’s investigational PSA-targeting cancer immunotherapy.

2017 Arrangements

Ono: BMS acquired an exclusive license to develop and commercialize ONO-4578, Ono’s Prostaglandin E2 receptor 4 antagonist for the treatment of cancer. BMS acquired worldwide rights except in Japan, South Korea, and Taiwan where it was added to the existing collaboration and in China and ASEAN countries where Ono retained exclusive rights.

Halozyme: BMS and Halozyme entered into a global collaboration and license agreement to develop subcutaneously administered BMS IO medicines using Halozyme's ENHANZE* drug-delivery technology which may allow for more rapid delivery of large volume injectable medications.

IFM: BMS acquired all of the outstanding shares of IFM providing BMS with full rights to IFM's preclinical STING and NLRP3 agonist programs focused on enhancing the innate immune response for treating cancer.

Biogen: BMS out-licensed to Biogen exclusive rights to develop and commercialize BMS-986168, an anti-eTau compound in development for Progressive Supranuclear Palsy.

Roche: BMS out-licensed to Roche exclusive rights to develop and commercialize BMS-986089, an anti-myostatin adnectin in development for Duchenne Muscular Dystrophy.

CytomX: BMS and CytomX expanded their initial 2014 strategic collaboration to discover novel cancer treatment therapies that will include up to eight additional targets using CytomX’s proprietary Probody platform for the treatment of cancer.

2016 Arrangements

PsiOxus: BMS acquired exclusive worldwide rights to PsiOxus's NG-348, a pre-clinical stage, “armed” oncolytic virus with the goal of addressing solid tumors.

Padlock: BMS acquired all of the outstanding shares of Padlock providing BMS with full rights to Padlock’s PAD inhibitor discovery program focused on the development of treatment approaches for patients with RA.

Cormorant: BMS acquired all of the outstanding shares of Cormorant providing BMS with full rights to Cormorant's lead candidate HuMax-IL8, a monoclonal antibody that represents a potentially complementary IO mechanism of action to T-cell directed antibodies and co-stimulatory molecules.

Nitto Denko: BMS acquired an exclusive worldwide license to develop and commercialize Nitto Denko's investigational siRNA molecules targeting heat shock protein 47 (HSP47) in vitamin A containing formulations including Nitto Denko's lead asset ND-L02-s0201, currently in development for the treatment of advanced liver

fibrosis, and the option to receive exclusive licenses for HSP47 siRNAs in vitamin A containing formulations for the treatment of lung and other organ fibrosis.

RESULTS OF OPERATIONS

Regional Revenues

The composition of the changes in revenues was as follows:

	Year Ended December 31,			2018 vs. 2017		2017 vs. 2016	
	Total Revenues			Analysis of % Change		Analysis of % Change	
Dollars in Millions	2018	2017	2016	Total Change	Foreign Exchange[b]	Total Change	Foreign Exchange[b]
United States	$12,586	$11,358	$10,720	11 %	—	6 %	—
Europe	5,658	4,988	4,215	13 %	3 %	18 %	1 %
Rest of the World	3,733	3,877	3,964	(4)%	(2)%	(2)%	—
Other[a]	584	553	528	6 %	N/A	5 %	N/A
Total	$22,561	$20,776	$19,427	9 %	1 %	7 %	—

(a) Other revenues include royalties and alliance-related revenues for products not sold by our regional commercial organizations.

(b) Foreign exchange impacts were derived by applying the prior period average currency rates to the current period sales.

U.S. revenues in 2018 were impacted by higher demand for Opdivo and Eliquis partially offset by lower demand for established brands due to increased competition, primarily HIV brands and Daklinza. The higher growth rate in the U.S. was due to additional indication approvals for Opdivo. Average U.S. net selling prices in 2018 were unchanged after charge-backs, rebates and discounts. Refer to "—Product Revenues Commentary" for additional information.

Europe revenues in 2018 were impacted by higher demand for Eliquis and Opdivo and foreign exchange, partially offset by lower demand for established brands due to increased competition and lower average net selling prices.

Rest of the World revenues in 2018 were impacted by lower demand for established brands due to increased competition, lower average net selling prices and foreign exchange, partially offset by higher demand for Opdivo and Eliquis.

U.S. revenues in 2017 were impacted by higher demand for Eliquis and Opdivo partially offset by lower demand for established brands due to increased competition, primarily Daklinza and HIV brands. Average U.S. net selling prices were approximately 2% higher after charge-backs, rebates and discounts. Refer to "—Product Revenues Commentary" for additional information.

Europe revenues in 2017 were impacted by higher demand for Opdivo and Eliquis partially offset by lower demand for Daklinza due to increased competition and lower average net selling prices.

Rest of the World revenues in 2017 were impacted by lower demand for established brands, including Daklinza, due to increased competition and out-licensing of a mature brand product, partially offset by higher demand for Opdivo and Eliquis and lower average net selling prices.

No single country outside the U.S. contributed more than 10% of total revenues in 2018, 2017 and 2016.

GTN Adjustments

We recognize revenue net of GTN adjustments that are further described in "—Critical Accounting Policies."

The activities and ending reserve balances for each significant category of GTN adjustments were as follows:

Dollars in Millions	Charge-Backs and Cash Discounts	Medicaid and Medicare Rebates	Other Rebates, Returns, Discounts and Adjustments	Total
Balance at January 1, 2017	$ 126	$ 520	$ 1,160	$1,806
Provision related to sale made in:				
Current period	2,087	2,090	2,135	6,312
Prior period	(3)	(4)	(64)	(71)
Payments and returns	(2,004)	(1,810)	(2,107)	(5,921)
Foreign currency translation and other	3	—	104	107
Balance at December 31, 2017	$ 209	$ 796	$ 1,228	$2,233
Provision related to sale made in:				
Current period	2,738	3,258	2,693	8,689
Prior period	(3)	(33)	(60)	(96)
Payments and returns	(2,695)	(2,960)	(2,424)	(8,079)
Assets/related liabilities held-for-sale	—	—	(28)	(28)
Foreign currency translation and other	(4)	—	(53)	(57)
Balance at December 31, 2018	$ 245	$ 1,061	$ 1,356	$2,662

The reconciliation of gross product sales to net product sales by each significant category of GTN adjustments was as follows:

	Year Ended December 31,			% Change	
Dollars in Millions	2018	2017	2016	2018 vs. 2017	2017 vs. 2016
Gross product sales	$30,174	$25,499	$22,364	18%	14 %
GTN Adjustments					
Charge-backs and cash discounts	(2,735)	(2,084)	(1,582)	31%	32 %
Medicaid and Medicare rebates	(3,225)	(2,086)	(1,382)	55%	51 %
Other rebates, returns, discounts and adjustments	(2,633)	(2,071)	(1,698)	27%	22 %
Total GTN Adjustments	(8,593)	(6,241)	(4,662)	38%	34 %
Net product sales	$21,581	$19,258	$17,702	12%	9 %
GTN adjustments percentage	28 %	24 %	21 %	4 %	3 %
U.S.	36 %	31 %	26 %	5 %	5 %
Non-U.S.	13 %	13 %	13 %	—	—

GTN adjustments are primarily a function of product sales volume, regional and payer channel mix, contractual or legislative discounts and rebates. GTN adjustments are increasing at a higher rate than gross product sales due to higher U.S. Eliquis gross product sales, which has a relatively high GTN adjustment percentage as a result of competitive pressures to maintain its position on healthcare payer formularies allowing patients continued access through their medical plans.

34

Product Revenues

Dollars in Millions	Year Ended December 31, 2018	2017	2016	% Change 2018 vs. 2017	2017 vs. 2016
Prioritized Brands					
Opdivo	$6,735	$4,948	$3,774	36 %	31 %
U.S.	4,239	3,102	2,664	37 %	16 %
Non-U.S.	2,496	1,846	1,110	35 %	66 %
Eliquis	6,438	4,872	3,343	32 %	46 %
U.S.	3,760	2,887	1,963	30 %	47 %
Non-U.S.	2,678	1,985	1,380	35 %	44 %
Orencia	2,710	2,479	2,265	9 %	9 %
U.S.	1,875	1,704	1,532	10 %	11 %
Non-U.S.	835	775	733	8 %	6 %
Sprycel	2,000	2,005	1,824	—	10 %
U.S.	1,091	1,105	969	(1)%	14 %
Non-U.S.	909	900	855	1 %	5 %
Yervoy	1,330	1,244	1,053	7 %	18 %
U.S.	941	908	802	4 %	13 %
Non-U.S.	389	336	251	16 %	34 %
Empliciti	247	231	150	7 %	54 %
U.S.	164	151	133	9 %	14 %
Non-U.S.	83	80	17	4 %	**
Established Brands					
Baraclude	744	1,052	1,192	(29)%	(12)%
U.S.	32	53	66	(40)%	(20)%
Non-U.S.	712	999	1,126	(29)%	(11)%
Reyataz Franchise	427	698	912	(39)%	(23)%
U.S.	157	327	484	(52)%	(32)%
Non-U.S.	270	371	428	(27)%	(13)%
Sustiva Franchise	283	729	1,065	(61)%	(32)%
U.S.	27	622	901	(96)%	(31)%
Non-U.S.	256	107	164	**	(35)%
Hepatitis C Franchise	17	406	1,578	(96)%	(74)%
U.S.	(16)	109	827	**	(87)%
Non-U.S.	33	297	751	(89)%	(60)%
Other Brands	1,630	2,112	2,271	(23)%	(7)%

U.S.	316	390	379	(19)%	3 %
Non-U.S.	1,314	1,722	1,892	(24)%	(9)%
Total Revenues	22,561	20,776	19,427	9 %	7 %
U.S.	12,586	11,358	10,720	11 %	6 %
Non-U.S.	9,975	9,418	8,707	6 %	8 %

**Change in excess of 100%

Opdivo (nivolumab) — a fully human monoclonal antibody that binds to the PD-1 on T and NKT cells that has been approved for several anti-cancer indications including bladder, blood, colon, head and neck, kidney, liver, lung, melanoma and stomach and continues to be investigated across other tumor types and disease areas.

- U.S. revenues increased in both periods due to higher demand. The higher growth rate in 2018 was primarily due to the approvals for the treatment of adjuvant melanoma, liver cancer and the Opdivo+Yervoy combination for kidney cancer, which is partially offset by the decline in lung cancer indication.
- International revenues increased in both periods due to higher demand as a result of approvals for additional indications and launches in new countries. The lower growth rate in 2018 was primarily due to additional competition for Opdivo in the NSCLC indication.

Eliquis (apixaban) — an oral Factor Xa inhibitor, targeted at stroke prevention in adult patients with NVAF and the prevention and treatment of VTE disorders.

- U.S. revenues increased in both periods due to market share gains partially offset by lower average net selling prices.
- International revenues increased in both periods due to higher demand attributed to market share gains and growth of the novel oral anticoagulants market.

Orencia (abatacept) — a fusion protein indicated for adult patients with moderate to severe active RA and PsA and is also indicated for reducing signs and symptoms in certain pediatric patients with moderately to severely active polyarticular JIA.

- U.S. revenues increased in both periods due to higher demand and higher average net selling prices.
- International revenues increased in both periods due to higher demand. We may experience additional competition in Europe from biosimilars of competitor products in future periods.

Sprycel (dasatinib) — an oral inhibitor of multiple tyrosine kinase indicated for the first-line treatment of adults with Philadelphia chromosome-positive CML in chronic phase and the treatment of adults with chronic, accelerated, or myeloid or lymphoid blast phase CML with resistance or intolerance to prior therapy, including Gleevec* (imatinib mesylate).

- U.S. revenues decreased in 2018 due to inventory workdown offset by higher average net selling prices. U.S. revenues increased in 2017 due to higher demand and higher average net selling prices.
- International revenues remained unchanged in 2018. International revenues increased in 2017 due to higher demand. We may experience a decline in European revenues in the event that generic datasinib product enters the market.

Yervoy (ipilimumab) — a monoclonal antibody for the treatment of patients with unresectable or metastatic melanoma.

- U.S. revenues increased in both periods due to higher demand. Revenue growth rate in 2018 decreased due to lower demand resulting from other IO products being used in the adjuvant treatment of patients with melanoma, including Opdivo.
- International revenues increased in both periods due to higher demand primarily in Europe following the approval of the Opdivo+Yervoy combination therapy for melanoma.

Baraclude (entecavir) — an oral antiviral agent for the treatment of chronic hepatitis B.

- International revenues decreased in both periods due to lower demand resulting from increased competition.

Reyataz (atazanavir sulfate) Franchise — Includes Reyataz - a protease inhibitor for the treatment of HIV and Evotaz (atazanavir 300 mg and cobicistat 150 mg) - a combination therapy containing Reyataz and Tybost* (cobicistat).

- The LOE for Reyataz in the U.S. occurred in December 2017, as a result revenues will continue to decline.
- International revenues decreased in both periods due to lower demand resulting from increased competition.

Sustiva (efavirenz) Franchise — a non-nucleoside reverse transcriptase inhibitor for the treatment of HIV, which includes Sustiva, an antiretroviral drug, and bulk efavirenz, which is also included in the combination therapy, Atripla*.

- The LOE for Sustiva in the U.S. occurred in December 2017. Gilead terminated BMS's participation in the U.S. and Canada joint venture following the launch of a generic version of Sustiva in the U.S. As a result, BMS's share of Atripla* revenues will further decline during the next two years. Refer to “Item 8. Financial Statements—Note 3. Alliances” for further discussion.
- International revenues for 2018 include $204 million of U.S. Atripla* royalty revenue.

Hepatitis C Franchise — Daklinza (daclatasvir) - an NS5A replication complex inhibitor; Sunvepra (asunaprevir) - an NS3 protease inhibitor; and beclabuvir - an NS5B inhibitor.

- U.S. and international revenues decreased in both periods due to lower demand resulting from increased competition.

Other Brands — includes all other brands, including those which have lost exclusivity in major markets, OTC brands and royalty revenue.

- International revenues decreased in 2018 primarily due to lower Plavix* royalties as a result of the adoption of amended revenue guidance, the expiration of rights to Abilify* in Canada, lower diabetes product supply sales and continued generic erosion. The revenue decrease in 2017 was due to out-licensing and divestiture of certain other brands and continued generic erosion.

Estimated End-User Demand

Pursuant to the SEC Consent Order described under "—SEC Consent Order", we monitor the level of inventory on hand in the U.S. wholesaler distribution channel and outside of the U.S. in the direct customer distribution channel. We are obligated to disclose products with levels of inventory in excess of one month on hand or expected demand, subject to a de minimis exception. Estimated levels of inventory in the distribution channel in excess of one month on hand for the following products were not material to our results of operations as of the dates indicated. At December 31, 2018, Daklinza had 6 months of inventory on hand in the U.S. as a result of minimum required stock levels to support patient demand. We expect inventory on hand levels of Daklinza to exceed one month over the near term. Below are international products that had estimated levels of inventory in the distribution channel in excess of one month on hand at September 30, 2018.

Dafalgan, an analgesic product sold principally in Europe, had 1.2 months of inventory on hand internationally at direct customers compared to 1.3 months of inventory on hand at June 30, 2018. The level of inventory on hand was primarily due to the ordering patterns of pharmacists in France.

Efferalgan, an analgesic product sold principally in Europe, had 1.7 months of inventory on hand internationally at direct customers compared to also 1.4 months of inventory on hand at June 30, 2018. The level of inventory on hand was primarily due to the ordering patterns of pharmacists in France.

Fervex, a cold and flu product, had 1.3 months of inventory on hand at direct customers compared to 1.5 months of inventory on hand at June 30, 2018. The level of inventory on hand was primarily due to the ordering patterns of pharmacists in France.

Daklinza, a Hepatitis C product, had 1.2 months of inventory on hand internationally at direct customers compared to 1.4 months of inventory on hand at June 30, 2018. The level of inventory on hand was attributable to low volume in-market sales in Canada.

Perfalgan, an analgesic product, had 1.3 months of inventory on hand internationally at direct customers compared to 1.5 months of inventory on hand at June 30, 2018. The level of inventory on hand was primarily in the Gulf Countries due to extended delivery lead time.

Sustiva, an HIV product, had 1.1 months of inventory on hand internationally at direct customers compared to 1.0 months of inventory on hand at June 30, 2018. The level of inventory on hand was attributable to low volume in-market sales in Canada.

In the U.S., we generally determine our months on hand estimates using inventory levels of product on hand and the amount of out-movement provided by our three largest wholesalers, which account for approximately 97% of total gross sales of U.S. products. Factors that may influence our estimates include generic competition, seasonality of products, wholesaler purchases in light of increases in wholesaler list prices, new product launches, new warehouse openings by wholesalers and new customer stockings by wholesalers. In addition, these estimates are calculated using third-party data, which may be impacted by their recordkeeping processes.

Our non-U.S. businesses have significantly more direct customers. Information on available direct customer product level inventory and corresponding out-movement information and the reliability of third-party demand information varies widely. We limit our direct customer sales channel inventory reporting to where we can influence demand. When this information does not exist or is otherwise not available, we have developed a variety of methodologies to estimate such data, including using historical sales made to direct customers and third-party market research data related to prescription trends and end-user demand. Given the difficulties inherent in estimating third-party demand information, we evaluate our methodologies to estimate direct customer product level inventory and to calculate months on hand on an ongoing basis and make changes as necessary. Factors that may affect our estimates include generic competition, seasonality of products, price increases, new product launches, new warehouse openings by direct customers, new customer stockings by direct customers and expected direct customer purchases for governmental bidding situations. As such, all of the information required to estimate months on hand in the direct customer distribution channel for non-U.S. business for the year ended December 31, 2018 is not available prior to the filing of this 2018 Form 10-K. We will disclose any product with levels of inventory in excess of one month on hand or expected demand, subject to a de minimis exception, in the next quarterly report on Form 10-Q.

Expenses

Dollar in Millions	2018	2017	2016	% Change 2018 vs. 2017	% Change 2017 vs. 2016
Cost of products sold	$6,547	$6,094	$4,969	7 %	23 %
Marketing, selling and administrative	4,551	4,751	4,979	(4)%	(5)%
Research and development	6,345	6,482	5,012	(2)%	29 %
Other income (net)	(850)	(1,682)	(1,448)	(49)%	16 %
Total Expenses	$16,593	$15,645	$13,512	6 %	16 %

Cost of products sold

Cost of products sold include material, internal labor and overhead costs from our owned manufacturing sites, third-party product supply costs and other supply chain costs managed by our global manufacturing and supply organization. Cost of products sold also includes royalties and profit sharing, certain excise taxes, foreign currency hedge settlement gains and losses and the amortization of acquired developed technology costs. Cost of products sold typically vary between periods as a result of product mix and volume (particularly royalties and profit sharing), and to a lesser extent changes in foreign currency, price, inflation and costs attributed to manufacturing site exits.

- Cost of products sold increased in 2018 due to higher royalties and profit sharing of $905 million resulting primarily from higher Eliquis sales partially offset by product cost improvements, a $146 million impairment charge in 2017 to reduce the carrying value of the small molecule active pharmaceutical ingredient manufacturing operations in Swords, Ireland, and lower inventory charges.
- Cost of products sold increased in 2017 due to higher royalties and profit sharing of $753 million resulting primarily from higher Eliquis sales and a $146 million impairment charge as discussed above. The remaining increase was primarily due to higher sales volume, inventory charges, manufacturing startup costs and foreign currency.

Marketing, selling and administrative

Marketing, selling and administrative expenses primarily include salary and benefit costs, third-party professional and marketing fees, outsourcing fees, shipping and handling costs, advertising and product promotion. Expenses are managed through regional commercialization organizations or global enabling functions such as finance, legal, information technology and human resources. Certain expenses are shared with alliance partners based upon

contractual agreements. Expenses typically vary between periods due to new product launch promotional activities.

- Marketing, selling and administrative expenses decreased in 2018 due to lower advertising, promotion and marketing expenses, lower costs attributed to transformation initiatives and lower branded prescription drug fee, partially offset by higher BMS foundation grants.
- Marketing, selling and administrative expenses decreased in 2017 due to lower advertising, promotion and sales-force expenses supporting Daklinza and other established brands and lower BMS foundation grants.

Research and development

Research and development activities include discovery research, preclinical and clinical development, drug formulation and medical support of marketed products. Expenses include salary and benefit costs, third-party grants and fees paid to clinical research organizations, supplies, upfront and contingent milestone payments for licensing and asset acquisitions of investigational compounds, IPRD impairment charges and proportionate allocations of enterprise-wide costs. The allocations include facilities, information technology, employee stock compensation costs and other appropriate costs. Certain expenses are shared with alliance partners based upon contractual agreements. Expenses typically vary between periods for a number of reasons, including the timing of license and asset acquisition charges and IPRD impairment charges.

- Research and development expense decreased in 2018 due to lower site exit costs and IPRD impairment charges, partially offset by expansion of Opdivo and other IO development programs, including NKTR-214.
- Research and development expense increased in 2017 due to higher license and asset acquisition charges, site exit charges, IPRD impairment charges and expansion of Opdivo and other IO development programs.

Significant charges included in R&D expense were as follows:

	Year Ended December 31,		
Dollars in Millions	2018	2017	2016
Nektar	$1,050 (a)	$—	$—
Cormorant	60 (b)	—	35 (a)
IFM	25 (b)	311 (a)	—
CytomX	—	200 (a)	25 (a)
Halozyme	—	105 (a)	—
Flexus	—	324 (b)	100 (b)
Cardioxyl	—	100 (b)	—
PsiOxus	—	50 (a)	—
Ono	—	40 (a)	—
Padlock	—	—	139 (a)
Nitto Denko	—	—	100 (a)
Other	—	—	40
License and asset acquisition charges	1,135	1,130	439
F-Star	—	75	—
Other	—	—	13
IPRD impairments	—	75	13
Site exit costs	79	383	83
Research and development significant charges	$1,214	$1,588	$535

(a) Upfront payment
(b) Milestone payment

- License and asset acquisition charges resulted from strategic transactions to acquire or license certain investigational oncology, cardiovascular, immunoscience and fibrotic disease compounds (or options to acquire or license) as disclosed in "—Acquisitions, Divestitures, Licensing and Collaboration Arrangements."
- IPRD impairment charges includes the discontinued development of an investigational compound which was part of our alliance with F-Star in 2017.
-

Site exit costs resulted from the expected exit of R&D sites in the U.S. through 2020 primarily due to the reduction in the estimated useful lives of the related assets and an impairment charge in 2017 to reduce the carrying value of an R&D facility in Wallingford, Connecticut.

Other income (net)

- Other income (net) decreased in 2018 primarily due to losses on equity investments related to Nektar and a patent infringement settlement in 2017 partially offset by lower restructuring and debt redemption charges.
- Other income (net) increased in 2017 primarily due to a patent infringement settlement and out-licensing income partially offset by lower divestiture gains and related service fees and higher restructuring and debt redemption charges.

Components of other income (net) were as follows:

	Year Ended December 31,		
Dollars in Millions	2018	2017	2016
Interest expense	$183	$196	$167
Investment income	(173)	(126)	(97)
Loss/(gain) on equity investments	512	(23)	37
Provision for restructuring	131	293	109
Litigation and other settlements	76	(487)	47
Equity in net income of affiliates	(93)	(75)	(77)
Divestiture gains	(178)	(164)	(576)
Royalties and licensing income	(1,353)	(1,351)	(719)
Transition and other service fees	(12)	(37)	(238)
Pension and postretirement	(27)	(1)	(72)
Intangible asset impairment	64	—	15
Loss on debt redemption	—	109	—
Other	20	(16)	(44)
Other income (net)	$(850)	$(1,682)	$(1,448)

- Loss/(gain) on equity investments includes a fair value adjustment of $534 million related to the Company's equity investment in Nektar in 2018.
- Restructuring charges relate to changes to the Company's operating model to drive continued success in the near- and long-term through a more focused investment in commercial opportunities for key brands and markets, a competitive and more agile R&D organization that can accelerate the pipeline, streamline operations and realign manufacturing capabilities that broaden biologics capabilities to reflect the current and future portfolio as well as streamline and simplify our small-molecule supply network. The new operating model is expected to enable the Company to deliver the strategic, financial and operational flexibility necessary to invest in the highest priorities across the Company. Aggregate restructuring charges of $268 million and $826 million have been incurred in 2018 and 2017, respectively, for all actions including accelerated depreciation and impairment charges resulting from early site exits.
- Litigation and other settlements include $481 million for BMS's share of a patent-infringement settlement related to Merck's PD-1 antibody Keytruda* in 2017 and $70 million related to intellectual property and product liability settlements in 2018, including $42 million recognized subsequent to the Company's earnings release for the fourth quarter of 2018.
- Divestiture gains includes divestiture of multiple mature global product lines in oncology and infectious therapy in 2018, additional contingent consideration for the diabetes business in 2017 and certain OTC brands and investigational HIV medicines businesses in 2016.
- Royalties and licensing income includes Keytruda* royalties in 2018 and 2017, upfront licensing fees from Biogen and Roche in connection with the out-licensing of certain investigational genetically defined disease compounds in 2017 and contingent consideration from the Erbitux* and diabetes business divestitures in 2018, 2017 and 2016, including the transfer of certain royalty rights pertaining to diabetes product sales. A $50 million fee for amending a royalty rate and $25 million sales-based milestone was also included in 2018.

Transition and other service fees included fees resulting from the divestiture of the diabetes and investigational HIV medicines businesses in 2017 and 2016.

- Pension and postretirement includes the interest cost, expected return on plan assets and amortization components of the net periodic benefit cost (credit) as well as net charges for settlements, curtailments and special termination benefits of $121 million in 2018, $162 million in 2017 and $92 million in 2016.
- Intangible asset impairment includes $64 million in 2018 for an out-licensed asset obtained in the 2010 acquisition of ZymoGenetics, Inc., which did not meet its primary endpoint in a Phase II clinical study.
- A debt redemption loss of $109 million resulted from the early redemption of certain long-term debt obligations in 2017.

Income Taxes

Dollars in Millions	2018		2017		2016	
Earnings Before Income Taxes	$5,968		$5,131		$5,915	
Provision for Income Taxes	1,021		4,156		1,408	
Effective Tax Rate	17.1	%	81.0	%	23.8	%
Impact of Specified Items	—		60.0	%	1.8	%

Changes in the effective tax rate was primarily due to new U.S. tax reform legislation known as the Tax Cuts and Jobs Act of 2017 (the Act) enacted on December 22, 2017. The Act moved from a worldwide tax system to a quasi-territorial tax system and was comprised of broad and complex changes to the U.S. tax code including, but not limited to, (1) reduced the U.S. tax rate from 35% to 21%; (2) added a deemed repatriation transition tax on certain foreign earnings and profits; (3) generally eliminated U.S. federal income taxes on dividends from foreign subsidiaries; (4) included certain income of controlled foreign companies in U.S. taxable income (GILTI); (5) created a new minimum tax referred to as a base erosion anti-abuse income tax; (6) limited certain research-based credits; and (7) eliminated the domestic manufacturing deduction.

Although many aspects of the Act were not effective until 2018, additional tax expense of $2.9 billion was recognized in the fourth quarter of 2017 upon enactment of the Act. The additional expense increased the effective tax rate by 56.7% and included a $2.6 billion one-time deemed repatriation transition tax on previously untaxed post-1986 foreign earnings and profits (including related tax reserves). Those earnings were effectively taxed at a 15.5% rate to the extent that the specified foreign corporations held cash and certain other assets and an 8.0% rate on the remaining earnings and profits. The remaining $285 million of additional tax expense included an adjustment to measure net deferred tax assets at the new U.S. tax rate of 21%. The accounting for the reduction of deferred tax assets to the 21% tax rate was complete as of December 31, 2017. The provisional tax charge for the deemed repatriation transition tax was reduced by $56 million in 2018 upon completion of the accounting which reduced the effective tax rate by 0.9%.

In addition, the tax impact attributed to specified items, including non-deductible R&D charges, valuation allowances for certain tax assets resulting from equity investment losses and other jurisdiction tax rates increased the effective tax rate by 0.9% in 2018, 3.3% in 2017 and 1.8% in 2016.

After considering the impact of specified items including the transitional impacts of the Act discussed above, the effective tax rate decreased by 3.9% in 2018 primarily due to the on-going impact of the Act and tax reserve releases partially offset by taxes attributed to internal cash repatriations and earnings mix between high and low tax jurisdictions. After considering the impact of specified items, the effective tax rate decreased by 1.0% in 2017 primarily due to the adoption of amended income tax accounting guidance related to share-based payments and the early adoption of intra-entity transfers of assets other than inventory partially offset by earnings mix between high and low tax jurisdictions. Refer to “Item 8. Financial Statements and Supplementary Data—Note 7. Income Taxes” for further information.

Non-GAAP Financial Measures

Our non-GAAP financial measures, including non-GAAP earnings and related EPS information, are adjusted to exclude certain costs, expenses, gains and losses and other specified items that are evaluated on an individual basis. These items are adjusted after considering their quantitative and qualitative aspects and typically have one or more of the following characteristics, such as being highly variable, difficult to project, unusual in nature, significant to the results of a particular period or not indicative of future operating results. Similar charges or gains were recognized in prior periods and will likely reoccur in future periods including restructuring costs, accelerated depreciation and impairment of property, plant and equipment and intangible assets, R&D charges in connection with the acquisition or

licensing of third-party intellectual property rights, divestiture gains or losses, pension, legal and other contractual settlement charges and debt redemption gains or losses, among other items. Deferred and current income taxes attributed to these items are also adjusted for considering their individual impact to the overall tax expense, deductibility and jurisdictional tax rates.

Non-GAAP information is intended to portray the results of our baseline performance, supplement or enhance management, analysts and investors' overall understanding of our underlying financial performance and facilitate comparisons among current, past and future periods. For example, non-GAAP earnings and EPS information is an indication of our baseline performance before items that are considered by us to not be reflective of our ongoing results. In addition, this information is among the primary indicators we use as a basis for evaluating performance, allocating resources, setting incentive compensation targets and planning and forecasting for future periods. This information is not intended to be considered in isolation or as a substitute for net earnings or diluted EPS prepared in accordance with GAAP.

Specified items were as follows:

	Year Ended December 31,		
Dollars in Millions	2018	2017	2016
Impairment charges	$17	$146	$—
Accelerated depreciation and other shutdown costs	41	3	21
Cost of products sold	58	149	21
Marketing, selling and administrative	2	1	—
License and asset acquisition charges	1,135	1,130	439
IPRD impairments	—	75	13
Site exit costs	79	383	83
Research and development	1,214	1,588	535
Loss/(gain) on equity investments[(a)]	512	—	—
Provision for restructuring	131	293	109
Litigation and other settlements	70	(481)	40
Divestiture gains	(177)	(126)	(559)
Royalties and licensing income	(75)	(497)	(10)
Pension and postretirement	121	162	91
Intangible asset impairment	64	—	15
Loss on debt redemption	—	109	—
Other income (net)	646	(540)	(314)
Increase to pretax income	1,920	1,198	242
Income taxes on items above	(268)	(87)	51
Income taxes attributed to U.S. tax reform	(56)	2,911	—
Income taxes	(324)	2,824	51
Increase to net earnings	1,596	4,022	293
Noncontrolling interest	—	(59)	—
Increase to net earnings used for Diluted Non-GAAP EPS calculation	$1,596	$3,963	$293

(a) Specified items included these amounts upon adoption of amended guidance for the recognition and measurement of financial assets and liabilities in 2018.

The reconciliations from GAAP to Non-GAAP were as follows:

	Year Ended December 31,		
Dollars in Millions, except per share data	2018	2017	2016
Net Earnings Attributable to BMS used for Diluted EPS Calculation — GAAP	$4,920	$1,007	$4,457
Specified Items	1,596	3,963	293
Net Earnings Attributable to BMS used for Diluted EPS Calculation — Non-GAAP	$6,516	$4,970	$4,750
Average Common Shares Outstanding — Diluted	1,637	1,652	1,680
Diluted EPS Attributable to BMS — GAAP	$3.01	$0.61	$2.65
Diluted EPS Attributable to Specified Items	0.97	2.40	0.18

Diluted EPS Attributable to BMS — Non-GAAP	$3.98	$3.01	$2.83

Financial Position, Liquidity and Capital Resources

Our net cash position was as follows:

Dollars in Millions	2018	2017
Cash and cash equivalents	$6,911	$5,421
Marketable securities — current	1,973	1,391
Marketable securities — non-current	1,775	2,480
Total cash, cash equivalents and marketable securities	10,659	9,292
Short-term debt obligations	(1,703)	(987)
Long-term debt	(5,646)	(6,975)
Net cash position	$3,310	$1,330

Cash, cash equivalents and marketable securities held in the U.S. were approximately $9.3 billion at December 31, 2018. Most of the remaining $1.4 billion is held primarily in our international affiliates for local operating needs. We are subject to a one-time deemed repatriation transition tax in which $2.1 billion will be payable over the next eight years as a result of U.S. tax reform. We expect to have more flexibility in accessing cash and future cash that may be generated in foreign subsidiaries. We believe that our existing cash, cash equivalents and marketable securities together with cash generated from operations and issuance of commercial paper in the U.S. will be sufficient to satisfy our normal cash requirements for at least the next few years, including dividends, capital expenditures, milestone payments, working capital, deemed repatriation transition tax and $1.3 billion of debt maturing in 2019.

Management continuously evaluates the Company's capital structure to ensure the Company is financed efficiently, which may result in the repurchase of common stock and debt securities, termination of interest rate swap contracts prior to maturity and issuance of debt securities. The average amount of commercial paper outstanding was $19 million at a weighted-average rate of 1.27% during 2018. The maximum amount of commercial paper outstanding was $300 million with no outstanding borrowings at December 31, 2018.

Dividend payments were $2.6 billion in 2018 and 2017 and $2.5 billion in 2016. Dividend decisions are made on a quarterly basis by our Board of Directors. Annual capital expenditures were approximately $1.0 billion in 2018, $1.1 billion in 2017 and $1.2 billion in 2016 and are expected to be approximately $800 million in 2019 and $600 million in 2020. We continue to expand our biologics manufacturing capabilities and other facility-related activities. For example, we constructed a new large-scale biologics manufacturing facility in Ireland that will produce multiple therapies for our growing biologics portfolio when approved for commercial use in early 2020. We also paid $1.85 billion to Nektar in 2018 for certain collaboration rights and 8.3 million shares of its common stock representing a 4.8% ownership interest.

Our investment portfolio includes non-current marketable securities, which are subject to changes in fair value as a result of interest rate fluctuations and other market factors. Our investment policy establishes limits on the amount and time to maturity of investments with any institution. The policy also requires that investments are only entered into with corporate and financial institutions that meet high credit quality standards. Refer to "Item 8. Financial Statements and Supplementary Data—Note 9. Financial Instruments and Fair Value Measurements" for further information.

As of December 31, 2018, we had three revolving credit facilities totaling $5.0 billion, which consisted of a 364-day $2.0 billion facility that was scheduled to expire in March 2019 and two five-year $1.5 billion facilities that were extended to September 2022 and July 2023, respectively. All of these facilities provide for customary terms and conditions with no financial covenants and our two $1.5 billion revolving facilities are extendable annually by one year on the anniversary date with the consent of the lenders. No borrowings were outstanding under any of these revolving facilities as of December 31, 2018 or 2017.

In connection with our pending acquisition of Celgene, in January 2019 we entered into a bridge commitment letter that provides for up to $33.5 billion in a 364-day senior unsecured bridge loan facility. We also entered into an $8 billion term loan credit agreement consisting of a $1 billion 364-day tranche, a $4 billion three-year tranche and a $3 billion five-year tranche. The term loan reduced the commitments under the bridge facility to $25.5 billion. If we obtain additional funding by issuing securities or obtaining other loans, the amount of the bridge facility will be correspondingly reduced. The bridge loan and the term loan are subject to customary terms and conditions and do not have any financial covenants. No amounts will be borrowed under either the bridge loan or the term loan prior to the closing of the pending acquisition of Celgene.

In January 2019, we also entered into two new revolving credit facilities totaling $3.0 billion: a 364-day $2.0 billion facility expiring in January 2020 and a three-year $1.0 billion facility expiring in January 2022. The 364-day $2.0 billion facility replaced our existing 364-day $2.0 billion revolving facility, which was terminated concurrently upon the effectiveness of the new 364-day facility, and supports our commercial paper borrowings, if any. Each of these facilities provide for customary terms and conditions with no financial covenants.

No borrowings were outstanding under these two revolving facilities or on our two $1.5 billion revolving facilities as of February 25, 2019.

Following the announcement of our pending acquisition of Celgene, we also entered into forward starting interest rate swap option contracts (swaptions), with a total notional value of $7.6 billion, to hedge future interest rate risk associated with the anticipated issuance of long-term debt to fund the acquisition. The swaptions provide us with the right to enter into forward starting interest rate swap contracts for periods of 10 and 30 years through January 2020.

Additional regulations in the U.S. could be passed in the future including additional healthcare reform initiatives, further changes to tax laws, additional pricing laws and potential importation restrictions which may reduce our results of operations, operating cash flow, liquidity and financial flexibility. We continue to monitor the potential impact of the economic conditions in certain European and other countries and the related impact on prescription trends, pricing discounts and creditworthiness of our customers. We believe these economic conditions will not have a material impact on our liquidity, cash flow or financial flexibility.

The UK voted to depart from the EU during June 2016. Similar to other companies in our industry, certain regulatory, trade, labor and other aspects of our business will likely be affected over time. However, we currently do not believe that these matters and other related financial effects will have a material impact on our consolidated results of operations, financial position or liquidity. Our sales in the UK represent less than 3% of our consolidated revenues.

Credit Ratings

In January 2019, Moody's placed BMS under review for downgrade and Standard & Poor's placed BMS on CreditWatch with negative implications, each following the announcement to acquire Celgene. BMS's current long-term and short-term credit ratings assigned by Moody's Investors Service are A2 and Prime-1, respectively, and BMS's current long-term and short-term credit ratings assigned by Standard & Poor's are A+ and A-1+, respectively. The long-term ratings reflect the agencies' opinion that we have a low default risk but are somewhat susceptible to adverse effects of changes in circumstances and economic conditions. The short-term ratings reflect the agencies' opinion that we have good to extremely strong capacity for timely repayment. Any credit rating downgrade may affect the interest rate of any debt we may incur, the fair market value of existing debt and our ability to access the capital markets generally. The current long-term and short-term ratings do not reflect any impact from the proposed acquisition of Celgene.

Cash Flows

The following is a discussion of cash flow activities:

Dollars in Millions	2018	2017	2016
Cash flow provided by/(used in):			
Operating activities	$5,940	$5,275	$3,058
Investing activities	(874)	(66)	1,480
Financing activities	(3,535)	(4,077)	(2,653)

Operating Activities

Cash flow from operating activities represents the cash receipts and disbursements from all of our activities other than investing and financing activities. Operating cash flow is derived by adjusting net earnings for noncontrolling interest, non-cash operating items, gains and losses attributed to investing and financing activities and changes in operating assets and liabilities resulting from timing differences between the receipts and payments of cash and when the transactions are recognized in our results of operations. As a result, changes in cash from operating activities reflect

the timing of cash collections from customers and alliance partners; payments to suppliers, alliance partners and employees; customer discounts and rebates; and tax payments in the ordinary course of business. For example, annual employee bonuses are typically paid in the first quarter of the subsequent year. In addition, cash collections continue to be impacted by longer payment terms for certain biologic products in the U.S., primarily our newer oncology products including Opdivo, Yervoy and Empliciti (90 days to 120 days). The longer payment terms are used to more closely align with the insurance reimbursement timing for physicians and cancer centers following administration to the patients.

The $700 million change in cash flow from operating activities compared to 2017 was primarily attributable to:
- Higher cash collections and timing of payments in the ordinary course of business of approximately $2.2 billion.

Partially offset by:
- Higher R&D licensing and collaboration payments of approximately $600 million primarily due to the Nektar transaction in 2018;
- Lower litigation settlement proceeds of approximately $500 million primarily due to the Merck settlement in 2017; and
- Lower out-license proceeds of approximately $400 million primarily due to the Biogen and Roche transactions in 2017.

The $2.2 billion change in cash flow from operating activities compared to 2016 was primarily attributable to:
- Higher cash collections and timing of payments in the ordinary course of business of approximately $400 million;
- Lower income tax payments of approximately $1.5 billion;
- Litigation settlement proceeds of approximately $500 million primarily due to the Merck settlement; and
- Out-licensing proceeds of $500 million primarily due to the Biogen and Roche transactions.

Partially offset by:
- Higher R&D licensing payments of approximately $400 million primarily due to the CytomX, Halozyme and Nitto Denko transactions; and
- Higher contributions to pension plans of approximately $300 million.

Investing Activities

Cash requirements from investing activities include cash used for acquisitions, manufacturing and facility-related capital expenditures and purchases of marketable securities with original maturities greater than 90 days at the time of purchase reduced by proceeds from business divestitures (including royalties) and the sale and maturity of marketable securities.

The $800 million change in cash flow from investing activities compared to 2017 was primarily attributable to:
- Lower net sales and maturities of marketable securities with maturities greater than 90 days of approximately $900 million; and
- Higher net acquisition and other payments of approximately $500 million primarily due to the purchase of 8.3 million shares of Nektar common stock in 2018.

Partially offset by:
- Higher business divestiture proceeds of approximately $500 million primarily due to the divestiture of manufacturing operations in Swords, Ireland and certain mature brands.

The $1.5 billion change in cash flow from investing activities compared to 2016 was primarily attributable to:
- Lower net sales of marketable securities with maturities greater than 90 days of approximately $700 million;
- Lower business divestiture proceeds of approximately $600 million primarily due to certain OTC brands and investigational HIV medicines businesses in 2016; and
- Higher asset acquisition payments of approximately $300 million primarily due to the acquisition of IFM in 2017.

Financing Activities

Cash requirements from financing activities include cash used to pay dividends, repurchase common stock and repay long-term debt and other borrowings reduced by proceeds from the exercise of stock options and issuance of long-term debt and other borrowings.

The $500 million change in cash flow from financing activities compared to 2017 was primarily attributable to:

- Lower repurchases of common stock of $2.1 billion primarily due to the accelerated share repurchase agreements in 2017.

Partially offset by:

- Lower net borrowings of $1.5 billion primarily due to the issuance of long-term debt used to repurchase common stock in 2017.

The $1.4 billion change in cash flow from financing activities compared to 2016 was primarily attributable to:

- Higher repurchase of common stock of $2.2 billion primarily due to the accelerated share repurchase agreements.

Partially offset by:

- Higher net borrowing activity of $900 million primarily to fund the repurchase of common stock.

Contractual Obligations and Off-Balance Sheet Arrangements

Payments due by period for our contractual obligations at December 31, 2018 were as follows:

	Obligations Expiring by Period						
Dollars in Millions	Total	2019	2020	2021	2022	2023	Later Years
Short-term borrowings	$454	$454	$—	$—	$—	$—	$ —
Long-term debt	6,776	1,250	—	—	750	817	3,959
Interest on long-term debt[a]	2,832	192	183	183	183	167	1,924
Operating leases	663	122	92	77	69	61	242
Purchase obligations	3,074	1,087	620	430	353	291	293
Uncertain tax positions[b]	72	72	—	—	—	—	—
Deemed repatriation transition tax	2,119	79	101	196	196	299	1,248
Total [c]	$15,990	$3,256	$996	$886	$1,551	$1,635	$ 7,666

(a) Includes estimated future interest payments and periodic cash settlements of derivatives.
(b) Includes only short-term uncertain tax benefits because of uncertainties regarding the timing of resolution.
(c) Excludes pension and other liabilities because of uncertainties regarding the timing of resolution.

In addition to the above, we are committed to an aggregated $14.0 billion of potential future research and development milestone payments to third parties for in-licensing, asset acquisitions and development programs including early-stage milestones of $5.5 billion (milestones achieved through Phase III clinical studies) and late-stage milestones of $8.5 billion (milestones achieved post Phase III clinical studies). Payments generally are due and payable only upon achievement of certain developmental and regulatory milestones for which the specific timing cannot be predicted. Some of these agreements also provide for sales-based milestones aggregating $4.4 billion that we would be obligated to pay to alliance partners upon achievement of certain sales levels in addition to royalties. We also have certain manufacturing, development and commercialization obligations in connection with alliance arrangements. It is not practicable to estimate the amount of these obligations. Refer to “Item 8. Financial Statements and Supplementary Data—Note 3. Alliances” for further information regarding our alliances. We do not have any off-balance sheet arrangements that are material or reasonably likely to become material to our financial condition or results of operations.

SEC Consent Order / FCPA Settlement

As previously disclosed, on August 4, 2004, we entered into a final settlement with the SEC, concluding an investigation concerning certain wholesaler inventory and accounting matters. The settlement was reached through a Consent, a copy of which was attached as Exhibit 10 to our quarterly report on Form 10-Q for the period ended September 30, 2004.

Under the terms of the Consent, we agreed, subject to certain defined exceptions, to limit sales of all products sold to our direct customers (including wholesalers, distributors, hospitals, retail outlets, pharmacies and government purchasers) based on expected demand or on amounts that do not exceed approximately one month of inventory on hand, without making a timely public disclosure of any change in practice. We also agreed in the Consent to certain measures that we have implemented including: (a) establishing a formal review and certification process of our annual and quarterly reports filed with the SEC; (b) establishing a business risk and disclosure group; (c) retaining an outside consultant to comprehensively study and help re-engineer our accounting and financial reporting processes; (d) publicly disclosing any sales incentives offered to direct customers for the purpose of inducing them to purchase products in excess of expected demand; and (e) ensuring that our budget process gives appropriate weight to inputs that come from the bottom to the top, and not just from the top to the bottom, and adequately documenting that process.

We have established a company-wide policy to limit our sales to direct customers for the purpose of complying with the Consent. This policy includes the adoption of various procedures to monitor and limit sales to direct customers in accordance with the terms of the Consent. These procedures include a governance process to escalate to appropriate management levels potential questions or concerns regarding compliance with the policy and timely resolution of such questions or concerns. In addition, compliance with the policy is monitored on a regular basis.

We maintain DSAs with our U.S. pharmaceutical wholesalers, which account for nearly 100% of our gross U.S. revenues. Under the current terms of the DSAs, our wholesaler customers provide us with weekly information with respect to months on hand product-level inventories and the amount of out-movement of products. The three largest wholesalers currently account for approximately 97% of our gross U.S. revenues. The inventory information received from our wholesalers, together with our internal information, is used to estimate months on hand product level inventories at these wholesalers. We estimate months on hand product inventory levels for our U.S. business's wholesaler customers other than the three largest wholesalers by extrapolating from the months on hand calculated for the three largest wholesalers. In contrast, our non-U.S. business has significantly more direct customers, limited information on direct customer product level inventory and corresponding out-movement information and the reliability of third-party demand information, where available, varies widely. Accordingly, we rely on a variety of methods to estimate months on hand product level inventories for these business units.

We believe the above-described procedures provide a reasonable basis to ensure compliance with the Consent.

Recently Issued Accounting Standards

For recently issued accounting standards, refer to "Item 8. Financial Statements and Supplementary Data—Note 1. Accounting Policies and Recently Issued Accounting Standards."

Critical Accounting Policies

The preparation of financial statements requires the use of estimates and assumptions that affect the reported amounts of assets and liabilities and the reported amounts of revenue and expenses. Our critical accounting policies are those that significantly impact our financial condition and results of operations and require the most difficult, subjective or complex judgments, often as a result of the need to make estimates about the effect of matters that are inherently uncertain. Because of this uncertainty, actual results may vary from these estimates.

Revenue Recognition

Our accounting policy for revenue recognition has a substantial impact on reported results and relies on certain estimates. Revenue is recognized following a five-step model: (1) identify the customer contract; (2) identify the contract's performance obligation; (3) determine the transaction price; (4) allocate the transaction price to the performance obligation; and (5) recognize revenue when or as a performance obligation is satisfied. Revenue is also reduced for GTN sales adjustments discussed below, all of which involve significant estimates and judgment after considering legal interpretations of applicable laws and regulations, historical experience, payer channel mix (e.g. Medicare or Medicaid), current contract prices under applicable programs, unbilled claims and processing time lags and inventory levels in the distribution channel. Estimates are assessed each period and adjusted as required to revise information or actual experience.

GTN Adjustments

The following categories of GTN adjustments involve significant estimates, judgments and information obtained from external sources. Refer to "Item 8. Financial Statements and Supplementary Data—Note 2. Revenue." for further discussion and analysis of each significant category of GTN sales adjustments.

Charge-backs and cash discounts

Our U.S. business participates in programs with government entities, the most significant of which are the U.S. Department of Defense and the U.S. Department of Veterans Affairs, and other parties, including covered entities

under the 340B Drug Pricing Program, whereby pricing on products is extended below wholesaler list price to participating entities. These entities purchase products through wholesalers at the lower program price and the wholesalers then charge us the difference between their acquisition cost and the lower program price. Accounts receivable is reduced for the estimated amount of unprocessed charge-back claims attributable to a sale (typically within a two to four week time lag).

In the U.S. and certain other countries, cash discounts are offered as an incentive for prompt payment, generally approximating 2% of the sales price. Accounts receivable is reduced for the estimated amount of unprocessed cash discounts (typically within a one month time lag).

Medicaid and Medicare rebates

Our U.S. business participates in state government Medicaid programs and other qualifying Federal and state government programs requiring discounts and rebates to participating state and local government entities. All discounts and rebates provided through these programs are included in our Medicaid rebate accrual. Medicaid rebates have also been extended to drugs used in managed Medicaid plans. The estimated amount of unpaid or unbilled rebates is presented as a liability.

Rebates and discounts are offered to managed healthcare organizations in the U.S. managing prescription drug programs and Medicare Advantage prescription drug plans covering the Medicare Part D drug benefit. We also pay a 50% point of service discount to the CMS when the Medicare Part D beneficiaries are in the coverage gap (“donut hole”). The estimated amount of unpaid or unbilled rebates and discounts is presented as a liability.

Other rebates, returns, discounts and adjustments

Other GTN sales adjustments include sales returns and all other programs based on applicable laws and regulations for individual non-U.S. countries as well as rebates offered to managed healthcare organizations in the U.S. to a lesser extent. The non-U.S. programs include several different pricing schemes such as cost caps, volume discounts, outcome-based pricing schemes and pricing claw-backs that are based on sales of individual companies or an aggregation of all companies participating in a specific market. The estimated amount of unpaid or unbilled rebates and discounts is presented as a liability.

Estimated returns for established products are determined after considering historical experience and other factors including levels of inventory in the distribution channel, estimated shelf life, product recalls, product discontinuances, price changes of competitive products, introductions of generic products, introductions of competitive new products and lower demand following the LOE. Estimated returns for new products are determined after considering historical sales return experience of similar products, such as those within the same product line, similar therapeutic area and/or similar distribution model and estimated levels of inventory in the distribution channel and projected demand. The estimated amount for product returns is presented as a liability.

Use of information from external sources

Information from external sources is used to estimate GTN adjustments. Our estimate of inventory at the wholesalers are based on the projected prescription demand-based sales for our products and historical inventory experience, as well as our analysis of third-party information, including written and oral information obtained from certain wholesalers with respect to their inventory levels and sell-through to customers and third-party market research data, and our internal information. The inventory information received from wholesalers is a product of their recordkeeping process and excludes inventory held by intermediaries to whom they sell, such as retailers and hospitals.

We have also continued the practice of combining retail and mail prescription volume on a retail-equivalent basis. We use this methodology for internal demand forecasts. We also use information from external sources to identify prescription trends, patient demand and average selling prices. Our estimates are subject to inherent limitations of estimates that rely on third-party information, as certain third-party information was itself in the form of estimates, and reflect other limitations including lags between the date as of which third-party information is generated and the date on which we receive third-party information.

Pension Benefits

Accounting for pension and postretirement benefit plans requires actuarial valuations based on significant assumptions for discount rates and expected long-term rates of return on plan assets. In consultation with our actuaries, these significant assumptions and others such as salary growth, retirement, turnover, lump sum election rates, healthcare trends and mortality rates are evaluated and selected based on expectations or actual experience during each remeasurement date. Pension expense could vary within a range of outcomes and have a material effect on reported earnings, projected benefit obligations and future cash funding. Actual results in any given year may differ from those estimated because of economic and other factors.

The yield on high quality corporate bonds that coincides with the cash flows of the plans' estimated payouts is used in determining the discount rate. The Citi Pension Discount curve is used for the U.S. plans. The present value of benefit obligations at December 31, 2018 for the U.S. pension plans was determined using a 4.1% discount rate. If the assumed discount rate used in determining the U.S. pension plans' projected benefit obligation at December 31, 2018 was reduced by an additional 1%, the projected benefit obligation would increase by approximately $500 million.

The expected long-term rate of return on plan assets is estimated considering expected returns for individual asset classes with input from external advisors. We also consider long-term historical returns including actual performance compared to benchmarks for similar investments. The Bristol-Myers Squibb Retirement Income Plan's pension expense for 2018 was determined using an average 6.6% expected long-term rate of return on plan assets. Other U.S. Plans' pension expense was determined using a 7.8% expected long-term rate of return on plan assets. If the expected long-term rate of return on plan assets used in determining the U.S. plans' pension expense for 2018 was reduced by 1%, such expense would increase by $42 million.

For a more detailed discussion on retirement benefits, refer to "Item 8. Financial Statements and Supplementary Data—Note 16. Retirement Benefits."

Long-lived Assets

Other Intangible Assets

Other intangible assets were $1.1 billion at December 31, 2018, including licenses ($192 million of which $84 million is allocated to unapproved products), developed technology rights ($501 million), capitalized software ($366 million) and IPRD ($32 million). Intangible assets are assessed for impairment whenever current facts or circumstances warrant a review, although IPRD is assessed at least annually. Intangible assets are highly vulnerable to impairment charges, particularly newly acquired assets for recently launched products or IPRD. These assets are initially measured at fair value and therefore any reduction in expectations used in the valuations could potentially lead to impairment. Some of the more common potential risks leading to impairment include competition, earlier than expected LOE, pricing pressures, adverse regulatory changes or clinical study results, delay or failure to obtain regulatory approval and additional development costs, inability to achieve expected synergies, higher operating costs, changes in tax laws and other macro-economic changes. The complexity in estimating the fair value of intangible assets in connection with an impairment test is similar to the initial valuation.

Property, Plant and Equipment

Property, plant and equipment is tested for impairment whenever current facts or circumstances require a review including whether it is more likely than not that the asset will be disposed of prior to its estimated remaining useful life. Additionally, these long-lived assets are periodically reviewed to determine if any change in facts or circumstances would result in a change to the estimated useful life of the asset, possibly resulting in the acceleration of depreciation. If such circumstances exist, an estimate of undiscounted future cash flows generated by the asset, or the appropriate grouping of assets, is compared to the carrying value to determine whether an impairment exists at its lowest level of identifiable cash flows. If an asset is determined to be impaired, the loss is measured based on the difference between the asset’s fair value and its carrying value. Expectations of future cash flows are subject to change based upon the near and long-term production volumes and margins generated by the asset as well as any potential alternative future use. Accelerated depreciation, impairment and other related charges for certain manufacturing and R&D facilities were $137 million in 2018, $533 million in 2017 and $104 million in 2016. Additional charges will continue to occur as a result of the Company’s restructuring actions announced in 2016.

Assets Held-for-Sale

The following criteria is considered before concluding assets are classified as held-for-sale; (1) management’s commitment to a plan to sell, (2) availability for immediate sale in its present condition, (3) initiation of an active program to identify a buyer, (4) probability of a completed sale within one year, (5) actively marketed for sale at a reasonable price in relation to its current fair value, and (6) likelihood of significant changes to the plan will be made or that the plan will be withdrawn. If all of the criteria is met as of the balance sheet date, the assets and liabilities are presented separately in the balance sheet as held-for-sale at the lower of their carrying amount or fair value less costs to sell and are no longer depreciated or amortized while classified as held-for-sale. We have classified $479 million of assets and $152 million of liabilities as held-for-sale at December 31, 2018 which are related to the planned sale of the UPSA consumer health business, a division of BMS which manufactures and markets pain treatment and other OTC products for domestic sale in France and export sales outside of France.

Income Taxes

Valuation allowances are recognized to reduce deferred tax assets when it is more likely than not that a tax benefit will not be realized. The assessment of whether or not a valuation allowance is required often requires significant judgment including long-range forecasts of future taxable income and evaluation of tax planning initiatives.

Adjustments to the deferred tax valuation allowances are made to earnings in the period when such assessments are made. Our deferred tax assets were $2.1 billion at December 31, 2018 (net of valuation allowances of $3.2 billion) and $2.3 billion at December 31, 2017 (net of valuation allowances of $2.8 billion).

The U.S. Federal net operating loss carryforwards were $206 million at December 31, 2018. These carryforwards were acquired as a result of certain acquisitions and are subject to limitations under Section 382 of the Internal Revenue Code. The net operating loss carryforwards expire in varying amounts beginning in 2022. The foreign and state net operating loss carryforwards expired in varying amounts beginning in 2018 (certain amounts have unlimited lives).

As discussed more fully in “Item 8. Financial Statements and Supplementary Data—Note 7. Income Taxes”, a provisional tax charge of $2.6 billion attributable to the one-time deemed repatriation transition tax on certain foreign earnings was recognized in the fourth quarter of 2017. The accounting for the reduction of deferred tax assets to the 21% tax rate was complete as of December 31, 2017, and the tax charge for the deemed repatriation transition tax is complete as of December 31, 2018. The provisional tax charge for the deemed repatriation transition tax was reduced by $56 million in 2018.

Prior to the Mead Johnson split-off in 2009, the following transactions occurred: (i) an internal spin-off of Mead Johnson shares while still owned by us; (ii) conversion of Mead Johnson Class B shares to Class A shares; and (iii) conversion of Mead Johnson & Company to a limited liability company. These transactions as well as the split-off of Mead Johnson through the exchange offer should qualify as tax-exempt transactions under the Internal Revenue Code based upon a private letter ruling received from the Internal Revenue Service related to the conversion of Mead Johnson Class B shares to Class A shares, and outside legal opinions.

Certain assumptions, representations and covenants by Mead Johnson were relied upon regarding the future conduct of its business and other matters which could affect the tax treatment of the exchange. For example, the current tax law generally creates a presumption that the exchange would be taxable to us, if Mead Johnson or its shareholders were to engage in transactions that result in a 50% or greater change in its stock ownership during a four year period beginning two years before the exchange offer, unless it is established that the exchange offer were not part of a plan or series of related transactions to effect such a change in ownership. If the internal spin-off or exchange offer were determined not to qualify as a tax exempt transaction, the transaction could be subject to tax as if the exchange was a taxable sale by us at market value.

In addition, a negative basis or excess loss account (ELA) existed in our investment in stock of Mead Johnson prior to these transactions. We received an opinion from outside legal counsel to the effect that it is more likely than not that we eliminated the ELA as part of these transactions and do not have taxable income with respect to the ELA. The tax law in this area is complex and it is possible that even if the internal spin-off and the exchange offer is tax exempt under the Internal Revenue Code, the IRS could assert that we have additional taxable income for the period with respect to the ELA. We could be exposed to additional taxes if this were to occur. Based upon our understanding of the Internal Revenue Code and opinion from outside legal counsel, a tax reserve of $244 million was established reducing the gain on disposal of Mead Johnson included in discontinued operations in 2009.

We agreed to certain tax related indemnities with Mead Johnson as set forth in the tax sharing agreement, including certain taxes related to its business prior to the completion of the IPO and created as part of the restructuring to facilitate the IPO. Mead Johnson has also agreed to indemnify us for potential tax effects resulting from the breach of certain representations discussed above as well as certain transactions related to the acquisition of Mead Johnson’s stock or assets.

Liabilities are established for possible assessments by tax authorities resulting from known tax exposures including, but not limited to, transfer pricing matters, tax credits and deductibility of certain expenses. Such liabilities represent a reasonable provision for taxes ultimately expected to be paid and may need to be adjusted over time as more information becomes known.

For discussions on income taxes, refer to “Item 8. Financial Statements and Supplementary Data—Note 1. Accounting Policies and Recently Issued Accounting Standards—Income Taxes” and “—Note 7. Income Taxes.”

Contingencies

In the normal course of business, we are subject to contingencies, such as legal proceedings and claims arising out of our business, that cover a wide range of matters, including, among others, government investigations, shareholder lawsuits, product and environmental liability, contractual claims and tax matters. We recognize accruals for such contingencies when it is probable that a liability will be incurred and the amount of the loss can be reasonably estimated. These estimates are subject to uncertainties that are difficult to predict and, as such, actual results could vary from these estimates.

For discussions on contingencies, refer to “Item 8. Financial Statements and Supplementary Data—Note 1. Accounting Policies and Recently Issued Accounting Standards—Contingencies,” “—Note 7. Income Taxes” and “—Note 18. Legal Proceedings and Contingencies.”

Product and Pipeline Developments

Our R&D programs are managed on a portfolio basis from early discovery through late-stage development and include a balance of early-stage and late-stage programs to support future growth. Our late stage R&D programs in Phase III development include both investigational compounds for initial indications and additional indications or formulations for marketed products. Spending on these programs represent approximately 35-45% of our annual R&D expenses in the last three years. Opdivo was the only investigational compound or marketed product that represented greater than 10% of our R&D expenses in the last three years. Our late-stage development programs could potentially have an impact on our revenue and earnings within the next few years if regulatory approvals are obtained and products are successfully commercialized. The following are the developments in our marketed products and our late-stage pipeline:

Product	Indication	Date	Developments
Opdivo	Melanoma	August 2018	Approval in Japan for treatment of adjuvant melanoma.
		July 2018	EC approval for the adjuvant treatment of adult patients with involvement of lymph nodes or metastatic disease who have undergone complete resection.
		June 2018	Announced results from the Phase III CheckMate-238 trial evaluating Opdivo versus Yervoy in patients with stage IIIB/C or stage IV melanoma who are at high risk of recurrence following complete surgical resection demonstrated statistically longer recurrence-free survival for Opdivo, the primary endpoint of the study, versus Yervoy at a minimum follow-up of 24 months across key subgroups, including disease stages and BRAF mutation status.
	Multiple Myeloma	June/August 2018	Announced in June 2018 that the FDA lifted a partial clinical hold placed on CheckMate-602, a randomized, open-label Phase III study evaluating the addition of Opdivo to pomalidomide and dexamethasone in patients with relapsed or refractory multiple myeloma. The decision follows consultation with the FDA and agreement on amendments to the study protocol. In August 2018, the Company discontinued further enrollment of this study following a futility analysis.
	NSCLC	June 2018	Approval in China for the treatment of locally advanced or metastatic NSCLC after prior platinum-based chemotherapy in adult patients without EGFR or ALK genomic tumor aberrations.
		April 2018	Announced that the pivotal, randomized Phase III CheckMate-078 trial evaluating Opdivo versus docetaxel in a predominantly Chinese population with previously treated advanced NSCLC demonstrated superior overall survival benefit in the primary endpoint regardless of PD-L1 expression or tumor histology.
	SCCHN	January 2019	Acceptance in China of sBLA filing for patients who had previously been treated for metastatic or recurrent SCCHN.
		April 2018	Announced two-year overall survival data from CheckMate-141, a Phase III study, evaluating Opdivo compared with investigator's choice chemotherapy (cetuximab, docetaxel or methotrexate) in patients with recurrent or metastatic SCCHN after failure on platinum-based therapy.
	SCLC	October 2018	Announced topline results from the Phase III CheckMate-331 study did not meet its primary endpoint of overall survival with Opdivo versus chemotherapy in patients with previously treated relapsed SCLC.
		August 2018	FDA approval as the first and only IO treatment option for patients with metastatic SCLC whose cancer has progressed after platinum-based chemotherapy and at least one other line of therapy.
		August 2018	Approval in Japan for patients with MPM which has progressed after chemotherapy.
		August 2018	Approval in Japan of an every 2 week/30 minute infusion dose and administration schedule for Opdivo in six indications.

June 2018	Announced preliminary data from the ongoing PIVOT Phase I/II Study, which is evaluating the combination of Opdivo with Nektar's investigational medicine, NKTR-214. The preliminary results presented at the 2018 American Society of Clinical Oncology reported safety, efficacy and biomarker data for patients enrolled in the Phase I dose-escalation stage of the study and for the first patients consecutively enrolled in select dose expansion cohorts in Phase II.
April 2018	EC approval of an every four-week (Q4W) Opdivo dosing schedule of 480 mg infused over 60 minutes as an option for patients with advanced melanoma and previously treated RCC as well as the approval of a two-week Opdivo dosing option of 240 mg infused over 30 minutes to replace weight-based dosing for all six approved monotherapy indications in the EU.
March 2018	FDA approval of the Company's sBLA to update Opdivo dosing to include 480 mg infused every four weeks for a majority of approved indications as well as a shorter 30 minute infusion across all approved indications.

Product	Indication	Date	Developments
		October 2018	Announced new data from a cohort of the CheckMate-142 study in which Opdivo plus low-dose Yervoy demonstrated durable clinical benefit as a first-line treatment in patients with MSI-H or dMMR mCRC.
	CRC	July 2018	FDA approval of Opdivo plus low-dose Yervoy for the treatment of adult and pediatric patients 12 years and older with MSI-H or dMMR mCRC that has progressed following treatment with a fluoropyrimidine, oxaliplatin and irinotecan.
	mCRPC	February 2019	Announced results from an interim analysis of the Phase II CheckMate-650 trial evaluating Opdivo+Yervoy in patients with mCRPC showed that among 32 asymptomatic or minimally symptomatic patients whose disease had progressed after second-generation hormone therapy and who had not received chemotherapy (cohort 1), with a median follow-up of 11.9 months, the objective response rate was 25%. Additionally, among 30 patients whose disease progressed after taxane-based chemotherapy (cohort 2), with a median follow-up of 13.5 months, the objective response rate was 10%.
	Melanoma	October 2018	Announced four-year data from the Phase III CheckMate-067 clinical trial which continues to demonstrate durable, long-term survival benefits with the first-line combination of Opdivo+Yervoy, versus Yervoy alone, in patients with advanced melanoma.
		May 2018	Approval in Japan of Opdivo+Yervoy combination for chemotherapy-naive patients with unresectable melanoma.
	mUC	October 2018	Announced follow-up data evaluating Opdivo monotherapy and Opdivo in combination with Yervoy in patients with platinum-pretreated mUC. Results from the Phase I/II CheckMate-032 trial showed that patients who received the combination of Opdivo1 mg/kg plus Yervoy 3 mg/kg experienced a higher objective response rate compared to those who received Opdivo 3 mg/kg plus Yervoy 1 mg/kg or Opdivo alone.
Opdivo+Yervoy	NSCLC	January 2019	Announced voluntary withdrawal of the Company's sBLA for the Opdivo plus low-dose Yervoy for treatment of first-line advanced NSCLC in patients with TMB greater than or equal to 10 mutations per megabase as data from CheckMate-227, Part 1a, will not be available within the PDUFA goal date of May 20, 2019.
		October 2018	Announced updates regarding regulatory actions by the CHMP in the EU for the ongoing review of its applications for an indication in metastatic first-line NSCLC with Opdivo plus low-dose Yervoy in patients with TMB greater than or equal to 10 mutations per megabase. The CHMP requested additional information from CheckMate-227, including an overall survival analysis of Opdivo+Yervoy in patients who have TMB less than 10 mutations per megabase.
		June 2018	Announced results from a part of the Phase III CheckMate-227 trial that evaluated Opdivo plus low-dose Yervoy and Opdivo plus chemotherapy versus chemotherapy in patients with first-line NSCLC with PD-L1 expression <1%, across squamous and non-squamous tumor histologies extended progression-free survival.
		May 2018	Announced the EMA validated a type II variation application for treatment in adult patients with first-line metastatic NSCLC who have TMB greater than or equal to 10 mutations per megabase.
	RCC		

		February 2019	Announced new results from the Phase III CheckMate-214 study, showing that therapy with Opdivo plus low-dose Yervoy continued to demonstrate long-term survival benefits in patients with previously untreated advanced or metastatic RCC.
		January 2019	Announced the EC approval of Opdivo plus low-dose Yervoy for previously untreated patients with intermediate and poor-risk advanced RCC.
		August 2018	Approval in Japan of Opdivo plus low-dose Yervoy for the treatment of unresectable or metastatic RCC.
		June 2018	Announced patient-reported outcomes data from the Phase III CheckMate-214 trial in intermediate- and poor-risk patients with advanced RCC treated with Opdivo plus low-dose Yervoy versus sunitinib over a two-year follow-up period reported significant and sustained health-related quality of life improvements.
		April 2018	FDA approval of Opdivo+Yervoy combination for previously untreated patients with intermediate and poor-risk advanced RCC.
	SCLC	November 2018	Announced patient-reported outcomes from the Phase III CheckMate-451 study did not meet its primary endpoint of overall survival with Opdivo+Yervoy versus placebo as a maintenance therapy in patients with extensive-stage SCLC after completion of first-line platinum-based chemotherapy.
Eliquis	NVAF	November 2018	Announced findings from the largest real-world data analysis of NVAF patient populations aged 80 and older receiving direct oral anticoagulants showing that Eliquis is associated with lower rates of stroke or systemic embolism and major bleeding than rivaroxaban or dabigatran.

Product	Indication	Date	Developments
Orencia	JIA	January 2019	Received a positive CHMP opinion for polyarticular JIA via subcutaneous injection in pediatric patients down to two years of age.
Empliciti	RRMM	November 2018	FDA approval of Empliciti injection for intravenous use in combination with pomalidomide and dexamethasone for the treatment of adult patients with multiple myeloma who have received at least two prior therapies, including lenalidomide and a proteasome inhibitor.
		September 2018	Announced the EMA has validated the Company's type II variation application for Empliciti in combination with pomalidomide and low-dose dexamethasone for the treatment of adult patients with multiple myeloma who have received at least two prior therapies, including lenalidomide and a proteasome inhibitor (PI), and have demonstrated disease progression on the last therapy.
Sprycel	ALL	February 2019	Announced EC approval of Sprycel, in both tablet and powder for oral suspension formulations, in combination with chemotherapy for the treatment of pediatric patients with newly diagnosed Philadelphia chromosome-positive ALL.
		December 2018	FDA expanded the indication for Sprycel to include the treatment of pediatric patients one year of age and older with newly diagnosed Philadelphia chromosome-positive ALL in combination with chemotherapy.
	CML	July 2018	EC expanded the indication for Sprycel to include the treatment of children and adolescents aged 1 year to 18 years with chronic phase Philadelphia chromosome positive CML and to include a powder for oral suspension.
Yervoy	Melanoma	January 2018	EC approval of advanced (unresectable or metastatic) melanoma in pediatric patients 12 years of age and older.
TYK2 Inhibitor	Psoriasis	September 2018	Announced results from a Phase II study of BMS-986165, an oral, selective TYK2 inhibitor which delivered significant skin clearance in patients with moderate to severe plaque psoriasis.

Special Note Regarding Forward-Looking Statements

This 2018 Form 10-K (including documents incorporated by reference) and other written and oral statements we make from time to time contain certain “forward-looking” statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Exchange Act. You can identify these forward-looking statements by the fact they use words such as “should,” “could,” “expect,” “anticipate,” “estimate,” “target,” “may,” “project,” “guidance,” “inte “believe,” “will” and other words and terms of similar meaning and expression in connection with any discussion of future operating or financial performance. One can also identify forward-looking statements by the fact that they do not relate strictly to historical or current facts. Such forward-looking statements are based on historical performance and current expectations and projections about our future financial results, goals, plans and objectives and involve inherent risks, assumptions and uncertainties, including internal or external factors that could delay, divert or change any of them in the next several years, and could cause our future financial results, goals, plans and objectives to differ materially from those expressed in, or implied by, the statements. These statements are likely to relate to, among other things, our goals, plans and objectives regarding our financial position, results of operations, cash flows, market position, product development, product approvals, sales efforts, expenses, performance or results of current and anticipated products, our pending acquisition of Celgene and the outcome of contingencies such as legal proceedings and financial results. No forward-looking statement can be guaranteed. We have included important factors in the cautionary statements included in this 2018 Form 10-K, particularly under “Item 1A. Risk Factors,” that we believe could cause actual results to differ materially from any forward-looking statement.

Although we believe we have been prudent in our plans and assumptions, no assurance can be given that any goal or plan set forth in forward-looking statements can be achieved and readers are cautioned not to place undue reliance on

such statements, which speak only as of the date made. Additional risks that we may currently deem immaterial or that are not presently known to us could also cause the forward-looking events discussed in this 2018 Form 10-K not to occur. Except as otherwise required by federal securities law, we undertake no obligation to release publicly any updates or revisions to any forward-looking statements as a result of new information, future events, changed circumstances or otherwise after the date of this 2018 Form 10-K.

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

We are exposed to market risk resulting from changes in currency exchange rates and interest rates. Certain derivative financial instruments are used when available on a cost-effective basis to hedge our underlying economic exposure. All of our financial instruments, including derivatives, are subject to counterparty credit risk considered as part of the overall fair value measurement. Derivative financial instruments are not used for trading purposes.

Foreign Exchange Risk

Significant amounts of our revenues, earnings and cash flow are exposed to changes in foreign currency rates. Our primary net foreign currency translation exposures are the euro and Japanese yen. Foreign currency forward contracts are used to manage risk primarily arising from certain intercompany purchases and sales transactions; we are also exposed to foreign exchange transaction risk arising from non-functional currency denominated assets and liabilities and earnings denominated in non-U.S. dollar currencies. Foreign currency forward contracts are used to offset these exposures but are not designated as hedges.

We estimate that a 10% appreciation in the underlying currencies being hedged from their levels against the U.S. dollar (with all other variables held constant) would decrease the fair value of foreign exchange forward contracts by $231 million and $175 million at December 31, 2018 and December 31, 2017, respectively, reducing earnings over the remaining life of the contracts.

We are also exposed to translation risk on non-U.S. dollar-denominated net assets. Non-U.S. dollar borrowings are used to hedge the foreign currency exposures of our net investment in certain foreign affiliates and are designated as hedges of net investments. The effective portion of foreign exchange gains or losses on these hedges is included in the foreign currency translation component of Accumulated other comprehensive loss. If our net investment decreases below the equivalent value of the non-U.S. debt borrowings, the change in the remeasurement basis of the debt would be subject to recognition in income as changes occur. For additional information, refer to “Item 8. Financial Statements and Supplementary Data—Note 9. Financial Instruments and Fair Value Measurements.”

Interest Rate Risk

We use fixed-to-floating interest rate swap contracts designated as fair value hedges to provide an appropriate balance of fixed and floating rate debt. We use cross-currency interest rate swap contracts designated to hedge the Company's net investment in its Japan subsidiary. The fair values of these contracts as well as our marketable debt securities are analyzed at year-end to determine their sensitivity to interest rate changes. In this sensitivity analysis, if there were a 100 basis point increase in short-term or long-term interest rates as of December 31, 2018 and December 31, 2017, the expected adverse impact on our earnings would not be material.

We estimate that an increase of 100 basis points in long-term interest rates at December 31, 2018 and December 31, 2017 would decrease the fair value of long-term debt by $482 million and $569 million, respectively.

Credit Risk

We monitor our investments with counterparties with the objective of minimizing concentrations of credit risk. Our investment policy is to invest only in institutions that meet high credit quality standards and establishes limits on the amount and time to maturity of investments with any individual counterparty. The policy also requires that investments are only entered into with corporate and financial institutions that meet high credit quality standards.

The use of derivative instruments exposes us to credit risk if the counterparty fails to perform when the fair value of a derivative instrument contract is positive. If the counterparty fails to perform, collateral is not required by any party whether derivatives are in an asset or liability position. We have a policy of diversifying derivatives with counterparties to mitigate the overall risk of counterparty defaults. For additional information, refer to “Item 8. Financial Statements and Supplementary Data—Note 9. Financial Instruments and Fair Value Measurements.”

Item 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA.

BRISTOL-MYERS SQUIBB COMPANY
CONSOLIDATED STATEMENTS OF EARNINGS
Dollars in Millions, Except Per Share Data

	Year Ended December 31,		
EARNINGS	2018	2017	2016
Net product sales	$21,581	$19,258	$17,702
Alliance and other revenues	980	1,518	1,725
Total Revenues	22,561	20,776	19,427
Cost of products sold	6,547	6,094	4,969
Marketing, selling and administrative	4,551	4,751	4,979
Research and development	6,345	6,482	5,012
Other income (net)	(850)	(1,682)	(1,448)
Total Expenses	16,593	15,645	13,512
Earnings Before Income Taxes	5,968	5,131	5,915
Provision for Income Taxes	1,021	4,156	1,408
Net Earnings	4,947	975	4,507
Noncontrolling Interest	27	(32)	50
Net Earnings Attributable to BMS	$4,920	$1,007	$4,457
Earnings per Common Share			
Basic	$3.01	$0.61	$2.67
Diluted	3.01	0.61	2.65

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
Dollars in Millions

	Year Ended December 31,		
COMPREHENSIVE INCOME	2018	2017	2016
Net Earnings	$4,947	$975	$4,507
Other Comprehensive (Loss)/Income, net of taxes and reclassifications to earnings:			
Derivatives qualifying as cash flow hedges	70	(57)	4
Pension and postretirement benefits	53	214	(17)
Available-for-sale securities	(25)	39	16
Foreign currency translation	(254)	18	(38)
Total Other Comprehensive (Loss)/Income	(156)	214	(35)
Comprehensive Income	4,791	1,189	4,472
Comprehensive Income/(Loss) Attributable to Noncontrolling Interest	27	(32)	50
Comprehensive Income Attributable to BMS	$4,764	$1,221	$4,422

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

BRISTOL-MYERS SQUIBB COMPANY
CONSOLIDATED BALANCE SHEETS
Dollars in Millions, Except Share and Per Share Data

ASSETS	December 31, 2018	2017
Current Assets:		
Cash and cash equivalents	$6,911	$5,421
Marketable securities	1,973	1,391
Receivables	5,965	6,300
Inventories	1,195	1,166
Prepaid expenses and other	1,116	576
Total Current Assets	17,160	14,854
Property, plant and equipment	5,027	5,001
Goodwill	6,538	6,863
Other intangible assets	1,091	1,210
Deferred income taxes	1,371	1,610
Marketable securities	1,775	2,480
Other assets	2,024	1,533
Total Assets	$34,986	$33,551
LIABILITIES		
Current Liabilities:		
Short-term debt obligations	$1,703	$987
Accounts payable	1,892	2,248
Accrued liabilities	6,489	6,014
Deferred income	172	83
Income taxes payable	398	231
Total Current Liabilities	10,654	9,563
Deferred income	468	454
Income taxes payable	3,043	3,548
Pension and other liabilities	1,048	1,164
Long-term debt	5,646	6,975
Total Liabilities	20,859	21,704
Commitments and contingencies		
EQUITY		
Bristol-Myers Squibb Company Shareholders' Equity:		
Preferred stock, $2 convertible series, par value $1 per share: Authorized 10 million shares; issued and outstanding 3,590 in 2018 and 4,070 in 2017, liquidation value of $50 per share	—	—
Common stock, par value of $0.10 per share: Authorized 4.5 billion shares; 2.2 billion issued in both 2018 and 2017	221	221
Capital in excess of par value of stock	2,081	1,898
Accumulated other comprehensive loss	(2,762)	(2,289)
Retained earnings	34,065	31,160
Less cost of treasury stock — 576 million common shares in 2018 and 575 million common shares in 2017	(19,574)	(19,249)
Total Bristol-Myers Squibb Company Shareholders' Equity	14,031	11,741
Noncontrolling interest	96	106

Total Equity	14,127	11,847
Total Liabilities and Equity	$34,986	$33,551

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

BRISTOL-MYERS SQUIBB COMPANY
CONSOLIDATED STATEMENTS OF CASH FLOWS
Dollars in Millions

	Year Ended December 31,		
	2018	2017	2016
Cash Flows From Operating Activities:			
Net earnings	$4,947	$975	$4,507
Adjustments to reconcile net earnings to net cash provided by operating activities:			
Depreciation and amortization, net	637	789	382
Deferred income taxes	86	1,010	(204)
Stock-based compensation	221	199	205
Impairment charges	126	327	63
Pension settlements and amortization	186	236	169
Divestiture gains and royalties	(992)	(706)	(1,187)
Asset acquisition charges	85	760	274
Loss/(gain) on equity investments	512	(23)	37
Other adjustments	(44)	120	(36)
Changes in operating assets and liabilities:			
Receivables	(429)	(431)	(803)
Inventories	(216)	(29)	(152)
Accounts payable	(59)	320	104
Deferred income	84	(642)	(64)
Income taxes payable	162	2,597	(453)
Other	634	(227)	216
Net Cash Provided by Operating Activities	5,940	5,275	3,058
Cash Flows From Investing Activities:			
Sale and maturities of marketable securities	2,379	6,412	4,809
Purchase of marketable securities	(2,305)	(5,437)	(3,089)
Capital expenditures	(951)	(1,055)	(1,215)
Divestiture and other proceeds	1,249	722	1,334
Acquisition and other payments	(1,246)	(708)	(359)
Net Cash (Used in)/Provided by Investing Activities	(874)	(66)	1,480
Cash Flows From Financing Activities:			
Short-term debt obligations, net	(543)	727	125
Issuance of long-term debt	—	1,488	—
Repayment of long-term debt	(5)	(1,224)	(15)
Repurchase of common stock	(320)	(2,469)	(231)
Dividends	(2,613)	(2,577)	(2,547)
Other	(54)	(22)	15
Net Cash Used in Financing Activities	(3,535)	(4,077)	(2,653)
Effect of Exchange Rates on Cash and Cash Equivalents	(41)	52	(33)
Increase in Cash and Cash Equivalents	1,490	1,184	1,852
Cash and Cash Equivalents at Beginning of Year	5,421	4,237	2,385
Cash and Cash Equivalents at End of Year	$6,911	$5,421	$4,237

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

Note 1. ACCOUNTING POLICIES AND RECENTLY ISSUED ACCOUNTING STANDARDS

Basis of Consolidation

The consolidated financial statements are prepared in conformity with U.S. GAAP, including the accounts of Bristol-Myers Squibb Company and all of its controlled majority-owned subsidiaries and certain variable interest entities. All intercompany balances and transactions are eliminated. Material subsequent events are evaluated and disclosed through the report issuance date. Refer to the Summary of Abbreviated Terms at the end of this 2018 Form 10-K for terms used throughout the document.

Alliance and license arrangements are assessed to determine whether the terms provide economic or other control over the entity requiring consolidation of an entity. Entities controlled by means other than a majority voting interest are referred to as variable interest entities and are consolidated when BMS has both the power to direct the activities of the variable interest entity that most significantly impacts its economic performance and the obligation to absorb losses or the right to receive benefits that could potentially be significant to the entity.

Business Segment Information

BMS operates in a single segment engaged in the discovery, development, licensing, manufacturing, marketing, distribution and sale of innovative medicines that help patients prevail over serious diseases. A global research and development organization and supply chain organization are responsible for the discovery, development, manufacturing and supply of products. Regional commercial organizations market, distribute and sell the products. The business is also supported by global corporate staff functions. The determination of a single segment is consistent with the financial information regularly reviewed by the chief executive officer for purposes of evaluating performance, allocating resources, setting incentive compensation targets, and planning and forecasting future periods. For further information on product and regional revenue, see “—Note 2. Revenue.”

Use of Estimates and Judgments

The preparation of financial statements requires the use of management estimates, judgments and assumptions. The most significant assumptions are estimates in determining the fair value and potential impairment of intangible assets; sales rebate and return accruals; legal contingencies; income taxes; and pension and postretirement benefits. Actual results may differ from estimated results.

Reclassifications

Certain prior period amounts were reclassified to conform to the current period presentation. Loss/(gain) on equity investments previously presented in Impairment charges and Other adjustments in the consolidated statements of cash flows is now presented separately.

Revenue Recognition

Effective January 1, 2018, we adopted ASC 606 using the modified retrospective method. Refer to “—Note 2. Revenue” for a detailed discussion of accounting policies related to revenue recognition, including deferred revenue and royalties. Refer to “—Note 3. Alliances” for further detail regarding alliances.

Income Taxes

The provision for income taxes includes income taxes paid or payable for the current year plus the change in deferred taxes during the year. Deferred taxes result from differences between the financial and tax basis of assets and

liabilities and are adjusted for changes in tax rates and tax laws when changes are enacted. Valuation allowances are recognized to reduce deferred tax assets when it is more likely than not that a tax benefit will not be realized. The assessment of whether or not a valuation allowance is required often requires significant judgment including the long-range forecast of future taxable income and the evaluation of tax planning initiatives. Adjustments to the deferred tax valuation allowances are made to earnings in the period when such assessments are made.

Tax benefits are recognized from an uncertain tax position only if it is more likely than not that the tax position will be sustained on examination by the taxing authorities based on the technical merits of the position. The tax benefit recognized in the financial statements for a particular tax position is based on the largest benefit that is more likely than not to be realized upon settlement.

Cash and Cash Equivalents

Cash and cash equivalents include bank deposits, time deposits, commercial paper and money market funds. Cash equivalents consist of highly liquid investments with original maturities of three months or less at the time of purchase and are recognized at cost, which approximates fair value.

Marketable Debt Securities

Marketable debt securities are classified as “available-for-sale” on the date of purchase and reported at fair value. Fair value is determined based on observable market quotes or valuation models using assessments of counterparty credit worthiness, credit default risk or underlying security and overall capital market liquidity. Marketable debt securities are reviewed for impairment by assessing if the decline in market value of the investment below the carrying value is other than temporary, which considers the intent and ability to retain the investment for a period of time sufficient to allow for any anticipated recovery in market value, the duration and extent that the market value has been less than cost and the investee's financial condition.

Investments in Equity Securities

Investments in equity securities with readily determinable fair values are recorded at fair value with changes in fair value recorded in Other income (net). Investments in equity securities without readily determinable fair values are recorded at cost minus any impairment, plus or minus changes in their estimated fair value resulting from observable price changes in orderly transactions for the identical or a similar investment of the same issuer. Changes in the estimated fair value of investments in equity securities without readily determinable fair values are recorded in Other income (net). Investments in 50% or less owned companies are accounted for using the equity method of accounting when the ability to exercise significant influence over the operating and financial decisions of the investee is maintained. The share of net income or losses of equity investments accounted for using the equity method are included in Other income (net). Investments in equity securities without readily determinable fair values and investments in equity accounted for using the equity method are assessed for potential impairment on a quarterly basis based on qualitative factors.

Inventory Valuation

Inventories are stated at the lower of average cost or market.

Property, Plant and Equipment and Depreciation

Expenditures for additions, renewals and improvements are capitalized at cost. Depreciation is computed on a straight-line method based on the estimated useful lives of the related assets ranging from 20 to 50 years for buildings and 3 to 20 years for machinery, equipment and fixtures.

Current facts or circumstances are periodically evaluated to determine if the carrying value of depreciable assets to be held and used may not be recoverable. If such circumstances exist, an estimate of undiscounted future cash flows generated by the long-lived asset, or appropriate grouping of assets, is compared to the carrying value to determine whether an impairment exists at its lowest level of identifiable cash flows. If an asset is determined to be impaired, the loss is measured based on the difference between the asset’s fair value and its carrying value. An estimate of the asset’s fair value is based on quoted market prices in active markets, if available. If quoted market prices are not available, the estimate of fair value is based on various valuation techniques using unobservable fair value inputs, such as a discounted value of estimated future cash flows.

Capitalized Software

Eligible costs to obtain internal use software are capitalized and amortized over the estimated useful life of the software.

Acquisitions

Businesses acquired are consolidated upon obtaining control. The fair value of assets acquired and liabilities assumed are recognized at the date of acquisition. Any excess of the purchase price over the estimated fair values of the net assets acquired is recognized as goodwill. Business acquisition costs are expensed when incurred. Contingent consideration from potential development, regulatory, approval and sales-based milestones and sales-based royalties are included in the purchase price for business combinations and are excluded for asset acquisitions. Amounts allocated to the lead investigational compounds for asset acquisitions are expensed at the date of acquisition.

Goodwill, Acquired In-Process Research and Development and Other Intangible Assets

The fair value of acquired intangible assets is typically determined using an income-based approach referred to as the excess earnings method utilizing Level 3 fair value inputs. The market participant valuations assume a global view considering all potential jurisdictions and indications based on discounted after-tax cash flow projections, risk adjusted for estimated probability of technical and regulatory success (for IPRD).

Finite-lived intangible assets, including licenses, developed technology rights and IPRD projects that reach commercialization are amortized on a straight-line basis over their estimated useful life. Estimated useful lives are determined considering the period the assets are expected to contribute to future cash flows.

Goodwill is tested at least annually for impairment by assessing qualitative factors or performing a quantitative analysis in determining whether it is more likely than not that the fair value of net assets are below their carrying amounts. Examples of qualitative factors assessed include our share price, financial performance compared to budgets, long-term financial plans, macroeconomic, industry and market conditions as well as the substantial excess of fair value over the carrying value of net assets from the annual impairment test performed in a prior year. Each relevant factor is assessed both individually and in the aggregate.

IPRD is tested for impairment on an annual basis and more frequently if events occur or circumstances change that would indicate a potential reduction in the fair values of the assets below their carrying value. Impairment charges are recognized to the extent the carrying value of IPRD is determined to exceed its fair value.

Finite-lived intangible assets are tested for impairment when facts or circumstances suggest that the carrying value of the asset may not be recoverable. If the carrying value exceeds the projected undiscounted pretax cash flows of the intangible asset, an impairment loss equal to the excess of the carrying value over the estimated fair value (discounted after-tax cash flows) is recognized.

Restructuring

Restructuring charges are recognized as a result of actions to streamline operations and reduce the number of facilities. Estimating the impact of restructuring plans, including future termination benefits and other exit costs requires judgment. Actual results could vary from these estimates.

Contingencies

Loss contingencies from legal proceedings and claims may occur from government investigations, shareholder lawsuits, product and environmental liability, contractual claims, tax and other matters. Accruals are recognized when it is probable that a liability will be incurred and the amount of loss can be reasonably estimated. Gain contingencies (including contingent proceeds related to the divestitures) are not recognized until realized. Legal fees are expensed as incurred.

Advertising and Product Promotion Costs

Advertising and product promotion costs are expensed as incurred. Advertising and product promotion costs are included in Marketing, selling and administrative expenses and were $672 million in 2018, $740 million in 2017 and $789 million in 2016.

Foreign Currency Translation

Foreign subsidiary earnings are translated into U.S. dollars using average exchange rates. The net assets of foreign subsidiaries are translated into U.S. dollars using current exchange rates. The U.S. dollar effects that arise from translating the net assets of these subsidiaries at changing rates are recognized in Other Comprehensive (Loss)/Income.

Research and Development

Research and development costs are expensed as incurred. Clinical study costs are accrued over the service periods specified in the contracts and adjusted as necessary based upon an ongoing review of the level of effort and costs actually incurred. Research and development costs are presented net of reimbursements from alliance partners. Upfront and contingent development milestone payments for asset acquisitions of investigational compounds are also included in research and development expense if there are no alternative future uses.

Cash Flow

Payments for licensing and asset acquisitions of investigational compounds are included in operating activities as well as out-licensing proceeds. Payments for the acquisition of an ownership interest in a legal entity, including acquisitions that do not meet the accounting definition of a business are included in investing activities, as well as divestiture proceeds, royalties and other consideration received subsequent to the related sale of the asset or business. Other adjustments reflected in operating activities include divestiture gains and losses and related royalties, asset acquisition charges, gains and losses on equity investments and gains and losses on debt redemption.

Recently Adopted Accounting Standards

Revenue from Contracts with Customers

Amended guidance for revenue recognition was adopted in the first quarter of 2018 using the modified retrospective method with the cumulative effect of the change recognized in Retained earnings. The new guidance, referred to as ASC 606, requires an entity to recognize the amount of revenue to which it expects to be entitled for the transfer of promised goods or services to customers and replaces most of the existing revenue recognition standards in U.S. GAAP. A five-step model is utilized to achieve the core principle: (1) identify the customer contract; (2) identify the contract's performance obligation; (3) determine the transaction price; (4) allocate the transaction price to the performance obligation; and (5) recognize revenue when or as a performance obligation is satisfied.

The timing of recognizing revenue for typical net product sales to our customers did not significantly change. However, transaction prices are no longer required to be fixed or determinable and certain variable consideration might be recognized prior to the occurrence or resolution of the contingent event. As a result, certain revenue previously deferred under the prior standard because the transaction price was not fixed or determinable is now accounted for as variable consideration and might be recognized earlier provided such terms are sufficient to reliably estimate the ultimate price expected to be realized.

Estimated future royalties and contingent fees related to certain arrangements are now recognized prior to the third party sale or event occurring to the extent it is probable that a significant reversal in the amount of estimated cumulative revenue will not occur. The new guidance pertaining to the separation of licensing rights and related fee recognition did not significantly change the timing of recognizing revenue in our existing alliance arrangements that are currently generating revenue. The timing of royalties, sales-based milestones and other forms of contingent consideration resulting from the divestiture of businesses as well as royalties and sales-based milestones from licensing arrangements did not change.

The cumulative effect of the accounting change resulted in recognizing contract assets of $214 million and a $168 million increase in Retained earnings net of tax. The cumulative effect was primarily attributed to royalties and licensing rights reacquired by alliance partners that are expected to be received in the future and are not eligible for the licensing exclusion. As a result of the new guidance and cumulative effect adjustment, revenue was approximately $197 million lower in 2018, compared to what would have been reported under the previous guidance. Refer to "—Note 2. Revenue" for further information.

Gains and Losses from the Derecognition of Nonfinancial Assets

Amended guidance for gains and losses from the derecognition of nonfinancial assets (ASC 610) was adopted in the first quarter of 2018 using the modified retrospective method. The amendments clarify the scope of asset derecognition guidance, add guidance for partial sales of nonfinancial assets and clarify recognizing gains and losses from the transfer of nonfinancial assets in contracts with noncustomers. Certain transactions such as the sale or

transfer of product rights that do not constitute a business will require accounting similar to ASC 606 including the potential recognition of variable consideration. The amended guidance may result in earlier recognition of variable consideration depending on the facts and circumstances of each transaction.

The cumulative effect of the accounting change resulted in recognizing contract assets of $167 million and a $130 million increase in Retained earnings net of tax. The cumulative effect was primarily attributed to royalties and termination fees for licensing rights reacquired by third parties that are expected to be received in the future and are not eligible for the licensing exclusion. As a result of the new guidance and cumulative effect adjustment, Other income (net) was approximately $140 million lower in 2018, compared to what would have been reported under the previous guidance.

Presentation of Net Periodic Pension and Postretirement Benefits

Amended guidance requiring all net periodic benefit components for defined benefit pension and other postretirement plans other than service costs to be recorded outside of income from operations (other income) was adopted in the first quarter of 2018 on a retrospective basis. Cost of products sold; Marketing, selling and administrative; and Research and development expenses increased in the aggregate with a corresponding offset in Other income (net).

As adjusted amounts upon adoption of the new guidance are as follows:

	Year Ended December 31,			
	2017		2016	
Dollars in Millions	As Reported	As Adjusted	As Reported	As Adjusted
Cost of products sold	$6,066	$ 6,094	$4,946	$ 4,969
Marketing, selling and administrative	4,687	4,751	4,911	4,979
Research and development	6,411	6,482	4,940	5,012
Other income (net)	(1,519)	(1,682)	(1,285)	(1,448)

Definition of a Business

Amended guidance that revises the definition of a business was adopted prospectively in the first quarter of 2018. The amendments provide an initial screen that when substantially all of the fair value of the gross assets acquired or disposed of is concentrated in a single identifiable asset or a group of similar identifiable assets, an integrated set of assets and activities would not represent a business. If the screen is not met, the set must include an input and a substantive process that together significantly contribute to the ability to create outputs for the set to represent a business. The amendment also narrows the definition of the term “output” and requires the transfer of an organized work force when outputs do not exist. The amended guidance may result in more transactions being accounted for as assets in the future with the impact to our results of operations dependent on the individual facts and circumstances of each transaction.

Recognition and Measurement of Financial Assets and Liabilities

Amended guidance for the recognition, measurement, presentation and disclosures of financial instruments was adopted using the modified retrospective method in the first quarter of 2018. The new guidance requires that fair value adjustments for equity investments with readily determinable fair values be reported through earnings. The new guidance also requires a qualitative impairment assessment for equity investments without a readily determinable fair value based upon observable price changes and a charge through earnings if an impairment exists. The cumulative effect of the accounting change resulted in a $36 million reduction to Other Comprehensive (Loss)/Income and a corresponding $34 million increase to Retained earnings, net of tax. Refer to “—Note 5. Other Income (Net)” for further information and the impact on the results of operations.

Accounting for Hedging Activities

Amended guidance for derivatives and hedging was adopted using the modified retrospective method in the first quarter of 2018. The amended guidance revises and expands items eligible for hedge accounting, simplifies hedge effectiveness testing and changes the timing of recognition and presentation for certain hedged items. Certain disclosure requirements were also modified for hedging activities on a prospective basis. The adoption of the amended standard did not have a material impact on the Company’s results of operations.

Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income

Amended guidance for the reclassification of certain tax effects from accumulated other comprehensive income was adopted prospectively in the fourth quarter of 2018. The new guidance permits the reclassification of the income tax effect on amounts recorded within accumulated other comprehensive income impacted by the Tax Cuts and Jobs Act into Retained earnings. The Company recorded a cumulative effect adjustment to increase Accumulated other comprehensive loss by $283 million with a corresponding increase to Retained earnings.

Collaborative Arrangements

Amended guidance clarifying the interaction between ASC 606, Revenue from Contracts with Customers, and ASC 808, Collaborative Arrangements, was adopted retrospectively to the first quarter of 2018. The amended guidance clarifies when certain transactions between collaborative arrangement participants should be accounted for and presented as revenue under ASC 606. The adoption of the amended guidance did not have an impact on the Company’s results of operations.

Recently Issued Accounting Standards Not Yet Adopted

Leases

In February 2016, the FASB issued amended guidance on lease accounting. The amended guidance requires the recognition of a right-of-use asset and a lease liability, initially measured at the present value of future lease payments for leases with a term longer than 12 months. The amended guidance will be adopted on January 1, 2019, on a modified retrospective approach. The Company's assessment of the amended guidance is substantially complete, including our implementation of a leasing software system procured from a third party vendor, our gathering of lease information data, our assessment of the reasonable certainty of exercising renewal and termination options, and our evaluation of changes and enhancements to processes and internal controls. Based on our assessment, we intend to elect the package of practical expedients on adoption, apply the short-term lease recognition exemption for leases with terms of 12 months or less that do not include an option to purchase the underlying asset that we are reasonably certain to exercise, and apply a portfolio approach to discount our real property lease liabilities using the Company's incremental borrowing rate, as most real property leases do not provide an implicit rate. Lease terms vary based on the nature of operations and the market dynamics in each country; however, all leased facilities are classified as operating leases with remaining lease terms between 1 and 20 years, and comprise approximately 90% of our total lease obligation, the discounted value of which is approximately $600 million as of December 31, 2018. The amended guidance is not expected to materially impact the Company’s results of operations other than the recognition of the right-of-use asset and lease liability. Sublease income is not material to the Company's results of operations. The cumulative effect of the accounting change is not expected to be material to the Company's results of operations.

Financial Instruments - Measurement of Credit Losses

In June 2016, the FASB issued amended guidance for the measurement of credit losses on financial instruments. Entities will be required to use a forward-looking estimated loss model. Available-for-sale debt security credit losses will be recognized as allowances rather than a reduction in amortized cost. The guidance is effective January 1, 2020 with early adoption permitted in 2019 on a modified retrospective approach. The amended guidance is not expected to materially impact the Company’s results of operations.

Goodwill Impairment Testing

In January 2017, the FASB issued amended guidance that simplifies the recognition and measurement of a goodwill impairment loss by eliminating Step 2 of the quantitative impairment test. As a result, impairment charges will be required for the amount by which the reporting units carrying amount exceeds its fair value up to the amount of its allocated goodwill. The guidance is effective on a prospective basis on January 1, 2020, with early adoption permitted for interim or annual goodwill impairment tests performed after January 1, 2017. The amended guidance is not expected to materially impact the Company’s results of operations.

Note 2. REVENUE

The following table summarizes the disaggregation of revenue by nature:

	Year Ended December 31,		
Dollars in Millions	2018	2017	2016
Net product sales	$21,581	$19,258	$17,702
Alliance revenues	647	962	1,252
Other revenues	333	556	473
Total Revenues	$22,561	$20,776	$19,427

Net product sales represent more than 90% of the Company's total revenues for the years ended December 31, 2018, 2017 and 2016. Products are sold principally to wholesalers or distributors and to a lesser extent, directly to retailers, hospitals, clinics, government agencies and pharmacies. Customer orders are generally fulfilled within a few days of receipt resulting in minimal order backlog. Contractual performance obligations are usually limited to transfer of control of the product to the customer. The transfer occurs either upon shipment or upon receipt of the product in certain non-U.S. countries after considering when the customer obtains legal title to the product and when the Company obtains a right of payment. At these points, customers are able to direct the use of and obtain substantially all of the remaining benefits of the product. Gross revenue to the three largest pharmaceutical wholesalers in the U.S. as a percentage of global gross revenues were as follows:

	2018	2017	2016
McKesson Corporation	25%	24%	22%
AmerisourceBergen Corporation	20%	18%	18%
Cardinal Health, Inc.	17%	15%	14%

Wholesalers are initially invoiced at contractual list prices. Payment terms are typically 30 to 90 days based on customary practices in each country with the exception of certain biologic products in the U.S., including Opdivo, Yervoy and Empliciti (90 days to 120 days). Revenue is reduced from wholesaler list price at the time of recognition for expected charge-backs, discounts, rebates, sales allowances and product returns, which are referred to as GTN adjustments. These reductions are attributed to various commercial arrangements, managed healthcare organizations and government programs such as Medicare, Medicaid and the 340B Drug Pricing Program containing various pricing implications such as mandatory discounts, pricing protection below wholesaler list price or other discounts when Medicare Part D beneficiaries are in the coverage gap. In addition, non-U.S. government programs include different pricing schemes such as cost caps, volume discounts, outcome-based pricing and pricing claw-backs determined on sales of individual companies or an aggregation of companies participating in a specific market. Charge-backs and cash discounts are reflected as a reduction to receivables and settled through the issuance of credits to the customer, typically within one month. All other rebates, discounts and adjustments, including Medicaid and Medicare, are reflected as a liability and settled through cash payments to the customer, typically within various time periods ranging from a few months to one year.

Significant judgment is required in estimating GTN adjustments considering legal interpretations of applicable laws and regulations, historical experience, payer channel mix, current contract prices under applicable programs, unbilled claims, processing time lags and inventory levels in the distribution channel.

The following table summarizes GTN adjustments:

	Year Ended December 31,		
Dollars in Millions	2018	2017	2016
Gross product sales	$30,174	$25,499	$22,364
GTN adjustments[(a)]			
Charge-backs and cash discounts	(2,735)	(2,084)	(1,582)

Medicaid and Medicare rebates	(3,225)	(2,086)	(1,382)
Other rebates, returns, discounts and adjustments	(2,633)	(2,071)	(1,698)
Total GTN adjustments	(8,593)	(6,241)	(4,662)
Net product sales	$21,581	$19,258	$17,702

(a) Includes adjustments for provisions for product sales made in prior periods resulting from changes in estimates of $96 million, $71 million and $155 million for the years ended December 31, 2018, 2017 and 2016, respectively.

Alliance and other revenues consist primarily of amounts related to collaborations and out-licensing arrangements. Each of these arrangements are evaluated for whether they represent contracts that are within the scope of the revenue recognition guidance in their entirety or contain aspects that are within the scope of the guidance, either directly or by reference based upon the application of the guidance related to the derecognition of nonfinancial assets (ASC 610).

Performance obligations are identified and separated when the other party can benefit directly from the rights, goods or services either on their own or together with other readily available resources and when the rights, goods or services are not highly interdependent or interrelated.

Transaction prices for these arrangements may include fixed up-front amounts as well as variable consideration such as contingent development and regulatory milestones, sales-based milestones and royalties. The most likely amount method is used to estimate contingent development, regulatory and sales-based milestones because the ultimate outcomes are binary in nature. The expected value method is used to estimate royalties because a broad range of potential outcomes exist, except for instances in which such royalties relate to a license. Variable consideration is included in the transaction price only to the extent a significant reversal in the amount of cumulative revenue recognized is not probable of occurring when the uncertainty associated with the variable consideration is subsequently resolved. Significant judgment is required in estimating the amount of variable consideration to recognize when assessing factors outside of BMS's influence such as likelihood of regulatory success, limited availability of third party information, expected duration of time until resolution, lack of relevant past experience, historical practice of offering fee concessions and a large number and broad range of possible amounts. To the extent arrangements include multiple performance obligations that are separable, the transaction price assigned to each distinct performance obligation is reflective of the relative stand-alone selling price and recognized at a point in time upon the transfer of control.

Three types of out-licensing arrangements are typically utilized: (1) arrangements when we out-license intellectual property to another party and have no further performance obligations; (2) arrangements that include a license and an additional performance obligation to supply product upon the request of the third party; and (3) collaboration arrangements, which include transferring a license to a third party to jointly develop and commercialize a product.

Most out-licensing arrangements consist of a single performance obligation that is satisfied upon execution of the agreement when the development and commercialization rights are transferred to a third party. Up-front fees are recognized immediately and included in Other income (net). Although contingent development and regulatory milestone amounts are assessed each period for the likelihood of achievement, they are typically constrained and recognized when the uncertainty is subsequently resolved for the full amount of the milestone and included in Other income (net). Sales-based milestones and royalties are recognized when the milestone is achieved or the subsequent sales occur. Sales-based milestones are included in Other income (net) and royalties are included in Alliance and other revenue.

Certain out-licensing arrangements may also include contingent performance obligations to supply commercial product to the third party upon its request. The license and supply obligations are accounted for as separate performance obligations as they are considered distinct because the third party can benefit from the license either on its own or together with other supply resources readily available to it and the obligations are separately identifiable from other obligations in the contract in accordance with the revenue recognition guidance. After considering the standalone selling prices in these situations, up-front fees, contingent development and regulatory milestone amounts and sales-based milestone and royalties are allocated to the license and recognized in the manner described above. Consideration for the supply obligation is usually based upon stipulated cost-plus margin contractual terms which represent a standalone selling price. The supply consideration is recognized at a point in time upon transfer of control of the product to the third party and included in Alliance and other revenue. The above fee allocation between the license and the supply represents the amount of consideration that the Company expects to be entitled to for the

satisfaction of the separate performance obligations.

Although collaboration arrangements are unique in nature, both parties are active participants in the operating activities and are exposed to significant risks and rewards depending on the commercial success of the activities. Performance obligations inherent in these arrangements may include the transfer of certain development or commercialization rights, ongoing development and commercialization services and product supply obligations. Except for certain product supply obligations which are considered distinct and accounted for as separate performance obligations similar to the manner discussed above, all other performance obligations are not considered distinct and are combined into a single performance obligation since the transferred rights are highly integrated and interrelated to our obligation to jointly develop and commercialize the product with the third party. As a result, up-front fees are recognized ratably over time throughout the expected period of the collaboration activities and included in Other income (net) as the license is combined with other development and commercialization obligations. Contingent development and regulatory milestones that are no longer constrained are recognized in a similar manner on a prospective basis. Royalties and profit sharing are recognized when the underlying sales and profits occur and are included in Alliance and other revenue. Refer to “—Note 3. Alliances” for further information.

The following table summarizes the disaggregation of revenue by product and region:

	Year Ended December 31,		
Dollars in Millions	2018	2017	2016
Prioritized Brands			
Opdivo	$6,735	$4,948	$3,774
Eliquis	6,438	4,872	3,343
Orencia	2,710	2,479	2,265
Sprycel	2,000	2,005	1,824
Yervoy	1,330	1,244	1,053
Empliciti	247	231	150
Established Brands			
Baraclude	744	1,052	1,192
Reyataz Franchise	427	698	912
Sustiva Franchise	283	729	1,065
Hepatitis C Franchise	17	406	1,578
Other Brands	1,630	2,112	2,271
Total Revenues	$22,561	$20,776	$19,427
United States	$12,586	$11,358	$10,720
Europe	5,658	4,988	4,215
Rest of World	3,733	3,877	3,964
Other[(a)]	584	553	528
Total Revenues	$22,561	$20,776	$19,427

(a) Other revenues included royalties and alliance-related revenues for products not sold by our regional commercial organizations.

The following table summarizes contract assets as of December 31, 2018 and January 1, 2018:

Dollars in Millions	December 31, 2018	January 1, 2018
Prepaid expenses and other	$ 35	$ 349
Other assets	19	32
Total Contract Assets	$ 54	$ 381

Contract assets are primarily estimated future royalties and termination fees not eligible for the licensing exclusion and therefore recognized upon the adoption of ASC 606 and ASC 610. Contract assets are reduced and receivables are increased in the period the underlying sales occur. Contingent development and regulatory milestones from out-licensing arrangements of $1.3 billion were constrained and not recognized after considering the likelihood of a significant reversal of cumulative amount of revenue occurring. Cumulative catch-up adjustments to revenue affecting contract assets or contract liabilities were not material during the year ended December 31, 2018. Revenue recognized from performance obligation satisfied in prior periods was $495 million for the year ended December 31, 2018, consisting primarily of royalties for out-licensing arrangements and revised estimates for GTN adjustments related to prior period sales.

Sales commissions and other incremental costs of obtaining customer contracts are expensed as incurred as the amortization periods would be less than one year.

Note 3. ALLIANCES

BMS enters into collaboration arrangements with third parties for the development and commercialization of certain products. Although each of these arrangements is unique in nature, both parties are active participants in the operating activities of the collaboration and exposed to significant risks and rewards depending on the commercial success of the activities. BMS may either in-license intellectual property owned by the other party or out-license its intellectual property to the other party. These arrangements also typically include research, development, manufacturing, and/or commercial activities and can cover a single investigational compound or commercial product or multiple compounds and/or products in various life cycle stages. The rights and obligations of the parties can be global or limited to geographic regions. We refer to these collaborations as alliances and our partners as alliance partners.

The most common activities between BMS and its alliance partners are presented in results of operations as follows:

- When BMS is the principal in the end customer sale, 100% of product sales are included in Net product sales. When BMS's alliance partner is the principal in the end customer sale, BMS's contractual share of the third-party sales and/or royalty income are included in Alliance revenues as the sale of commercial products are considered part of BMS's ongoing major or central operations. Refer to "—Note 2. Revenue" for information regarding recognition criteria.
- Amounts payable to BMS by alliance partners (who are the principal in the end customer sale) for supply of commercial products are included in Alliance revenues as the sale of commercial products are considered part of BMS's ongoing major or central operations.
- Profit sharing, royalties and other sales-based fees payable by BMS to alliance partners are included in Cost of products sold as incurred.
- Cost reimbursements between the parties are recognized as incurred and included in Cost of products sold; Marketing, selling and administrative expenses; or Research and development expenses, based on the underlying nature of the related activities subject to reimbursement.
- Upfront and contingent development and approval milestones payable to BMS by alliance partners for investigational compounds and commercial products are deferred and amortized over the expected period of BMS's development and co-promotion obligation through the market exclusivity period or the periods in which the related compounds or products are expected to contribute to future cash flows. The amortization is presented consistent with the nature of the payment under the arrangement. For example, amounts received for investigational compounds are presented in Other income (net) as the activities being performed at that time are not related to the sale of commercial products included in BMS's ongoing major or central operations; amounts received for commercial products are presented in alliance revenue as the sale of commercial products are considered part of BMS's ongoing major or central operations.
- Upfront and contingent approval milestones payable by BMS to alliance partners for commercial products are capitalized and amortized over the shorter of the contractual term or the periods in which the related products are expected to contribute to future cash flows. The amortization is included in Cost of products sold.
- Upfront and contingent milestones payable by BMS to alliance partners prior to regulatory approval are expensed as incurred and included in Research and development expense.
- Royalties and other contingent consideration payable to BMS by alliance partners related to the divestiture of such businesses are included in Other income (net) when earned.
- All payments between BMS and its alliance partners are presented in Cash Flows From Operating Activities, except as otherwise described below.

Selected financial information pertaining to our alliances was as follows, including net product sales when BMS is the principal in the third-party customer sale for products subject to the alliance. Expenses summarized below do not include all amounts attributed to the activities for the products in the alliance, but only the payments between the alliance partners or the related amortization if the payments were deferred or capitalized. Certain prior period amounts included below were revised to exclude amounts for arrangements that no longer meet the criteria for collaboration arrangements.

	Year Ended December 31,		
Dollars in Millions	2018	2017	2016
Revenues from alliances:			
Net product sales	$8,359	$6,917	$5,530
Alliance revenues	647	962	1,252
Total Revenues	$9,006	$7,879	$6,782
Payments to/(from) alliance partners:			
Cost of products sold	$3,439	$2,718	$2,126
Marketing, selling and administrative	(104)	(62)	(30)
Research and development	1,044	(28)	(9)

Other income (net)	(67)	(46)	(42)

Selected Alliance Balance Sheet Information:	December 31,	
Dollars in Millions	2018	2017
Receivables – from alliance partners	$395	$322
Accounts payable – to alliance partners	904	875
Deferred income from alliances[(a)]	491	467

(a) Includes unamortized upfront and milestone payments.

Specific information pertaining to each of our significant alliances is discussed below, including their nature and purpose; the significant rights and obligations of the parties; specific accounting policy elections; and the income statement classification of and amounts attributable to payments between the parties.

Pfizer

BMS and Pfizer jointly develop and commercialize Eliquis, an anticoagulant discovered by BMS. Pfizer funds between 50% and 60% of all development costs depending on the study. Profits and losses are shared equally on a global basis except in certain countries where Pfizer commercializes Eliquis and pays BMS a sales-based fee.

Co-exclusive license rights were granted to Pfizer in exchange for an upfront payment and potential milestone payments. Both parties assumed certain obligations to actively participate in a joint executive committee and various other operating committees and have joint responsibilities for the research, development, distribution, sales and marketing activities of the alliance using resources in their own infrastructures. BMS and Pfizer manufacture the product in the alliance and BMS is the principal in the end customer product sales in the U.S., significant countries in Europe, as well as Canada, Australia, China, Japan and South Korea. In 2015, BMS transferred full commercialization rights to Pfizer in certain smaller countries in order to simplify operations. In the transferred countries, BMS supplies the product to Pfizer at cost plus a percentage of the net sales price to end-customers which is recorded in full upon transfer of control of the product to Pfizer.

The Company did not allocate consideration to the rights transferred to Pfizer as such rights were not sold separately by BMS or any other party, nor could Pfizer receive any benefit for the delivered rights without the fulfillment of other ongoing obligations by BMS under the alliance agreement. As such, the global alliance was treated as a single unit of accounting and upfront proceeds and any subsequent contingent milestone proceeds are amortized over the expected period of BMS's co-promotion obligation through the market exclusivity period. BMS received $884 million in non-refundable upfront, milestone and other licensing payments related to Eliquis through December 31, 2018. Amortization of the Eliquis deferred income is included in Other income (net) as Eliquis was not a commercial product at the commencement of the alliance.

Summarized financial information related to this alliance was as follows:

	Year Ended December 31,		
Dollars in Millions	2018	2017	2016
Revenues from Pfizer alliance:			
Net product sales	$6,329	$4,808	$3,306
Alliance revenues	109	64	37
Total Revenues	$6,438	$4,872	$3,343
Payments to/(from) Pfizer:			
Cost of products sold – Profit sharing	$3,078	$2,314	$1,595
Other income (net) – Amortization of deferred income	(55)	(55)	(55)

Selected Alliance Balance Sheet Information:	December 31,	
Dollars in Millions	2018	2017
Receivables	$220	$193
Accounts payable	786	625
Deferred income	$410	$466

Otsuka

BMS and Otsuka co-promote Sprycel in the U.S. and the EU. Both parties actively participate in various governance committees, however, BMS has control over the decision making. BMS is responsible for the development and manufacture of the product and is also the principal in the end customer product sales. A fee is paid to Otsuka based on net sales levels in the Oncology Territory (U.S., Japan and the EU) that equates to $294 million on the first $1 billion of annual net sales plus 1% of net sales in excess of $1 billion.

Summarized financial information related to this alliance was as follows:

	Year Ended December 31,		
Dollars in Millions	2018	2017	2016
Revenues from Otsuka alliances:			
Net product sales – Oncology territory	$1,705	$1,699	$1,544
Payments to Otsuka:			
Cost of products sold – Oncology fee	$297	$299	$304

BMS also had a worldwide commercialization agreement with Otsuka, to co-develop and co-promote Abilify*. The U.S. portion of the agreement expired in April 2015 and the EU portion expired in June 2014. In other countries where BMS had the exclusive right to sell Abilify*, expiration occurred on a country-by-country basis with the last expiration in Canada in January 2018.

Ono

BMS and Ono jointly develop and commercialize Opdivo, Yervoy and several BMS investigational compounds in Japan, South Korea and Taiwan. BMS is responsible for supply of the products. Profits, losses and development costs are shared equally for all combination therapies involving compounds of both parties. Otherwise, sharing is 80% and 20% for activities involving only one of the party’s compounds.

BMS and Ono also jointly develop and commercialize Orencia in Japan. BMS is responsible for the order fulfillment and distribution of the intravenous formulation and Ono is responsible for the subcutaneous formulation. Both formulations are jointly promoted by both parties with assigned customer accounts and BMS is responsible for the product supply. A co-promotion fee of 60% is paid when a sale is made to the other party’s assigned customer.

In 2017, Ono granted BMS an exclusive license for the development and commercialization of ONO-4578, Ono’s Prostaglandin E2 receptor 4 antagonist. BMS acquired worldwide rights except in Japan, South Korea, and Taiwan where it was added to the existing collaboration and in China and ASEAN countries where Ono retained exclusive rights. BMS paid $40 million to Ono, which was included in Research and development expense in 2017. Ono is eligible to receive subsequent clinical, regulatory and sales-based milestone payments of up to $480 million and royalties in countries where BMS has exclusive licensing rights.

In 2018, BMS provided Ono with a right to accept NKTR-214 into their alliance upon completion of a Phase I clinical study of Opdivo and NKTR-214 in the Ono Territory. If the right is exercised, Ono will partially reimburse BMS for development costs incurred with the study and share in certain future development costs, contingent milestone payments, profits and losses under the collaboration with Nektar.

Summarized financial information related to this alliance was as follows:

Dollars in Millions	Year Ended December 31, 2018	2017	2016
Revenues from Ono alliances:			
Net product sales	$165	$145	$147
Alliance revenues	294	268	280
Total Revenues	$459	$413	$427

BMS is the principal in the end customer product sales and has the exclusive right to develop, manufacture and commercialize Opdivo worldwide except in Japan, South Korea and Taiwan. Ono is entitled to receive royalties of 4% in North America and 15% in all territories excluding the three countries listed above, subject to customary adjustments.

Gilead

BMS and Gilead operate a joint venture in Europe to develop and commercialize a combination product named Atripla*, which combines BMS's Sustiva with Gilead's Truvada*. The joint venture is consolidated by Gilead, who is the principal in end customer product sales. BMS receives a percentage of end customer sales which is recorded in Alliance revenues. The joint venture will continue until either party terminates the arrangement or the last patent expires that allows market exclusivity to Atripla*.

Prior to 2018, BMS and Gilead operated a joint venture in the U.S. and Canada for Atripla*, which was terminated following the launch of a generic version of Sustiva by a third-party in the U.S. As a result, deferred income and alliance receivables attributed to Sustiva product held by the joint venture at December 31, 2017 was reduced by $438 million to reflect the post-termination selling price. BMS is entitled to a fee equal to 55% of Atripla* U.S. net sales multiplied by the ratio of the difference in the average net selling prices of Atripla* and Truvada* to the Atripla* average net selling price in 2018. The fee is reduced to 35% in 2019 and 15% in 2020, of Atripla* U.S. net sales multiplied by the ratio described above. BMS supplies Sustiva at cost plus a markup to Gilead during this three-year period but may terminate the supply agreement after a notice period.

Summarized financial information related to this alliance was as follows:

	Year Ended December 31,		
Dollars in Millions	2018	2017	2016
Revenues from Gilead alliances:			
Alliance revenues	$253	$623	$934
Equity in net loss of affiliates	$2	$13	$12

Nektar

In 2018, BMS and Nektar commenced a worldwide license and collaboration for the development and commercialization of NKTR-214, Nektar's investigational immuno-stimulatory therapy designed to selectively expand specific cancer-fighting T cells and natural killer cells directly in the tumor micro-environment. The Opdivo and NKTR-214 combination therapy is currently in Phase II clinical studies for multiple cancer indications and in Phase III clinical studies for melanoma and RCC. A joint development plan agreed by the parties contemplates development in various indications and tumor types with each party responsible for the supply of their own product. BMS's share of the development costs associated with therapies comprising a BMS medicine used in combination with NKTR-214 is 67.5%, subject to certain cost caps for Nektar. The parties will also jointly commercialize the therapies, subject to regulatory approval. BMS's share of global NKTR-214 profits and losses will be 35% subject to certain annual loss caps for Nektar.

BMS paid Nektar $1.85 billion for the rights discussed above and 8.3 million shares of Nektar common stock representing a 4.8% ownership interest. BMS's equity ownership is subject to certain lock-up, standstill and voting provisions for a five-year period. The amount of the up-front payment allocated to the equity investment was $800 million after considering Nektar's stock price on the date of closing and current limitations on trading the securities. The remaining $1.05 billion of the up-front payment was allocated to the rights discussed above and included in Research and development expense in the second quarter of 2018. BMS will also pay up to $1.8 billion upon the achievement of contingent development, regulatory and sales-based milestones over the life of the alliance period. Research and development expense payable under this agreement with Nektar was $59 million for the year ended December 31, 2018.

AbbVie

BMS and AbbVie jointly develop and commercialize Empliciti, a humanized monoclonal antibody for the treatment of multiple myeloma. Both parties participate in development and U.S. commercialization committees in which BMS has final decision making authority. AbbVie funds 20% of global development costs and BMS is solely responsible for supply, distribution and sales and marketing activities and is the principal in the end customer product sales. AbbVie shares 30% of all profits and losses in the U.S. and is paid tiered royalties outside of the U.S. AbbVie is also entitled to receive an additional $100 million if certain regulatory events occur and $200 million if certain sales thresholds are achieved. The agreement may be terminated immediately by BMS or by either party for material breaches (subsequent to a notice period).

Summarized financial information related to this alliance was as follows:

	Year Ended December 31,		
Dollars in Millions	2018	2017	2016
Revenues from AbbVie alliance:			
Net product sales	$162	$150	$132
Payments to AbbVie:			
Cost of products sold – Profit sharing	$44	$41	$34

Note 4. ACQUISITIONS, DIVESTITURES, LICENSING AND OTHER ARRANGEMENTS

Acquisitions

Acquisitions are evaluated to determine whether it is a business, an asset or a group of assets. The following transactions were accounted for as asset acquisitions since they were determined not to be a business as that term is defined in ASC 805 primarily because no significant processes were acquired. As a result, the amounts allocated to the lead investigational compounds were expensed and not capitalized. Consideration for each transaction upon execution for the last 3 years was allocated as follows:

Dollars in Millions	Year	Upfront Payment	R&D Expense	Deferred Tax Assets[a]	Contingent Consideration
IFM[b]	2017	$ 325	$ 311	$ 14	$ 2,020
Cormorant	2016	35	35	—	485
Padlock	2016	150	139	11	453

(a) Relates to net operating loss and tax credit carryforwards.

(b) Includes $25 million for certain negotiation rights to collaborate, license or acquire an NLRP3 antagonist program from a newly formed entity established by the former shareholders of IFM.

IFM

In 2017, BMS acquired all of the outstanding shares of IFM, a private biotechnology company focused on developing therapies that modulate novel targets in the innate immune system to treat cancer, autoimmunity and inflammatory diseases. The acquisition provided BMS with full rights to IFM's preclinical STING and NLRP3 agonist programs focused on enhancing the innate immune response for treating cancer. Contingent consideration includes development, regulatory and sales-based milestone payments, of which $25 million was included in Research and development expense in 2018, following the commencement of a Phase I clinical study. BMS may pay up to $555 million in additional contingent milestones for any subsequent products selected from IFM's preclinical STING and

NLRP3 agonist programs which is not included in the contingent consideration amount in the table above.

Cormorant

In 2016, BMS acquired all of the outstanding shares of Cormorant, a private pharmaceutical company focused on developing therapies for cancer and rare diseases. The acquisition provided BMS with full rights to Cormorant's lead candidate HuMax-IL8, a Phase I/II monoclonal antibody that represents a potentially complementary IO mechanism of action to T-cell directed antibodies and co-stimulatory molecules. Contingent consideration includes development and regulatory milestone payments, of which $60 million was included in Research and development expense in 2018, upon conclusion of the 18-month reversion option period.

Padlock

In 2016, BMS acquired all of the outstanding shares of Padlock, a private biotechnology company dedicated to creating new medicines to treat destructive autoimmune diseases. The acquisition provided BMS with full rights to Padlock's PAD inhibitor discovery program focused on the development of potentially transformational treatment approaches for patients with RA. Padlock's PAD discovery program may have additional utility in treating systemic lupus erythematosus and other autoimmune diseases. Contingent consideration includes development and regulatory milestone payments.

Cardioxyl

In 2015, BMS acquired all of the outstanding shares of Cardioxyl, a private biotechnology company focused on the discovery and development of novel therapeutic agents for cardiovascular disease. The acquisition provided BMS with full rights to CXL-1427, a nitroxyl prodrug in Phase II development for acute decompensated heart failure. Contingent consideration includes development, regulatory and sales-based milestone payments, of which $100 million was included in Research and development expense in 2017 following the commencement of a Phase II clinical study.

Flexus

In 2015, BMS acquired all of the outstanding shares of Flexus, a private biotechnology company focused on the discovery and development of novel anti-cancer therapeutics. The acquisition provided BMS with full rights to F001287, a preclinical small molecule IDO1-inhibitor targeted immunotherapy. In addition, BMS acquired Flexus's IDO/TDO discovery program which includes its IDO-selective, IDO/TDO dual and TDO-selective compounds. Contingent consideration includes development and regulatory milestone payments of which $350 million and $100 million were included in Research and development expense in 2017 and 2016, respectively, following the commencement of Phase I, Phase II, and Phase III clinical studies.

Divestitures

The following table summarizes proceeds, gains and royalty income resulting from divestitures. Revenue and pretax earnings related to all divestitures and assets held-for-sale were not material in all periods presented (excluding divestiture gains).

	Proceeds[a]			Divestiture Gains			Royalty Income		
Dollars in Millions	2018	2017	2016	2018	2017	2016	2018	2017	2016
Diabetes Business	$579	$405	$333	$—	$(126)	$—	$(661)	$(329)	$(361)
Erbitux* Business	216	218	252	—	—	—	(145)	(224)	(246)
Manufacturing Operations	160	—	—	—	—	—	—	—	—
Plavix* and Avapro*/Avalide*	80	—	—	—	—	—	—	—	—
Investigational HIV Business	—	—	387	—	(11)	(272)	—	—	—
OTC Business	—	—	317	—	—	(277)	—	—	—
Mature Brands and Other	212	28	28	(178)	(24)	(15)	(8)	(4)	(11)
	$1,247	$651	$1,317	$(178)	$(161)	$(564)	$(814)	$(557)	$(618)

(a) Includes royalties received subsequent to the related sale of the asset or business.

Diabetes Business

In February 2014, BMS and AstraZeneca terminated their diabetes business alliance agreements and BMS sold to AstraZeneca substantially all of the diabetes business comprising the alliance. The divestiture included the shares of

Amylin and the resulting transfer of its Ohio manufacturing facility; the intellectual property related to Onglyza* and Farxiga* (including BMS's interest in the out-licensing agreement for Onglyza* in Japan); and the purchase of BMS’s manufacturing facility located in Mount Vernon, Indiana in 2015.

Consideration for the transaction included a $2.7 billion payment at closing; contingent regulatory and sales-based milestone payments of up to $1.4 billion (including $800 million related to approval milestones and $600 million related to sales-based milestones, payable in 2020); tiered royalty payments ranging from 10% to 25% based on net sales through 2025 and payments up to $225 million if and when certain assets are transferred to AstraZeneca. AstraZeneca will also pay BMS for any required product supply at a price approximating the product cost as well as negotiated transitional service fees.

Consideration allocated to the development and supply agreements was amortized over the applicable service periods. Amortization of deferred income attributed to the development agreement ended in December 2016 and was $113 million in 2016 and included in Other income (net) as the sale of these services was not considered part of BMS's ongoing major or central operations. Amortization of deferred income attributed to the supply agreement ended in December 2017 and was recorded in Alliance revenues. Revenues attributed to the supply agreement were included in Alliance revenues and were not material in 2018, 2017 and 2016. Royalties are presented in Other income (net) and were $457 million in 2018, $229 million in 2017 and $227 million in 2016. Contingent consideration of $100 million was received in 2017 resulting in an additional gain upon achievement of a regulatory approval milestone.

In September 2015, BMS transferred a percentage of its future royalty rights on Amylin net product sales in the U.S. to CPPIB. The transferred rights represent approximately 70% of potential future royalties BMS is entitled to in 2019 to 2025. In exchange for the transfer, BMS received an additional tiered-based royalty on Amylin net product sales in the U.S. from CPPIB in 2016 through 2018. These royalties are presented in Other income (net) and were $45 million in 2018, $100 million in 2017 and $134 million in 2016.

In November 2017, BMS transferred a percentage of its future royalty rights on a portion of Onglyza* and Farxiga* net product sales to Royalty Pharma. The transferred rights represent approximately 20% to 25% of potential future royalties BMS is entitled to for those products in 2020 to 2025. In exchange for the transfer, BMS will receive an additional tiered-based royalty on Onglyza* and Farxiga* net product sales from Royalty Pharma in 2018 and 2019. These royalties are presented in Other income (net) and were $159 million in 2018.

Erbitux* Business

BMS had a commercialization agreement with Lilly through Lilly's subsidiary ImClone for the co-development and promotion of Erbitux* in the U.S., Canada and Japan. BMS was the principal in the end customer product sales in North America and paid Lilly a distribution fee for 39% of Erbitux* net sales in North America plus a share of certain royalties paid by Lilly.

In October 2015, BMS transferred its rights to Erbitux* in North America to Lilly in exchange for tiered sales-based royalties through September 2018, which were included in Other income (net). Royalties earned were $145 million in 2018, $207 million in 2017 and $227 million in 2016.

BMS transferred its co-commercialization rights in Japan to Merck KGaA in 2015 in exchange for sales-based royalties through 2032 which is included in Other income (net) when earned. Royalties earned were $17 million in 2017 and $19 million in 2016. As a result of the adoption of ASC 610 in the first quarter of 2018, estimated future royalties resulting from the transfer of rights to Merck KGaA were recorded as a cumulative effect adjustment in Retained earnings. Subsequent changes in estimates will be recorded in Other income (net). Refer to "—Note 1. Accounting Policies and Recently Issued Accounting Standards" for further details.

Manufacturing Operations

In 2017, BMS sold its small molecule active pharmaceutical ingredient manufacturing operations in Swords, Ireland to SK Biotek for approximately $165 million, subject to certain adjustments. Initial proceeds of $158 million were received in the first quarter of 2018. The transaction was accounted for as the sale of a business. The divestiture includes the transfer of the facility, the majority of employees at the site, inventories and certain third-party contract manufacturing obligations. The assets were reduced to their estimated relative fair value after considering the purchase price resulting in an impairment charge of $146 million that was included in Cost of products sold. SK Biotek will provide certain manufacturing services for BMS through 2022.

Plavix* and Avapro*/Avalide*

Sanofi reacquired BMS's co-development and co-commercialization agreements for Plavix* and Avapro*/Avalide* in 2013. Consideration for the transfer of rights included quarterly royalties through December 31, 2018 and a $200 million terminal payment received in 2018 of which $120 million was allocated to opt-out markets and $80 million was allocated to BMS's 49.9% interest in the Europe and Asia territory partnership. Royalties expected to be received in 2018 and the portion of terminal payment allocated to opt-out markets was reflected as a contract asset and cumulative effect adjustment upon adoption of ASC 610 in 2018 as BMS had fulfilled its performance obligation. The $80 million allocated to BMS's partnership interest was deferred as of December 31, 2018 and will be recognized in Other income (net) when transfer to Sanofi in 2019. Refer to “—Note 1. Accounting Policies and Recently Issued Accounting Standards” for further details.

Royalties earned from Sanofi in the territory covering the Americas and Australia and opt-out markets were presented in Alliance revenues and aggregated $26 million in 2018, $200 million in 2017 and $195 million in 2016. Royalties attributed to the territory covering Europe and Asia earned by the territory partnership and paid to BMS were included in equity in net income of affiliates and amounted to $96 million in 2018, $95 million in 2017 and $95 million in 2016.

Investigational HIV Business

In 2016, BMS sold its investigational HIV medicines business consisting of a number of R&D programs at different stages of discovery and development to ViiV Healthcare. BMS received $350 million and is also entitled to receive from ViiV Healthcare contingent development and regulatory milestone payments of up to $1.1 billion, sales-based milestone payments of up to $4.3 billion and future tiered royalties. BMS earned transitional fees of $10 million and $105 million for certain R&D and other services in 2017 and 2016, respectively.

OTC Business

In 2016, BMS sold to Reckitt an OTC business containing brands sold primarily in Mexico and Brazil for $317 million for a gain of $277 million, including the trademarks, inventory and certain other assets exclusively related to the products and a manufacturing facility located in Mexico primarily dedicated to the products.

Mature Brands and Other
Divestitures include several brands sold to Cheplapharm resulting in proceeds of $153 million and divestiture gains of $127 million in 2018.

Assets Held-For-Sale

In 2018, BMS agreed to sell its UPSA consumer health business for $1.6 billion. The transaction is expected to close in the second quarter of 2019 and will be accounted for as a sale of a business. The business was accounted for as held-for-sale as of December 31, 2018. Accordingly, assets of $479 million were reclassified to assets held-for-sale and included within prepaid expenses and other, including $79 million of receivables, $81 million of inventory, $187 million of property, plant and equipment and $127 million of goodwill. Additionally, liabilities of $152 million were reclassified to liabilities related to assets held-for-sale and included within accrued liabilities, including of $78 million of accrued liabilities, $35 million accounts payable, $25 million of deferred tax liabilities and $14 million of other liabilities at December 31, 2018.

In 2017, BMS agreed to sell an R&D facility in Wallingford, Connecticut. The transaction closed in 2018 and was accounted for as a sale of an asset. The facility was accounted for as held-for-sale as of December 31, 2017 and reduced to its estimated relative fair value resulting in an impairment charge of $79 million that was included in Research and development expense.

Licensing and Other Arrangements

Promedior

In 2015, BMS purchased a warrant that gives BMS the exclusive right to acquire Promedior, a biotechnology company whose lead asset, PRM-151, is being developed for the treatment of IPF and MF. The warrant is exercisable upon delivery of Phase II data following either of the IPF or MF Phase II clinical studies being directed by Promedior. The upfront payment allocated to the warrant was $84 million and included in Research and development expense in 2015. The remaining $66 million of the $150 million upfront payment was allocated to Promedior’s obligation to complete the Phase II studies which was amortized over the expected period of the Phase II studies. The allocation was determined using Level 3 inputs. In 2018, BMS notified Promedior that it would not exercise its warrant to purchase all outstanding shares of Promedior.

Halozyme

In 2017, BMS and Halozyme entered into a global collaboration and license agreement to develop subcutaneously administered BMS IO medicines using Halozyme's ENHANZE* drug-delivery technology. This technology may allow for more rapid delivery of large volume injectable medications through subcutaneous delivery. BMS paid $105 million to Halozyme for access to the technology which was included in Research and development expense. BMS designated multiple IO targets, including PD-1, to develop using the ENHANZE* technology and has an option to select additional targets within five years from the effective date up to a maximum of 11 targets. BMS may pay contingent development, regulatory and sales-based milestones up to $160 million if achieved for each of the nominated collaboration targets, additional milestone payments for combination products and future royalties on sales of products using the ENHANZE* technology.

CytomX

In 2017, BMS expanded its strategic collaboration with CytomX to discover novel therapies using CytomX's proprietary Probody platform. As part of the original May 2014 collaboration to discover, develop and commercialize Probody therapeutics, BMS selected four oncology targets, including CTLA-4. Pursuant to the expanded agreement, CytomX granted BMS exclusive worldwide rights to develop and commercialize Probody therapeutics for up to eight additional targets. BMS paid CytomX $75 million for the rights to the initial four targets which was expensed as R&D prior to 2017. BMS paid $200 million to CytomX for access to the additional targets which was included in Research and development expense in 2017. BMS will also reimburse CytomX for certain research costs over the collaboration period, pay contingent development, regulatory and sales-based milestones up to $448 million if achieved for each collaboration target and future royalties.

Biogen

In 2017, BMS out-licensed to Biogen exclusive rights to develop and commercialize BMS-986168, an anti-eTau compound in development for Progressive Supranuclear Palsy. Biogen paid $300 million to BMS which was included in Other income (net). BMS is also entitled to contingent development, regulatory and sales-based milestone payments of up to $410 million if achieved and future royalties. BMS originally acquired the rights to this compound in 2014 through its acquisition of iPierian. Biogen assumed all of BMS's remaining obligations to the former stockholders of iPierian.

Roche

In 2017, BMS out-licensed to Roche exclusive rights to develop and commercialize BMS-986089, an anti-myostatin adnectin in development for Duchenne Muscular Dystrophy. Roche paid $170 million to BMS which was included in Other income (net). BMS is also entitled to contingent development and regulatory milestone payments of up to $205 million if achieved and future royalties.

Nitto Denko

In 2016, BMS and Nitto Denko entered into an exclusive worldwide license agreement granting BMS the right to develop and commercialize Nitto Denko's investigational siRNA molecules targeting HSP47 in vitamin A containing formulations, which includes Nitto Denko's lead asset ND-L02-s0201, currently in Phase II study for the treatment of advanced liver fibrosis. BMS paid $100 million to Nitto Denko which was included in Research and development expense. BMS may pay contingent development, regulatory and sales-based milestones up to $898 million if achieved and future royalties. The agreement also grants BMS the option to receive exclusive licenses for HSP47 siRNAs in vitamin A containing formulations for the treatment of lung fibrosis and other organ fibrosis.

F-Star

In 2014, BMS acquired an exclusive option to purchase F-Star and its lead asset FS102, an anti-HER2 antibody fragment, in development for the treatment of breast and gastric cancer among a well-defined population of HER2-positive patients. In 2017, BMS discontinued development of FS102 and did not exercise its option, resulting in an IPRD charge of $75 million included in Research and development expense and attributed to noncontrolling interest.

Note 5. OTHER INCOME (NET)

	Year Ended December 31,		
Dollars in Millions	2018	2017	2016
Interest expense	$183	$196	$167
Investment income	(173)	(126)	(97)
Loss/(gain) on equity investments	512	(23)	37
Provision for restructuring	131	293	109
Litigation and other settlements	76	(487)	47
Equity in net income of affiliates	(93)	(75)	(77)
Divestiture gains	(178)	(164)	(576)
Royalties and licensing income	(1,353)	(1,351)	(719)
Transition and other service fees	(12)	(37)	(238)
Pension and postretirement	(27)	(1)	(72)
Intangible asset impairment	64	—	15
Loss on debt redemption	—	109	—
Other	20	(16)	(44)
Other income (net)	$(850)	$(1,682)	$(1,448)

- Loss/(gain) on equity investments includes a fair value adjustment of $534 million related to the Company's equity investment in Nektar in 2018.
- Litigation and other settlements include $481 million for BMS's share of a patent-infringement settlement related to Merck's PD-1 antibody Keytruda* in 2017.
- Royalties and licensing income includes royalties resulting from business divestitures, intellectual property legal settlements and upfront licensing fees including $470 million from Biogen and Roche in 2017.
- Transition and other service fees were primarily related to the divestiture of the diabetes and investigational HIV medicines businesses in 2016.

Note 6. RESTRUCTURING

In October 2016, the Company announced a restructuring plan to evolve and streamline its operating model and expects to incur charges in connection with employee workforce reductions and early site exits. The majority of charges are expected to be incurred through 2020, range between $1.5 billion to $2.0 billion, and consist of employee termination benefit costs, contract termination costs, accelerated depreciation, impairment charges and other site exit costs. Cash outlays in connection with these actions are expected to be approximately 40% to 50% of the total charges. Charges of approximately $1.1 billion have been recognized for these actions since the announcement including an impairment charge for a small molecule manufacturing operation in Swords, Ireland. Restructuring charges are recognized upon meeting certain criteria, including finalization of committed plans, reliable estimates and discussions with local works councils in certain markets.

Other restructuring charges in addition to the above actions recognized prior were primarily related to specialty care transformation initiatives designed to create a more simplified organization across all functions and geographic markets. In addition, accelerated depreciation and other charges were incurred in connection with the expected early exits of a small molecule manufacturing site in Cruiserath, Ireland and a R&D facility in Wallingford, Connecticut. Refer to “—Note 4. Acquisitions, Divestitures, Licensing and Other Arrangements” for further information.

Employee workforce reductions were approximately 900 in 2018, 1,900 in 2017 and 1,100 in 2016.

The following tables summarize the charges and activity related to the restructuring actions:

	Year Ended December 31,		
Dollars in Millions	2018	2017	2016
Employee termination costs	$87	$267	$97
Other termination costs	44	26	12
Provision for restructuring	131	293	109
Accelerated depreciation	113	289	72
Asset impairments	16	241	13
Other shutdown costs	8	3	19
Total charges	$268	$826	$213

	Year Ended December 31,		
Dollars in Millions	2018	2017	2016
Cost of products sold	$57	$149	$21
Marketing, selling and administrative	1	1	—
Research and development	79	383	83
Other income (net)	131	293	109
Total charges	$268	$826	$213

	Year Ended December 31,		
Dollars in Millions	2018	2017	2016
Liability at January 1	$186	$114	$125
Charges	148	319	116
Change in estimates	(17)	(26)	(7)
Provision for restructuring	131	293	109
Foreign currency translation and other	1	18	—
Payments	(219)	(239)	(120)
Liability at December 31	$99	$186	$114

Note 7. INCOME TAXES

The provision/(benefit) for income taxes consisted of:

	Year Ended December 31,		
Dollars in Millions	2018	2017	2016
Current:			
U.S.	$485	$2,782	$1,144
Non-U.S.	450	364	468
Total Current	935	3,146	1,612
Deferred:			
U.S.	29	1,063	(101)
Non-U.S.	57	(53)	(103)
Total Deferred	86	1,010	(204)
Total Provision	$1,021	$4,156	$1,408

77

Effective Tax Rate

The reconciliation of the effective tax rate to the U.S. statutory Federal income tax rate was:

	% of Earnings Before Income Taxes					
Dollars in Millions	2018		2017		2016	
Earnings before income taxes:						
U.S.	$2,338		$2,280		$3,100	
Non-U.S.	3,630		2,851		2,815	
Total	$5,968		$5,131		$5,915	
U.S. statutory rate	1,253	21.0 %	1,796	35.0 %	2,070	35.0 %
Deemed repatriation transition tax	(56)	(0.9)%	2,611	50.9 %	—	—
Deferred tax remeasurement	—	—	285	5.6 %	—	—
Global intangible low taxed income (GILTI)	94	1.6 %	—	—	—	—
Foreign tax effect of certain operations in Ireland, Puerto Rico and Switzerland	(202)	(3.4)%	(561)	(10.9)%	(442)	(7.5)%
U.S. Federal valuation allowance	119	2.0 %	—	—	(29)	(0.5)%
U.S. Federal, state and foreign contingent tax matters	(55)	(0.9)%	72	1.4 %	87	1.5 %
U.S. Federal research based credits	(138)	(2.3)%	(144)	(2.8)%	(144)	(2.4)%
Goodwill allocated to divestitures	—	—	4	0.1 %	34	0.6 %
U.S. Branded Prescription Drug Fee	21	0.3 %	52	1.0 %	52	0.9 %
Non-deductible R&D charges	17	0.3 %	266	5.2 %	100	1.7 %
Puerto Rico excise tax	(152)	(2.6)%	(131)	(2.6)%	(131)	(2.2)%
Domestic manufacturing deduction	—	—	(78)	(1.5)%	(122)	(2.1)%
State and local taxes (net of valuation allowance)	67	1.1 %	77	1.5 %	23	0.4 %
Foreign and other	53	0.9 %	(93)	(1.9)%	(90)	(1.6)%
	$1,021	17.1 %	$4,156	81.0 %	$1,408	23.8 %

New Tax reform legislation was enacted on December 22, 2017, known as the Tax Cuts and Jobs Act of 2017 (The Act). The Act moved from a worldwide tax system to a quasi-territorial tax system and was comprised of broad and complex changes to the U.S. tax code including, but not limited to, (1) reduced the U.S. tax rate from 35% to 21%; (2) added a deemed repatriation transition tax on certain foreign earnings and profits; (3) generally eliminated U.S. federal income taxes on dividends from foreign subsidiaries; (4) included certain income of controlled foreign companies in U.S. taxable income (GILTI); (5) created a new minimum tax referred to as a base erosion anti-abuse income tax; (6) limited certain U.S. Federal research based credits; and (7) eliminated the domestic manufacturing deduction.

Although many aspects of the Act were not effective until 2018, additional tax expense of $2.9 billion was recognized in the fourth quarter of 2017 upon its enactment, including a $2.6 billion one-time deemed repatriation transition tax on previously untaxed post-1986 foreign earnings and profits (including related tax reserves). Those earnings were effectively taxed at a 15.5% rate to the extent that the specified foreign corporations held cash and certain other assets and an 8.0% rate on the remaining earnings and profits. The remaining additional tax expense included an adjustment to measure net deferred tax assets at the new U.S. tax rate of 21%. The provisional tax charge for the deemed repatriation transition tax (including related tax reserves) under Staff Accounting Bulletin No. 118 was reduced by $56 million in 2018.

The accounting for the reduction of deferred tax assets to the 21% tax rate was complete as of December 31, 2017, and the tax charge for the deemed repatriation transition tax is complete as of December 31, 2018.

Prior to the enactment of the act, earnings for certain of our manufacturing operations in low tax jurisdictions, such as Switzerland, Ireland and Puerto Rico, were indefinitely reinvested. As a result of the transition tax under the Act, the

Company is no longer indefinitely reinvested with respect to its undistributed earnings from foreign subsidiaries and has provided a deferred tax liability or foreign and state income and withholding tax that would apply. The Company remains indefinitely reinvested with respect to its financial statement basis in excess of tax basis of its foreign subsidiaries. A determination of the deferred tax liability with respect to this basis difference is not practicable. BMS operates under a favorable tax grant in Puerto Rico not scheduled to expire prior to 2023.

A valuation allowance was set up in 2018 as a result of the Nektar equity investment fair value losses that would be considered limited as a capital loss.

U.S. Federal, state and foreign contingent tax matters includes a $119 million tax benefit in 2018 with respect to lapse of statutes.

Goodwill allocated to business divestitures as well as the U.S. Branded Prescription Drug Fee are not deductible for tax purposes.

R&D charges primarily from acquisition related and milestone payments to former shareholders are not deductible for tax purposes. These include Cormorant and IFM in 2018; Flexus, Cardioxyl and IFM in 2017; and Flexus, Padlock and Cormorant in 2016.

Puerto Rico imposes an excise tax on the gross company purchase price of goods sold from our manufacturer in Puerto Rico. The excise tax is recognized in Cost of products sold when the intra-entity sale occurs. For U.S. income tax purposes, the excise tax is not deductible but results in foreign tax credits that are generally recognized in our provision for income taxes when the excise tax is incurred.

Deferred Taxes and Valuation Allowance

The components of current and non-current deferred income tax assets/(liabilities) were as follows:

	December 31,	
Dollars in Millions	2018	2017
Deferred tax assets		
Foreign net operating loss carryforwards	$2,978	$2,872
State net operating loss and credit carryforwards	121	143
U.S. Federal net operating loss and credit carryforwards	67	99
Deferred income	188	212
Milestone payments and license fees	552	386
Pension and postretirement benefits	26	131
Intercompany profit and other inventory items	670	651
Other foreign deferred tax assets	327	312
Share-based compensation	54	60
Other	352	280
Total deferred tax assets	5,335	5,146
Valuation allowance	(3,193)	(2,827)
Deferred tax assets net of valuation allowance	2,142	2,319
Deferred tax liabilities		
Depreciation	(61)	(11)
Acquired intangible assets	(220)	(216)
Goodwill and other	(533)	(527)
Total deferred tax liabilities	(814)	(754)
Deferred tax assets, net	$1,328	$1,565
Recognized as:		
Deferred income taxes – non-current	$1,371	$1,610
Income taxes payable – non-current	(18)	(45)
Liabilities related to assets held-for-sale	(25)	—
Total	$1,328	$1,565

The U.S. Federal net operating loss carryforwards were $206 million at December 31, 2018. These carryforwards were acquired as a result of certain acquisitions and are subject to limitations under Section 382 of the Internal Revenue Code. The net operating loss carryforwards expire in varying amounts beginning in 2022. The foreign and state net operating loss carryforwards expire in varying amounts beginning in 2018 (certain amounts have unlimited

lives).

At December 31, 2018, a valuation allowance of $3.2 billion was established for the following items: $2.9 billion primarily for foreign net operating loss and tax credit carryforwards, $134 million for state deferred tax assets including net operating loss and tax credit carryforwards and $138 million for U.S. Federal deferred tax assets including equity fair value adjustments and U.S. Federal net operating loss carryforwards.

Changes in the valuation allowance were as follows:

	Year Ended December 31,		
Dollars in Millions	2018	2017	2016
Balance at beginning of year	$2,827	$3,078	$3,534
Provision	458	50	39
Utilization	(43)	(335)	(355)
Foreign currency translation	(48)	341	(142)
Acquisitions	—	2	2
Non U.S. rate change	(1)	(309)	—
Balance at end of year	$3,193	$2,827	$3,078

Income tax payments were $747 million in 2018, $546 million in 2017 and $2.0 billion in 2016.

Business is conducted in various countries throughout the world and is subject to tax in numerous jurisdictions. A significant number of tax returns that are filed are subject to examination by various Federal, state and local tax authorities. Tax examinations are often complex, as tax authorities may disagree with the treatment of items reported requiring several years to resolve. Liabilities are established for possible assessments by tax authorities resulting from known tax exposures including, but not limited to, transfer pricing matters, tax credit deductibility of certain expenses, and deemed repatriation transition tax. Such liabilities represent a reasonable provision for taxes ultimately expected to be paid and may need to be adjusted over time as more information becomes known. The effect of changes in estimates related to contingent tax liabilities is included in the effective tax rate reconciliation above.

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

	Year Ended December 31,		
Dollars in Millions	2018	2017	2016
Balance at beginning of year	$1,155	$995	$944
Gross additions to tax positions related to current year	48	173	49
Gross additions to tax positions related to prior years	21	30	49
Gross additions to tax positions assumed in acquisitions	—	—	1
Gross reductions to tax positions related to prior years	(106)	(22)	(22)
Settlements	2	(20)	(13)
Reductions to tax positions related to lapse of statute	(119)	(13)	(4)
Cumulative translation adjustment	(6)	12	(9)
Balance at end of year	$995	$1,155	$995

Additional information regarding unrecognized tax benefits is as follows:

	Year Ended December 31,		
Dollars in Millions	2018	2017	2016
Unrecognized tax benefits that if recognized would impact the effective tax rate	$853	$1,002	$854
Accrued interest	167	148	112
Accrued penalties	11	15	17

Accrued interest and penalties payable for unrecognized tax benefits are included in either current or non-current income taxes payable. Interest and penalties related to unrecognized tax benefits are included in income tax expense.

BMS is currently under examination by a number of tax authorities which have proposed or are considering proposing material adjustments to tax positions for issues such as transfer pricing, certain tax credits and the deductibility of certain expenses. It is reasonably possible that new issues will be raised by tax authorities which may require

adjustments to the amount of unrecognized tax benefits; however, an estimate of such adjustments cannot reasonably be made at this time.

It is also reasonably possible that the total amount of unrecognized tax benefits at December 31, 2018 could decrease in the range of approximately $320 million to $360 million in the next twelve months as a result of the settlement of certain tax audits and other events. The expected change in unrecognized tax benefits may result in the payment of additional taxes, adjustment of certain deferred taxes and/or recognition of tax benefits. It is reasonably possible that new issues will be raised by tax authorities that may increase unrecognized tax benefits; however, an estimate of such increases cannot reasonably be made at this time. BMS believes that it has adequately provided for all open tax years by tax jurisdiction.

The following is a summary of major tax jurisdictions for which tax authorities may assert additional taxes based upon tax years currently under audit and subsequent years that will likely be audited:

U.S.	2008 to 2012, 2015 to 2018
Canada	2009 to 2018
France	2015 to 2018
Germany	2008 to 2018
Italy	2017 to 2018
Mexico	2013 to 2018

Note 8. EARNINGS PER SHARE

	Year Ended December 31,		
Amounts in Millions, Except Per Share Data	2018	2017	2016
Net Earnings Attributable to BMS used for Basic and Diluted EPS Calculation	$4,920	$1,007	$4,457
Weighted-average common shares outstanding - basic	1,633	1,645	1,671
Incremental shares attributable to share-based compensation plans	4	7	9
Weighted-average common shares outstanding - diluted	1,637	1,652	1,680
Earnings per share - basic	$3.01	$0.61	$2.67
Earnings per share - diluted	3.01	0.61	2.65

Note 9. FINANCIAL INSTRUMENTS AND FAIR VALUE MEASUREMENTS

Financial instruments include cash and cash equivalents, marketable securities, accounts receivable and payable, debt instruments and derivatives.

Changes in exchange rates and interest rates create exposure to market risk. Certain derivative financial instruments are used when available on a cost-effective basis to hedge the underlying economic exposure. These instruments qualify as cash flow, net investment and fair value hedges upon meeting certain criteria, including effectiveness of offsetting hedged exposures. Changes in fair value of derivatives that do not qualify for hedge accounting are recognized in earnings as they occur. Derivative financial instruments are not used for trading purposes.

Financial instruments are subject to counterparty credit risk which is considered as part of the overall fair value measurement. Counterparty credit risk is monitored on an ongoing basis and mitigated by limiting amounts outstanding with any individual counterparty, utilizing conventional derivative financial instruments and only entering into agreements with counterparties that meet high credit quality standards. The consolidated financial statements would not be materially impacted if any counterparty failed to perform according to the terms of its agreement. Collateral is not required by any party whether derivatives are in an asset or liability position under the terms of the agreements.

Fair Value Measurements – The fair value of financial instruments are classified into one of the following categories:

Level 1 inputs utilize unadjusted quoted prices in active markets accessible at the measurement date for identical assets or liabilities. The fair value hierarchy provides the highest priority to Level 1 inputs.

Level 2 inputs utilize observable prices for similar instruments and quoted prices for identical or similar instruments in non-active markets. Additionally, certain corporate debt securities utilize a third-party matrix pricing model using significant inputs corroborated by market data for substantially the full term of the assets. Equity and fixed income

funds are primarily invested in publicly traded securities valued at the respective NAV of the underlying investments. Level 2 derivative instruments are valued using LIBOR yield curves, less credit valuation adjustments, and observable forward foreign exchange rates at the reporting date. Valuations of derivative contracts may fluctuate considerably from volatility in underlying foreign currencies and underlying interest rates driven by market conditions and the duration of the contract.

Level 3 unobservable inputs are used when little or no market data is available. There were no Level 3 financial assets or liabilities as of December 31, 2018 and 2017.

Financial assets and liabilities measured at fair value on a recurring basis are summarized below:

Dollars in Millions	December 31, 2018 Level 1	December 31, 2018 Level 2	December 31, 2017 Level 1	December 31, 2017 Level 2
Cash and cash equivalents - Money market and other securities	$—	$6,173	$—	$4,728
Marketable securities:				
Certificates of deposit	—	971	—	141
Commercial paper	—	273	—	50
Corporate debt securities	—	2,379	—	3,548
Equity investments	—	125	—	132
Derivative assets	—	44	—	13
Equity investments	88	266	67	—
Derivative liabilities	—	(31)	—	(52)

Available-for-sale Securities

Changes in fair value of equity investments are included in Other income (net) upon adoption of ASU 2016-01 in the first quarter of 2018. The following table summarizes our debt and equity securities, classified as available-for-sale:

	December 31, 2018				December 31, 2017			
Dollars in Millions	Amortized Cost	Gross Unrealized Gains	Losses	Fair Value	Amortized Cost	Gross Unrealized Gains	Losses	Fair Value
Certificates of deposit	$971	$—	$—	$971	$141	$—	$—	$141
Commercial paper	273	—	—	273	50	—	—	50
Corporate debt securities	2,416	—	(37)	2,379	3,555	3	(10)	3,548
Equity investments[a]	—	—	—	—	31	37	(1)	67
	$3,660	$—	$(37)	$3,623	$3,777	$40	$(11)	$3,806
Equity investments[b]				479				132
Total				$4,102				$3,938

Dollars in Millions	December 31, 2018	December 31, 2017
Current marketable securities	$ 1,973	$ 1,391
Non-current marketable securities[c]	1,775	2,480
Other assets[a]	354	67
Total	$ 4,102	$ 3,938

(a) Includes equity investments with readily determinable fair values not measured using the fair value option as of December 31, 2017.

(b) Includes equity and fixed income funds measured using the fair value option at December 31, 2017. Refer to "—Note.1 Accounting Policies and Recently Issued Accounting Standards" for more information.

(c) All non-current marketable securities mature within five years as of December 31, 2018 and December 31, 2017.

Equity investments not measured at fair value and excluded from the above table were limited partnerships and other equity method investments of $114 million at December 31, 2018 and $66 million at December 31, 2017 and other equity investments without readily determinable fair values of $206 million at December 31, 2018 and $152 million at December 31, 2017. These amounts are included in Other assets. Adjustments to equity investments without readily determinable fair values were $19 million resulting from observable price changes for similar securities of the same issuer and were recorded in Other income (net).

The following table summarizes net loss recorded for equity investments with readily determinable fair values held as of December 31, 2018:

Dollars in Millions	Year Ended December 31, 2018
Net loss recognized	$ (530)
Less: Net gain recognized for equity investments sold	7
Net unrealized loss on equity investments held	$ (537)

Qualifying Hedges and Non-Qualifying Derivatives

Cash Flow Hedges — Foreign currency forward contracts are used to hedge certain forecasted intercompany inventory purchases and sales transactions and certain foreign currency transactions. The fair value for contracts designated as cash flow hedges is temporarily reported in Accumulated other comprehensive loss and included in earnings when the hedged item affects earnings. Upon adoption of the amended guidance for derivatives and hedging, the entire change in fair value of the hedging instrument included in the assessment of hedge effectiveness is recorded in the derivatives qualifying as cash flow hedges component of Other Comprehensive (Loss)/Income. The net gain or loss on foreign currency forward contracts is expected to be reclassified to net earnings (primarily included in Cost of products sold) within the next 12 months. The notional amount of outstanding foreign currency forward contracts was primarily attributed to the euro of $1.2 billion and Japanese yen of $464 million at December 31, 2018.

The earnings impact related to discontinued cash flow hedges and hedge ineffectiveness was not significant during all periods presented. Cash flow hedge accounting is discontinued when the forecasted transaction is no longer probable of occurring within 60 days after the originally forecasted date or when the hedge is no longer effective. Assessments to determine whether derivatives designated as qualifying hedges are highly effective in offsetting changes in the cash flows of hedged items are performed at inception and on a quarterly basis. Foreign currency forward contracts not designated as hedging instruments are used to offset exposures in certain foreign currency denominated assets, liabilities and earnings. Changes in the fair value of these derivatives are recognized in earnings as they occur.

Net Investment Hedges — Non-U.S. dollar borrowings of €950 million ($1.1 billion) at December 31, 2018 are designated to hedge euro currency exposures of the net investment in certain foreign affiliates. These borrowings are designated as net investment hedges and recognized in long term debt. The effective portion of foreign exchange gain on the remeasurement of euro debt was $45 million and $48 million in 2018 and 2016, respectively, and a loss of $134 million in 2017, and were recorded in the foreign currency translation component of Accumulated other comprehensive loss with the related offset in long-term debt.

In January 2018, BMS entered into $300 million of cross-currency interest rate swap contracts maturing in December 2022 designated to hedge Japanese yen currency exposures of the Company's net investment in its Japan subsidiary. Contract fair value changes are recorded in the foreign currency translation component of Other Comprehensive (Loss)/Income with a related offset in Pension and other liabilities.

Fair Value Hedges — Fixed to floating interest rate swap contracts are designated as fair value hedges and used as an interest rate risk management strategy to create an appropriate balance of fixed and floating rate debt. The contracts and underlying debt for the hedged benchmark risk are recorded at fair value. The effective interest rate for the contracts is one-month LIBOR (2.50% as of December 31, 2018) plus an interest rate spread ranging from 0.3% to 4.6%. Gains or losses resulting from changes in fair value of the underlying debt attributable to the hedged benchmark interest rate risk are recorded in interest expense with an associated offset to the carrying value of debt. Since the specific terms and notional amount of the swap are intended to match those of the debt being hedged, all changes in fair value of the swap are recorded in interest expense with an associated offset to the derivative asset or liability on the consolidated balance sheet. As a result, there was no net impact in earnings. When the underlying swap is terminated prior to maturity, the fair value adjustment to the underlying debt is amortized as a reduction to interest expense over the remaining term of the debt.

The following summarizes the fair value of outstanding derivatives:

	December 31, 2018				December 31, 2017			
	Asset[a]		Liability[b]		Asset[a]		Liability[b]	
Dollars in Millions	Notional	Fair Value	Notional	Fair Value	Notional	Fair Value	Notional	Fair Value

Derivatives designated as hedging instruments:								
Interest rate swap contracts	$ —	$ —	$ 755	$ (10)	$ —	$ —	$ 755	$ (6)
Cross-currency interest rate swap contracts	50	—	250	(5)	—	—	—	—
Foreign currency forward contracts	1,403	49	496	(10)	944	12	489	(9)
Derivatives not designated as hedging instruments:								
Foreign currency forward contracts	54	—	600	(6)	206	6	1,369	(37)

(a) Included in prepaid expenses and other and other assets.

(b) Included in accrued liabilities and pension and other liabilities.

The following table summarizes the financial statement classification and amount of gain/(loss) recognized on hedging instruments:

	Year Ended December 31,					
	2018		2017		2016	
Dollars in Millions	Cost of products sold	Other income (net)	Cost of products sold	Other income (net)	Cost of products sold	Other income (net)
Interest rate swap contracts	$—	$ 23	$—	$ 31	$—	$ 36
Cross-currency interest rate swap contracts	—	8	—	—	—	—
Foreign currency forward contracts	4	14	12	(52)	(20)	(36)

The following table summarizes the effect of derivative and non-derivative instruments designated as hedging instruments in Other Comprehensive (Loss)/Income:

	Year Ended December 31,		
Dollars in Millions	2018	2017	2016
Derivatives qualifying as cash flow hedges			
Foreign currency forward contracts gain/(loss):			
Recognized in Other Comprehensive (Loss)/Income[a]	$ 86	$ (108)	$ 6
Reclassified to Cost of products sold	(4)	(12)	20
Reclassified to Other income (net)	—	36	(8)
Derivatives qualifying as net investment hedges			
Cross-currency interest rate swap contracts loss:			
Recognized in Other Comprehensive (Loss)/Income	(5)	—	—
Non-derivatives qualifying as net investment hedges			
Non U.S. dollar borrowings gain/(loss):			
Recognized in Other Comprehensive (Loss)/Income	45	(134)	48

(a) The amount is expected to be reclassified into earnings in the next 12 months.

Debt Obligations

Short-term debt obligations include:

	December 31,	
Dollars in Millions	2018	2017
Commercial paper	$—	$ 299
Non-U.S. short-term borrowings	320	512
Current portion of long-term debt	1,249	—
Other	134	176
Total	$ 1,703	$ 987

The average amount of commercial paper outstanding was $19 million and $389 million at a weighted-average interest rate of 1.27% and 1.17% during 2018 and 2017, respectively. The maximum amount of commercial paper outstanding was $300 million with no outstanding borrowings at December 31, 2018. The maximum amount of commercial paper outstanding was $1.3 billion with $299 million outstanding borrowings at December 31, 2017.

84

Long-term debt and the current portion of long-term debt includes:

	December 31,	
Dollars in Millions	2018	2017
Principal Value:		
1.750% Notes due 2019	$500	$500
1.600% Notes due 2019	750	750
2.000% Notes due 2022	750	750
7.150% Notes due 2023	302	302
3.250% Notes due 2023	500	500
1.000% Euro Notes due 2025	655	682
6.800% Notes due 2026	256	256
3.250% Notes due 2027	750	750
1.750% Euro Notes due 2035	655	682
5.875% Notes due 2036	287	287
6.125% Notes due 2038	226	230
3.250% Notes due 2042	500	500
4.500% Notes due 2044	500	500
6.875% Notes due 2097	87	87
0.13% - 5.75% Other - maturing 2019 - 2024	58	59
Subtotal	6,776	6,835
Adjustments to Principal Value:		
Fair value of interest rate swap contracts	(10)	(6)
Unamortized basis adjustment from swap terminations	201	227
Unamortized bond discounts and issuance costs	(72)	(81)
Total	$6,895	$6,975
Current portion of long-term debt	$1,249	$—
Long-term debt	5,646	6,975

The fair value of long-term debt was $7.1 billion and $7.5 billion at December 31, 2018 and 2017, respectively, valued using Level 2 inputs which are based upon the quoted market prices for the same or similar debt instruments. The fair value of short-term borrowings approximates the carrying value due to the short maturities of the debt instruments.

Senior unsecured notes were issued in registered public offerings in 2017. The notes rank equally in right of payment with all of BMS's existing and future senior unsecured indebtedness and are redeemable in whole or in part, at any time at a predetermined redemption price. The following table summarizes the issuance of long-term debt obligations in 2017 (none in 2018 and 2016):

Dollars in Millions	2017
Principal Value:	
1.600% Notes due 2019	$750
3.250% Notes due 2027	750
Total	$1,500
Proceeds net of discount and deferred loan issuance costs	$1,488
Forward starting interest rate swap contracts terminated:	
Notional amount	$750

Realized gain	6
Unrealized loss	(2)

BMS repaid $750 million of 0.875% Notes at maturity in 2017. The Company repurchased certain long-term debt obligations with interest rates ranging from 5.875% to 6.875% in 2017. The following summarizes the debt redemption activity:

Dollars in Millions	2017
Principal amount	$337
Carrying value	366
Debt redemption price	474
Loss on debt redemption[(a)]	109

(a) Including acceleration of debt issuance costs, gain on previously terminated interest rate swap contracts and other related fees.

Interest payments were $212 million in 2018, $215 million in 2017 and $191 million in 2016 net of amounts received from interest rate swap contracts.

At December 31, 2018, the Company had three separate revolving credit facilities totaling $5.0 billion from a syndicate of lenders including two $1.5 billion facilities expiring in September 2022 and July 2023 that are extendable annually by one year on the anniversary date with the consent of the lenders. In January 2019, an existing 364 day $2.0 billion facility expiring in March 2019 was replaced with a new 364 day $2.0 billion facility expiring in January 2020 and a new three-year $1.0 billion facility expiring in January 2022 was entered into. All credit facilities provide for customary terms and conditions with no financial covenants. No borrowings were outstanding under any revolving credit facility at December 31, 2018 or 2017.

Available financial guarantees provided in the form of bank overdraft facilities, stand-by letters of credit and performance bonds were approximately $1.0 billion at December 31, 2018. Stand-by letters of credit are issued through financial institutions in support of guarantees for various obligations. Performance bonds are issued to support a range of ongoing operating activities, including sale of products to hospitals and foreign ministries of health, bonds for customs, duties and value added tax and guarantees related to miscellaneous legal actions.

Note 10. RECEIVABLES

	December 31,	
Dollars in Millions	2018	2017
Trade receivables	$4,914	$4,599
Less charge-backs and cash discounts	(245)	(209)
Less bad debt allowances	(33)	(43)
Net trade receivables	4,636	4,347
Alliance receivables	395	322
Prepaid and refundable income taxes	218	691
Royalties, VAT and other	716	940
Receivables	$5,965	$6,300

Non-U.S. receivables sold on a nonrecourse basis were $756 million in 2018, $637 million in 2017 and $618 million in 2016. In the aggregate, receivables from three pharmaceutical wholesalers in the U.S. represented 70% and 65% of total trade receivables at December 31, 2018 and 2017, respectively.

Changes to the allowances for bad debt, charge-backs and cash discounts were as follows:

	Year Ended December 31,		
Dollars in Millions	2018	2017	2016
Balance at beginning of year	$252	$174	$122

Provision	2,739	2,090	1,613
Utilization	(2,707)	(2,015)	(1,561)
Other	(6)	3	—
Balance at end of year	$278	$252	$174

Note 11. INVENTORIES

	December 31,	
Dollars in Millions	2018	2017
Finished goods	$396	$384
Work in process	1,026	931
Raw and packaging materials	202	273
Inventories	$1,624	$1,588
Inventories	$1,195	$1,166
Other assets	429	422

Other assets include inventory expected to remain on hand beyond one year in both periods.

Note 12. PROPERTY, PLANT AND EQUIPMENT AND LEASES

	December 31,	
Dollars in Millions	2018	2017
Land	$104	$100
Buildings	5,231	4,848
Machinery, equipment and fixtures	2,962	3,059
Construction in progress	548	980
Gross property, plant and equipment	8,845	8,987
Less accumulated depreciation	(3,818)	(3,986)
Property, plant and equipment	$5,027	$5,001
United States	$3,772	$3,617
Europe	1,140	1,266
Rest of the World	115	118
Total	$5,027	$5,001

Depreciation expense was $505 million in 2018, $682 million in 2017 and $448 million in 2016.

Annual minimum rental commitments for non-cancelable operating leases (primarily real estate and motor vehicles) are approximately $100 million in each of the next five years and an aggregate $200 million thereafter. Operating lease expense was approximately $130 million in 2018, $120 million in 2017 and $140 million in 2016. Sublease income and capital lease obligations were not material for all periods presented.

Note 13. GOODWILL AND OTHER INTANGIBLE ASSETS

		December 31,	
Dollars in Millions	Estimated Useful Lives	2018	2017
Goodwill		$6,538	$6,863
Other intangible assets:			
Licenses	5 – 15 years	$510	$567
Developed technology rights	9 – 15 years	2,357	2,357
Capitalized software	3 – 10 years	1,156	1,381
IPRD		32	32
Gross other intangible assets		4,055	4,337
Less accumulated amortization		(2,964)	(3,127)

Total other intangible assets	$1,091	$1,210

An out of period adjustment was included in the year ended December 31, 2018 to reduce Goodwill and increase Accumulated other comprehensive loss by $180 million attributed to goodwill from prior acquisitions of foreign entities previously not recorded in the correct local currency. The adjustment did not impact the consolidated results of operations and was not material to previously reported balance sheets.

Amortization expense of other intangible assets was $198 million in 2018, $190 million in 2017 and $178 million in 2016. Future annual amortization expense of other intangible assets is expected to be approximately $230 million in 2019, $190 million in 2020, $160 million in 2021, $130 million in 2022, and $100 million in 2023.

Other intangible asset impairment charges were $84 million in 2018, $80 million in 2017 and $33 million in 2016. In 2018, a $64 million impairment charge was recorded in Other income (net) for an out-licensed asset obtained in the 2010 acquisition of ZymoGenetics, Inc., which did not meet its primary endpoint in a Phase II clinical study. A $75 million IPRD charge was recognized and attributed to noncontrolling interest after BMS declined to exercise its option to purchase F-Star in 2017.

Note 14. ACCRUED LIABILITIES

	December 31,	
Dollars in Millions	2018	2017
Rebates and returns	$2,417	$2,024
Employee compensation and benefits	848	869
Research and development	805	783
Dividends	669	654
Royalties	391	285
Branded Prescription Drug Fee	188	303
Liabilities related to assets held-for-sale	152	—
Litigation and other settlements	118	38
Restructuring	85	155
Pension and postretirement benefits	35	40
Other	781	863
Accrued liabilities	$6,489	$6,014

Note 15. EQUITY

Dollars and Shares in Millions	Common Stock Shares	Common Stock Par Value	Capital in Excess of Par Value of Stock	Accumulated Other Comprehensive Loss	Retained Earnings	Treasury Stock Shares	Treasury Stock Cost	Noncontrolling Interest
Balance at January 1, 2016	2,208	$ 221	$ 1,459	$ (2,468)	$31,613	539	$(16,559)	$ 158
Net earnings	—	—	—	—	4,457	—	—	50
Other Comprehensive (Loss)/Income	—	—	—	(35)	—	—	—	—
Cash dividends declared[c]	—	—	—	—	(2,557)	—	—	—
Stock repurchase program	—	—	—	—	—	4	(231)	—
Stock compensation	—	—	266	—	—	(7)	11	—
Distributions	—	—	—	—	—	—	—	(38)
Balance at December 31, 2016	2,208	221	1,725	(2,503)	33,513	536	(16,779)	170
Accounting change - cumulative effect[a]	—	—	—	—	(787)	—	—	—
Adjusted balance at January 1, 2017	2,208	221	1,725	(2,503)	32,726	536	(16,779)	170
Net earnings	—	—	—	—	1,007	—	—	27
Other Comprehensive (Loss)/Income	—	—	—	214	—	—	—	—
Cash dividends declared[c]	—	—	—	—	(2,573)	—	—	—
Stock repurchase program	—	—	—	—	—	44	(2,477)	—
Stock compensation	—	—	173	—	—	(5)	7	—
Variable interest entity	—	—	—	—	—	—	—	(59)
Distributions	—	—	—	—	—	—	—	(32)
Balance at December 31, 2017	2,208	221	1,898	(2,289)	31,160	575	(19,249)	106
Accounting change - cumulative effect[b]	—	—	—	(34)	332	—	—	—
Adjusted balance at January 1, 2018	2,208	221	1,898	(2,323)	31,492	575	(19,249)	106
Net earnings	—	—	—	—	4,920	—	—	27
Other Comprehensive (Loss)/Income	—	—	—	(156)	—	—	—	—
Cash dividends declared[c]	—	—	—	—	(2,630)	—	—	—
Stock repurchase program	—	—	—	—	—	5	(313)	—
Stock compensation	—	—	183	—	—	(4)	(12)	—
Adoption of ASU 2018-02[b]	—	—	—	(283)	283	—	—	—
Distributions	—	—	—	—	—	—	—	(37)
Balance at December 31, 2018	2,208	$ 221	$ 2,081	$ (2,762)	$34,065	576	$(19,574)	$ 96

(a) Cumulative effect resulting from adoption of ASU 2016-16.
(b) Refer to "—Note 1. Accounting Policies and Recently Issued Accounting Standards" for additional information.
(c) Cash dividends declared per common share were $1.61, $1.57 and $1.53 in 2018, 2017 and 2016, respectively.

BMS has a stock repurchase program authorized by its Board of Directors allowing for repurchases in the open market or through private transactions, including plans established in accordance with Rule 10b5-1 under the Securities Exchange Act of 1934. The stock repurchase program does not have an expiration date and may be suspended or discontinued at any time. Treasury stock is recognized at the cost to reacquire the shares. Shares issued from treasury

are recognized utilizing the first-in first-out method.

BMS repurchased $2 billion of its common stock in 2017 through accelerated share repurchase agreements. The agreements were funded through a combination of debt and cash.

The components of Other Comprehensive (Loss)/Income were as follows:

	Year Ended December 31,								
	2018			2017			2016		
Dollars in Millions	Pretax	Tax	After Tax	Pretax	Tax	After Tax	Pretax	Tax	After Tax
Derivatives qualifying as cash flow hedges:									
Unrealized gains/(losses)	$86	$(9)	$77	$(101)	$33	$(68)	$(5)	$—	$(5)
Reclassified to net earnings[a]	(4)	(3)	(7)	19	(8)	11	12	(3)	9
Derivatives qualifying as cash flow hedges	82	(12)	70	(82)	25	(57)	7	(3)	4
Pension and postretirement benefits:									
Actuarial (losses)/gains	(89)	(3)	(92)	47	11	58	(126)	(3)	(129)
Amortization[b]	65	(13)	52	77	(31)	46	78	(25)	53
Settlements[b]	121	(28)	93	167	(57)	110	91	(32)	59
Pension and postretirement benefits	97	(44)	53	291	(77)	214	43	(60)	(17)
Available-for-sale securities:									
Unrealized (losses)/gains	(30)	5	(25)	38	6	44	(12)	(1)	(13)
Realized (gains)/losses[b]	—	—	—	(7)	2	(5)	29	—	29
Available-for-sale securities	(30)	5	(25)	31	8	39	17	(1)	16
Foreign currency translation	(245)	(9)	(254)	(20)	38	18	(33)	(5)	(38)
Total Other Comprehensive (Loss)/Income	$(96)	$(60)	$(156)	$220	$(6)	$214	$34	$(69)	$(35)

(a) Included in Cost of products sold.
(b) Included in Other income (net).

The accumulated balances related to each component of Other Comprehensive (Loss)/Income, net of taxes, were as follows:

	December 31,	
Dollars in Millions	2018	2017
Derivatives qualifying as cash flow hedges	$51	$(19)
Pension and postretirement benefits	(2,102)	(1,883)
Available-for-sale securities	(30)	32
Foreign currency translation	(681)	(419)
Accumulated other comprehensive loss	$(2,762)	$(2,289)

Note 16. RETIREMENT BENEFITS

BMS sponsors defined benefit pension plans, defined contribution plans and termination indemnity plans for regular full-time employees. The principal defined benefit pension plan is the Bristol-Myers Squibb Retirement Income Plan (the “Plan”), covering most U.S. employees and representing approximately 66% of the consolidated pension plan assets and 60% of the obligations. Future benefits related to service for this plan were eliminated in 2009. BMS contributes at least the minimum amount required by the ERISA. Plan benefits are based primarily on the participant’s years of credited service and final average compensation. As of December 2018, Plan assets consist primarily of fixed-income securities.

In December 2018, BMS announced plans to fully terminate the Bristol-Myers Squibb Retirement Income Plan (the “Plan”). Pension obligations related to the Plan of $3.6 billion will be distributed through a combination of lump sum

payments to eligible Plan participants who elect such payments and through the purchase of a group annuity contract from Athene Annuity and Life Company ("Athene"), a wholly-owned insurance subsidiary of Athene Holding Ltd. The benefit obligation for the Plan as of December 31, 2018 was therefore determined on a plan termination basis for which it is assumed that a portion of eligible active and deferred vested participants will elect lump sum payments. The remaining obligation expected to be transferred to Athene includes an annuity purchase price premium. The Plan has sufficient assets to satisfy all transaction obligations. The transaction is expected to close in the third quarter of 2019 at which time the Company expects to record a total non-cash pre-tax pension settlement charge of approximately $1.5 billion to $2.0 billion.

The net periodic benefit cost/(credit) of defined benefit pension plans includes:

Dollars in Millions	2018	2017	2016
Service cost — benefits earned during the year	$26	$25	$24
Interest cost on projected benefit obligation	193	188	192
Expected return on plan assets	(386)	(411)	(418)
Amortization of prior service credits	(4)	(4)	(3)
Amortization of net actuarial loss	74	82	84
Settlements and curtailments	121	159	91
Special termination benefits	—	3	1
Net periodic benefit cost/(credit)	$24	$42	$(29)

Pension settlement charges were recognized after determining the annual lump sum payments will exceed the annual interest and service costs for certain pension plans, including the primary U.S. pension plan in 2018, 2017 and 2016.

Changes in defined benefit pension plan obligations, assets, funded status and amounts recognized in the consolidated balance sheets were as follows:

Dollars in Millions	2018	2017
Benefit obligations at beginning of year	$6,749	$6,440
Service cost—benefits earned during the year	26	25
Interest cost	193	188
Settlements and Curtailments	(278)	(330)
Actuarial (gains)/losses	(523)	368
Benefits paid	(123)	(121)
Foreign currency and other	(78)	179
Benefit obligations at end of year	$5,966	$6,749
Fair value of plan assets at beginning of year	$6,749	$5,831
Actual return on plan assets	(203)	804
Employer contributions	71	396
Settlements	(276)	(330)
Benefits paid	(123)	(121)
Foreign currency and other	(89)	169
Fair value of plan assets at end of year	$6,129	$6,749
Funded status	$163	$—
Assets/(Liabilities) recognized:		
Other assets	$622	$487
Accrued liabilities	(32)	(31)
Pension and other liabilities	(427)	(456)
Funded status	$163	$—
Recognized in Accumulated other comprehensive loss:		
Net actuarial losses	$2,717	$2,849
Prior service credit	(30)	(36)
Total	$2,687	$2,813

The accumulated benefit obligation for defined benefit pension plans was $6.0 billion and $6.7 billion at December 31, 2018 and 2017, respectively.

91

Additional information related to pension plans was as follows:

Dollars in Millions	2018	2017
Pension plans with projected benefit obligations in excess of plan assets:		
Projected benefit obligation	$1,275	$1,166
Fair value of plan assets	817	678
Pension plans with accumulated benefit obligations in excess of plan assets:		
Accumulated benefit obligation	$1,181	$1,008
Fair value of plan assets	757	550

Actuarial Assumptions

Weighted-average assumptions used to determine defined benefit pension plan obligations at December 31 were as follows:

	2018	2017
Discount rate	3.5%	3.1%
Rate of compensation increase	0.5%	0.5%

Weighted-average actuarial assumptions used to determine defined benefit pension plan net periodic benefit cost/(credit) for the years ended December 31 were as follows:

	2018	2017	2016
Discount rate	3.1%	3.5%	3.8%
Expected long-term return on plan assets	6.2%	7.0%	7.2%
Rate of compensation increase	0.5%	0.5%	0.5%

The yield on high quality corporate bonds matching the duration of the benefit obligations is used in determining the discount rate. The Citi Pension Discount curve is used in developing the discount rate for the U.S. plans.

The expected return on plan assets was determined using the expected rate of return and a calculated value of assets, referred to as the “market-related value” which approximated the fair value of plan assets at December 31, 2018. Differences between assumed and actual returns are amortized to the market-related value on a straight-line basis over a three-year period. Several factors are considered in developing the expected return on plan assets, including long-term historical returns and input from external advisors. Individual asset class return forecasts were developed based upon market conditions, for example, price-earnings levels and yields and long-term growth expectations. The expected long-term rate of return is the weighted-average of the target asset allocation of each individual asset class.

Historical long-term actual annualized returns for U.S. pension plans were as follows:

	2018	2017	2016
10 years	10.4%	6.8%	6.1%
15 years	7.8 %	9.3%	7.1%
20 years	7.1 %	7.5%	7.7%

Actuarial gains and losses resulted from changes in actuarial assumptions (such as changes in the discount rate and revised mortality rates) and from differences between assumed and actual experience (such as differences between actual and expected return on plan assets). Actuarial gains in 2018 related to plan benefit obligations were primarily the result of increases in discount rates. Actuarial losses in 2017 related to plan benefit obligations were primarily the result of decreases in discount rates. Gains and losses are amortized over the life expectancy of the plan participants for U.S. plans (33 years in 2019) and expected remaining service periods for most other plans to the extent they exceed 10% of the higher of the market-related value or the projected benefit obligation for each respective plan. As the result of adopting ASU 2017-07, refer to “—Note 1. Accounting Policies and Recently Issued Accounting Standards”

for further details, the periodic benefit cost or credit is included in Other income (net) except for the service cost component which is included in Cost of products sold, Research and development, and Marketing, selling and administrative expenses.

Postretirement Benefit Plans

Comprehensive medical and group life benefits are provided for substantially all U.S. retirees electing to participate in comprehensive medical and group life plans and to a lesser extent certain benefits for non-U.S. employees. The medical plan is contributory. Contributions are adjusted periodically and vary by date of retirement. The life insurance plan is noncontributory. Plan assets consist principally of equity and fixed-income securities. Postretirement benefit plan obligations were $253 million and $298 million at December 31, 2018 and 2017, respectively, and the fair value of plan assets were $331 million and $364 million at December 31, 2018 and 2017, respectively. The weighted-average discount rate used to determine benefit obligations was 3.9% and 3.3% at December 31, 2018 and 2017, respectively. The net periodic benefit credits were not material.

Plan Assets

The fair value of pension and postretirement plan assets by asset category at December 31, 2018 and 2017 was as follows:

	December 31, 2018				December 31, 2017			
Dollars in Millions	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Plan Assets								
Equity securities	$124	$—	$ —	$124	$799	$—	$ —	$799
Equity funds	2	475	—	477	160	1,358	—	1,518
Fixed income funds	—	606	—	606	—	724	—	724
Corporate debt securities	—	3,865	—	3,865	—	1,919	—	1,919
U.S. Treasury and agency securities	—	553	—	553	—	729	—	729
Short-term investment funds	—	55	—	55	—	135	—	135
Insurance contracts	—	—	134	134	—	—	138	138
Cash and cash equivalents	311	—	—	311	214	—	—	214
Other	—	105	19	124	—	92	13	105
Plan assets subject to leveling	$437	$5,659	$ 153	$6,249	$1,173	$4,957	$ 151	$6,281
Plan assets measured at NAV as a practical expedient								
Equity funds				$—				$488
Venture capital and limited partnerships				121				154
Other				91				191
Total plan assets measured at NAV as a practical expedient				212				833
Net plan assets				$6,461				$7,114

The investment valuation policies per investment class are as follows:

Level 1 inputs utilize unadjusted quoted prices in active markets accessible at the measurement date for identical assets or liabilities. The fair value hierarchy provides the highest priority to Level 1 inputs. These instruments include equity securities, equity funds and fixed income funds publicly traded on a national securities exchange, and cash and cash equivalents. Cash and cash equivalents are highly liquid investments with original maturities of three months or less at the time of purchase and are recognized at cost, which approximates fair value. Pending trade sales and purchases are included in cash and cash equivalents until final settlement.

Level 2 inputs utilize observable prices for similar instruments, quoted prices for identical or similar instruments in non-active markets, and other observable inputs that can be corroborated by market data for substantially the full term of the assets or liabilities. Equity funds, fixed income funds, and short-term investment funds classified as Level 2 within the fair value hierarchy are valued at the NAV of their shares held at year end, which represents fair value. Corporate debt securities and U.S. Treasury and agency securities classified as Level 2 within the fair value hierarchy are valued utilizing observable prices for similar instruments and quoted prices for identical or similar instruments in markets that are not active.

Level 3 unobservable inputs are used when little or no market data is available. Insurance contracts are held by certain foreign pension plans and are carried at contract value, which approximates the estimated fair value and is based on the fair value of the underlying investment of the insurance company.

Venture capital and limited partnership investments are typically only redeemable through distributions upon liquidation of the underlying assets. There were no significant unfunded commitments for these investments and essentially all liquidations are expected to occur by the end of 2019. Most of the remaining investments using the practical expedient are redeemable on a weekly or monthly basis.

The investment strategy is to maximize return while maintaining an appropriate level of risk to provide sufficient liquidity for benefit obligations and plan expenses. During 2018, a target allocation of 97% long-duration fixed income and 3% private equity was adopted and is now maintained for the principal defined benefit pension plan, the Bristol-Myers Squibb Retirement Income Plan. BMS common stock represents less than 1% of the plan assets at December 31, 2018 and 2017.

Contributions and Estimated Future Benefit Payments

Contributions to pension plans were $71 million in 2018, $396 million in 2017 and $81 million in 2016 and are not expected to be material in 2019. Estimated annual future benefit payments for non-terminating plans (including lump sum payments) will be approximately $100 million in each of the next five years and in the subsequent five year period.

Savings Plans

The principal defined contribution plan is the Bristol-Myers Squibb Savings and Investment Program. The contribution is based on employee contributions and the level of Company match. The expense attributed to defined contribution plans in the U.S. was approximately $200 million in 2018, 2017 and 2016.

Note 17. EMPLOYEE STOCK BENEFIT PLANS

On May 1, 2012, the shareholders approved the 2012 Plan, which replaced the 2007 Stock Incentive Plan. The 2012 Plan provides for 109 million shares to be authorized for grants, plus any shares from outstanding awards under the 2007 Plan as of February 29, 2012 that expire, are forfeited, canceled, or withheld to satisfy tax withholding obligations. As of December 31, 2018, 102 million shares were available for award. Shares are issued from treasury stock to satisfy our obligations under this Plan.

Executive officers and key employees may be granted options to purchase common stock at no less than the market price on the date the option is granted. Options generally become exercisable ratably over four years and have a maximum term of ten years. The plan provides for the granting of stock appreciation rights whereby the grantee may surrender exercisable rights and receive common stock and/or cash measured by the excess of the market price of the common stock over the option exercise price. The Company has not granted any stock options or stock appreciation rights since 2009.

Restricted stock units may be granted to key employees, subject to restrictions as to continuous employment. Generally, vesting occurs ratably over a four year period from grant date. A stock unit is a right to receive stock at the end of the specified vesting period but has no voting rights.

Market share units are granted to executives. Vesting is conditioned upon continuous employment until the vesting date and a payout factor of at least 60% of the share price on the award date. The payout factor is the share price on vesting date divided by share price on award date, with a maximum of 200%. The share price used in the payout factor is calculated using an average of the closing prices on the grant or vest date, and the nine trading days immediately preceding the grant or vest date. Vesting occurs ratably over four years.

Performance share units are granted to executives, have a three year cycle and are granted as a target number of units subject to adjustment. The number of shares issued when performance share units vest is determined based on the achievement of performance goals and based on the Company's three-year total shareholder return relative to a peer group of companies. Vesting is conditioned upon continuous employment and occurs on the third anniversary of the grant date.

Stock-based compensation expense for awards ultimately expected to vest is recognized over the vesting period. Forfeitures are estimated based on historical experience at the time of grant and revised in subsequent periods if actual forfeitures differ from those estimates. Other information related to stock-based compensation benefits are as follows:

	Year Ended December 31,		
Dollars in Millions	2018	2017	2016
Restricted stock units	$ 102	$ 95	$ 89
Market share units	38	35	37
Performance share units	81	69	79
Total stock-based compensation expense	$ 221	$ 199	$ 205
Income tax benefit	$ 41	$ 59	$ 69

Shares in Millions	Stock Options		Restricted Stock Units		Market Share Units		Performance Share Units	
	Number of Options Outstanding	Weighted-Average Exercise Price of Shares	Number of Nonvested Awards	Weighted-Average Grant-Date Fair Value	Number of Nonvested Awards	Weighted-Average Grant-Date Fair Value	Number of Nonvested Awards	Weighted-Average Grant-Date Fair Value
Balance at January 1, 2018	3.8	$ 19.04	4.9	$ 56.85	1.5	$ 62.25	3.5	$ 62.57
Granted	—	—	2.4	61.40	0.7	72.33	1.1	67.60
Released/Exercised	(2.1)	20.22	(1.7)	56.95	(0.6)	61.70	(1.6)	64.84
Adjustments for actual payout	—	—	—	—	0.1	59.29	0.1	64.84
Forfeited/Canceled	—	—	(0.6)	58.85	(0.2)	66.08	(0.3)	63.12
Balance at December 31, 2018	1.7	17.51	5.0	58.83	1.5	66.76	2.8	63.28
Vested or expected to vest	1.7	17.51	4.4	58.85	1.3	66.67	3.3	63.10

Dollars in Millions	Restricted Stock Units	Market Share Units	Performance Share Units
Unrecognized compensation cost	$ 212	$ 43	$ 85
Expected weighted-average period in years of compensation cost to be recognized	2.7	2.7	1.7

Amounts in Millions, except per share data	2018	2017	2016
Weighted-average grant date fair value (per share):			
Restricted stock units	$61.40	$54.39	$60.56
Market share units	72.33	60.14	65.26
Performance share units	67.60	57.91	64.87
Fair value of awards that vested:			
Restricted stock units	$98	$91	$81
Market share units	40	33	50
Performance share units	103	84	93
Total intrinsic value of stock options exercised	$89	$84	$158

The fair value of restricted stock units, market share units and performance share units approximates the closing trading price of BMS's common stock on the grant date after adjusting for the units not eligible for accrued dividends. In addition, the fair value of market share units and performance share units considers the probability of satisfying the payout factor and total shareholder return, respectively.

The following table summarizes significant outstanding and exercisable options at December 31, 2018:

	Number Outstanding and Exercisable (in millions)	Weighted-Average Remaining Contractual Life (in years)	Weighted-Average Exercise Price Per Share	Aggregate Intrinsic Value (in millions)
Options Outstanding and Exercisable	1.7	0.2	$ 17.51	$ 57

The aggregate intrinsic value in the preceding table represents the total pretax intrinsic value, based on the closing stock price of $51.98 on December 31, 2018.

95

Note 18. LEGAL PROCEEDINGS AND CONTINGENCIES

The Company and certain of its subsidiaries are involved in various lawsuits, claims, government investigations and other legal proceedings that arise in the ordinary course of business. These claims or proceedings can involve various types of parties, including governments, competitors, customers, suppliers, service providers, licensees, employees, or shareholders, among others. The resolution of these matters often develops over a long period of time and expectations can change as a result of new findings, rulings, appeals or settlement arrangements. The Company recognizes accruals for such contingencies when it is probable that a liability will be incurred and the amount of loss can be reasonably estimated. These matters involve patent infringement, antitrust, securities, pricing, sales and marketing practices, environmental, commercial, contractual rights, licensing obligations, health and safety matters, consumer fraud, employment matters, product liability and insurance coverage. Legal proceedings that are material or that the Company believes could become material are described below.

Although the Company believes it has substantial defenses in these matters, there can be no assurance that there will not be an increase in the scope of pending matters or that any future lawsuits, claims, government investigations or other legal proceedings will not be material. Unless otherwise noted, the Company is unable to assess the outcome of the respective litigation nor is it able to provide an estimated range of potential loss. Furthermore, failure to enforce our patent rights would likely result in substantial decreases in the respective product revenues from generic competition.

INTELLECTUAL PROPERTY

Plavix* - Australia
As previously disclosed, Sanofi was notified that, in August 2007, GenRx Proprietary Limited (GenRx) obtained regulatory approval of an application for clopidogrel bisulfate 75mg tablets in Australia. GenRx, formerly a subsidiary of Apotex Inc. (Apotex), has since changed its name to Apotex. In August 2007, Apotex filed an application in the Federal Court of Australia (the Federal Court) seeking revocation of Sanofi’s Australian Patent No. 597784 (Case No. NSD 1639 of 2007). Sanofi filed counterclaims of infringement and sought an injunction. On September 21, 2007, the Federal Court granted Sanofi’s injunction. A subsidiary of the Company was subsequently added as a party to the proceedings. In February 2008, a second company, Spirit Pharmaceuticals Pty. Ltd., also filed a revocation suit against the same patent. This case was consolidated with the Apotex case, and a trial occurred in April 2008. On August 12, 2008, the Federal Court of Australia held that claims of Patent No. 597784 covering clopidogrel bisulfate, hydrochloride, hydrobromide, and taurocholate salts were valid. The Federal Court also held that the process claims, pharmaceutical composition claims, and claim directed to clopidogrel and its pharmaceutically acceptable salts were invalid. The Company and Sanofi filed notices of appeal in the Full Court of the Federal Court of Australia (Full Court) appealing the holding of invalidity of the claim covering clopidogrel and its pharmaceutically acceptable salts, process claims, and pharmaceutical composition claims which have stayed the Federal Court’s ruling. Apotex filed a notice of appeal appealing the holding of validity of the clopidogrel bisulfate, hydrochloride, hydrobromide, and taurocholate claims. A hearing on the appeals occurred in February 2009. On September 29, 2009, the Full Court held all of the claims of Patent No. 597784 invalid. In November 2009, the Company and Sanofi applied to the High Court of Australia (High Court) for special leave to appeal the judgment of the Full Court. In March 2010, the High Court denied the Company and Sanofi’s request to hear the appeal of the Full Court decision. The case was remanded to the Federal Court for further proceedings related to damages sought by Apotex. The Company and Apotex have settled the Apotex case, and the case was dismissed. The Australian government has intervened in this matter and is seeking maximum damages up to 449 million AUD ($316 million), plus interest, which would be split between the Company and Sanofi, for alleged losses experienced for paying a higher price for branded Plavix* during the period when the injunction was in place. The Company and Sanofi have disputed that the Australian government is entitled to any damages and the Australian government's claim is still pending and a trial was concluded in September 2017. The Company is expecting a decision in 2019.

Sprycel - Europe

In May 2013, Apotex, Actavis Group PTC ehf, Generics [UK] Limited (Mylan) and an unnamed company filed oppositions in the EPO seeking revocation of European Patent No. 1169038 (the ‘038 patent) covering dasatinib, the active ingredient in Sprycel. On January 20, 2016, the Opposition Division of the EPO revoked the ‘038 patent. In May 2016, the Company appealed the EPO’s decision to the EPO Board of Appeal. In February 2017, the EPO Board of Appeal upheld the Opposition Division’s decision, and revoked the ‘038 patent. Orphan drug exclusivity and data exclusivity for Sprycel in the EU expired in November 2016. The EPO Board of Appeal’s decision does not affect the validity of our other Sprycel patents within and outside Europe, including different patents that cover the monohydrate form of dasatinib and the use of dasatinib to treat CML. Additionally, in February 2017, the EPO Board of Appeal reversed and remanded an invalidity decision on European Patent No. 1610780 and its claim to the use of dasatinib to treat CML, which the EPO’s Opposition Division had revoked in October 2012. In December 2018, the EPO’s Opposition Division upheld the validity of the patent directed to the use of dasatinib to treat CML, which expires in 2024. The Company intends to take appropriate legal actions to protect Sprycel. Generics have been approved in certain EU markets. We may experience a decline in European revenues in the event that generic dasatinib product enters the market.

Anti-PD-1 Antibody Patent Oppositions and Litigation

In September 2015, Dana-Farber Cancer Institute (Dana-Farber) filed a complaint in Massachusetts federal court seeking to correct the inventorship on up to five related U.S. patents directed to methods of treating cancer using PD-1 and PD-L1 antibodies. Specifically, Dana-Farber is seeking to add two scientists as inventors to these patents. In October 2017, Pfizer was allowed to intervene in this case alleging that one of the scientists identified by Dana-Farber was employed by a company eventually acquired by Pfizer during the relevant period. In February 2019, the Company settled the lawsuit with Pfizer. A bench trial in the lawsuit with Dana-Farber began on February 4, 2019. A decision is expected in 2019.

Eliquis Patent Litigation - U.S.

In 2017, twenty-five generic companies sent the Company Paragraph-IV certification letters informing the Company that they had filed aNDAs seeking approval of generic versions of Eliquis. As a result, two Eliquis patents listed in the FDA Orange Book are being challenged: the composition of matter patent claiming apixaban specifically and a formulation patent. In April 2017, the Company, along with its partner Pfizer, initiated patent lawsuits under the Hatch-Waxman Act against all generic filers in federal district courts in Delaware and West Virginia. In August 2017, the U.S. Patent and Trademark Office granted patent term restoration to the composition of matter patent, thereby restoring the term of the Eliquis composition of matter patent, which is the Company’s basis for projected LOE, from February 2023 to November 2026. The Company has settled lawsuits with a number of aNDA filers through December 2018. The settlements do not affect the Company’s projected LOE for Eliquis.

PRICING, SALES AND PROMOTIONAL PRACTICES LITIGATION

Plavix* State Attorneys General Lawsuits

The Company and certain affiliates of Sanofi are defendants in consumer protection and/or false advertising actions brought by several states relating to the sales and promotion of Plavix*.

PRODUCT LIABILITY LITIGATION

The Company is a party to various product liability lawsuits. Plaintiffs in these cases seek damages and other relief on various grounds for alleged personal injury and economic loss. As previously disclosed, in addition to lawsuits, the Company also faces unfiled claims involving its products.

Byetta*

Amylin, a former subsidiary of the Company, and Lilly are co-defendants in product liability litigation related to Byetta*. To date, there are over 500 separate lawsuits pending on behalf of approximately 2,000 active plaintiffs (including pending settlements), which include injury plaintiffs as well as claims by spouses and/or other beneficiaries, in various courts in the U.S. The majority of these cases have been brought by individuals who allege personal injury sustained after using Byetta*, primarily pancreatic cancer, and, in some cases, claiming alleged wrongful death. The majority of cases are pending in Federal Court in San Diego in an MDL or in a coordinated proceeding in California Superior Court in Los Angeles (JCCP). In November 2015, the defendants' motion for summary judgment based on federal preemption was granted in both the MDL and the JCCP. In November 2017, the Ninth Circuit reversed the MDL summary judgment order and remanded the case to the MDL. In November 2018, the California Court of Appeal reversed the state court dismissal and the state court cases were remanded to the JCCP for further proceedings. Amylin has product liability insurance covering a substantial number of claims involving Byetta* and any additional liability to Amylin with respect to Byetta* is expected to be shared between the Company and AstraZeneca.

Abilify*

The Company and Otsuka are co-defendants in product liability litigation related to Abilify*. Plaintiffs allege Abilify* caused them to engage in compulsive gambling and other impulse control disorders. There have been over 2,000 cases filed in state and federal courts and additional cases are pending in Canada. The Judicial Panel on Multidistrict Litigation has consolidated the federal court cases for pretrial purposes in the U.S. District Court for the Northern District of Florida. On February 15, 2019, the Company and Otsuka entered into a master settlement agreement establishing a proposed settlement program to resolve all Abilify* compulsivity claims filed as of January 28, 2019 in the MDL as well as the various state courts, including California and New Jersey.

Eliquis

The Company and Pfizer are co-defendants in product liability litigation related to Eliquis. Plaintiffs assert claims, including claims for wrongful death, as a result of bleeding they allege was caused by their use of Eliquis. As of January 2019, no claims remain pending in the MDL in the U.S District Court for the Southern District of New York. Three cases remain pending in state courts and one remains pending in Canada. Over 200 cases have been dismissed with prejudice in the MDL. The claims of 23 plaintiffs are on appeal to the Second Circuit Court of Appeals. The Company expects a decision in 2019.

Onglyza*

The Company and AstraZeneca are co-defendants in product liability litigation related to Onglyza*. Plaintiffs assert claims, including claims for wrongful death, as a result of heart failure or other cardiovascular injuries they allege were caused by their use of Onglyza*. As of January 2019, claims are pending in state and federal court on behalf of approximately 250 individuals who allege they ingested the product and suffered an injury. A significant majority of these claims are pending in federal courts. In February 2018, the Judicial Panel on Multidistrict Litigation ordered all federal cases to be transferred to an MDL in the U.S. District Court for the Eastern District of Kentucky. As part of the Company's global diabetes business divestiture, the Company sold Onglyza* to AstraZeneca in February 2014 and any potential liability with respect to Onglyza* is expected to be shared with AstraZeneca.

SHAREHOLDER DERIVATIVE LITIGATION

Since December 2015, three shareholder derivative lawsuits were filed in New York state court against certain officers and directors of the Company. The plaintiffs allege, among other things, breaches of fiduciary duty surrounding the Company's previously disclosed October 2015 civil settlement with the SEC of alleged FCPA violations in China in which the Company agreed to a payment of approximately $14.7 million in disgorgement, penalties and interest. As of October 2017, all three of the lawsuits have been dismissed. The Company received a notice of appeal as to one of the dismissed lawsuits. Oral argument in the appeal of the dismissal has been scheduled for February 2019.

SECURITIES LITIGATION

Since February 2018, two separate putative class action complaints were filed in the U.S. District for the Northern District of California and in the U.S. District Court for the Southern District of New York against the Company, the Company's Chief Executive Officer, Giovanni Caforio, the Company's Chief Financial Officer, Charles A. Bancroft and certain former and current executives of the Company. The case in California has been voluntarily dismissed. The remaining complaint alleges violations of securities laws for the Company's disclosures related to the CheckMate-026 clinical trial in lung cancer. A fully briefed motion to dismiss in pending before the court. The Company intends to defend itself vigorously in this litigation.

OTHER LITIGATION

Acquisition of Celgene Litigation

As of February 20, 2019, nine complaints were filed by Celgene shareholders in the U.S. District Court for the District of Delaware, U.S. District Court for the District of New Jersey, the U.S. District Court for the Southern District of New York and the Court of Chancery of the State of Delaware seeking to enjoin the Company's proposed acquisition of Celgene. The complaints in these actions name as defendants Celgene and the members of Celgene's board of directors. Four of these complaints also name the Company and Burgundy Merger Sub, Inc., a wholly-owned subsidiary of the Company that was formed solely for the purpose of completing the pending acquisition of Celgene and will be merged with and into Celgene upon the completion of the acquisition, as defendants. Of the complaints naming the Company as a defendant, three are styled as putative class actions. The plaintiffs allege violations of various federal securities laws and breaches of fiduciary duties in connection with the acquisition of Celgene by the Company.

Separately, a tenth complaint styled as a putative class action was filed in the Court of Chancery of the State of Delaware on behalf of the Company's shareholders naming members of the Company's board of directors as defendants. This complaint alleges that each of the members of the Company's board of directors breached his or her fiduciary duties to the Company and its shareholders by failing to disclose material information about the pending acquisition.

The Company, Burgundy Merger Sub and Celgene intend to defend themselves vigorously in these lawsuits.

Acquisition of Flexus Litigation

In February 2015, the Company acquired Flexus including rights to its IDO-1 inhibitor. In September 2015, Incyte Corporation (“Incyte”) sued Flexus and Flexus's founders (“Flexus Defendants”) in the Superior Court of the State of Delaware. In its initial and subsequent amended complaints, Incyte alleged claims against the Flexus Defendants, among others, for the misappropriation of various trade secrets relating to the research and development of Incyte's IDO-1 inhibitor. In November 2018, following a two and a-half week trial on trade secrets, a jury in the Superior Court of Delaware returned a defense verdict on behalf of the Flexus Defendants. Incyte may appeal the decision.

Average Wholesale Price Litigation

The Company is a defendant in a qui tam (whistleblower) lawsuit in the U.S. District Court for the Eastern District of Pennsylvania, in which the U.S. Government declined to intervene. The complaint alleges that the Company inaccurately reported its average manufacturer prices to the Centers for Medicare and Medicaid Services to lower what it owed. Similar claims have been filed against other companies. The Court denied the Company's motion to dismiss in November 2018.

GOVERNMENT INVESTIGATIONS

Like other pharmaceutical companies, the Company and certain of its subsidiaries are subject to extensive regulation by national, state and local government agencies in the U.S. and other countries in which BMS operates. As a result, the Company, from time to time, is subject to various governmental inquiries and investigations. It is possible that criminal charges, substantial fines and/or civil penalties, could result from government investigations.

ENVIRONMENTAL PROCEEDINGS

As previously reported, the Company is a party to several environmental proceedings and other matters, and is responsible under various state, federal and foreign laws, including CERCLA, for certain costs of investigating and/or remediating contamination resulting from past industrial activity at the Company's current or former sites or at waste disposal or reprocessing facilities operated by third parties.

CERCLA Matters
With respect to CERCLA matters for which the Company is responsible under various state, federal and foreign laws, the Company typically estimates potential costs based on information obtained from the U.S. Environmental Protection Agency, or counterpart state or foreign agency and/or studies prepared by independent consultants, including the total estimated costs for the site and the expected cost-sharing, if any, with other "potentially responsible parties," and the Company accrues liabilities when they are probable and reasonably estimable. The Company estimated its share of future costs for these sites to be $62 million at December 31, 2018, which represents the sum of best estimates or, where no best estimate can reasonably be made, estimates of the minimal probable amount among a range of such costs (without taking into account any potential recoveries from other parties). The amount includes the estimated costs for any additional probable loss associated with the previously disclosed North Brunswick Township High School Remediation Site.

Note 19. SUBSEQUENT EVENT

On January 3, 2019, BMS announced that the Company has entered into a definitive merger agreement under which BMS will acquire Celgene. Under the terms of the agreement, if the merger is completed, Celgene shareholders will receive one share of BMS common stock and $50.00 in cash for each share of Celgene common stock held by them. Celgene shareholders will also receive one tradeable contingent value right for each share of Celgene representing the right to receive $9.00 in cash, which is subject to the achievement of future regulatory milestones. Based on the closing price of a share of BMS common stock on January 2, 2019, the most recent trading day prior to the date of the announcement, the merger consideration represented approximately $74 billion. The amount of consideration to be received by Celgene stockholders will fluctuate with changes in the price of the shares of BMS common stock. BMS expects to fund the transaction through a combination of existing cash and new debt. BMS also expects to enter into an accelerated share repurchase program of up to approximately $5.0 billion, subject to the closing of the transaction, market conditions and Board of Directors' approval. The Company expects the transaction will close at the end of the third quarter of 2019, subject to approval by Bristol-Myers Squibb and Celgene shareholders and the satisfaction of customary closing conditions and regulatory approvals.

Note 20. SELECTED QUARTERLY FINANCIAL DATA (UNAUDITED)

Dollars in Millions, except per share data	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Year
2018					
Total Revenues	$ 5,193	$ 5,704	$ 5,691	$ 5,973	$22,561
Gross Margin	3,609	4,079	4,043	4,283	16,014
Net Earnings	1,495	382	1,912	1,158	4,947
Net Earnings/(Loss) Attributable to:					
Noncontrolling Interest	9	9	11	(2)	27
BMS	1,486	373	1,901	1,160	4,920
Earnings per Share - Basic[a]	$ 0.91	$ 0.23	$ 1.16	$ 0.71	$3.01
Earnings per Share - Diluted[a]	0.91	0.23	1.16	0.71	3.01
Cash dividends declared per common share	$ 0.40	$ 0.40	$ 0.40	$ 0.41	$1.61
Cash and cash equivalents	$ 5,342	$ 4,999	$ 5,408	$ 6,911	$6,911
Marketable securities[b]	3,680	3,193	3,439	3,748	3,748
Total Assets	33,083	32,641	33,734	34,986	34,986
Long-term debt[c]	5,775	5,671	5,687	6,895	6,895
Equity	12,906	12,418	13,750	14,127	14,127

Dollars in Millions, except per share data	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Year
2017					
Total Revenues	$ 4,929	$ 5,144	$ 5,254	$ 5,449	$20,776
Gross Margin	3,664	3,575	3,675	3,768	14,682
Net Earnings	1,526	922	856	(2,329)	975
Net Earnings/(Loss) Attributable to:					
Noncontrolling Interest	(48)	6	11	(1)	(32)
BMS	1,574	916	845	(2,328)	1,007
Earnings/(Loss) per Share - Basic[a]	$ 0.95	$ 0.56	$ 0.52	$ (1.42)	$0.61
Earnings/(Loss) per Share - Diluted[a]	0.94	0.56	0.51	(1.42)	0.61
Cash dividends declared per common share	$ 0.39	$ 0.39	$ 0.39	$ 0.40	$1.57
Cash and cash equivalents	$ 3,910	$ 3,470	$ 4,644	$ 5,421	$5,421
Marketable securities[b]	4,884	5,615	5,004	3,871	3,871
Total Assets	32,937	33,409	33,977	33,551	33,551
Long-term debt[c]	7,237	6,911	6,982	6,975	6,975
Equity	14,535	14,821	14,914	11,847	11,847

(a) Earnings per share for the quarters may not add to the amounts for the year, as each period is computed on a discrete basis.

(b) Marketable securities includes current and non-current assets.

(c) Long-term debt includes the current portion.

The following specified items affected the comparability of results in 2018 and 2017:

2018

Dollars in Millions	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Year
Cost of products sold[(a)]	$ 13	$14	$13	$ 18	$58
Marketing, selling and administrative	1	—	—	1	2
License and asset acquisition charges	60	1,075	—	—	1,135
Site exit costs	20	19	18	22	79
Research and development	80	1,094	18	22	1,214
Loss/(gain) on equity investments	(15)	356	(97)	268	512
Provision for restructuring	20	37	45	29	131
Litigation and other settlements	—	—	—	70	70
Divestiture gains	(43)	(25)	(108)	(1)	(177)
Royalties and licensing income	(50)	(25)	—	—	(75)
Pension and postretirement	31	37	27	26	121
Intangible asset impairment	64	—	—	—	64
Other income (net)	7	380	(133)	392	646
Increase/(decrease) to pretax income	101	1,488	(102)	433	1,920
Income taxes on items above	(8)	(218)	1	(43)	(268)
Income taxes attributed to U.S. tax reform	(32)	3	(20)	(7)	(56)
Income taxes	(40)	(215)	(19)	(50)	(324)
Increase/(decrease) to net earnings	$ 61	$1,273	$(121)	$ 383	$1,596

2017

Dollars in Millions	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Year
Cost of products sold[(a)]	$—	$ 130	$ 1	$18	$149
Marketing, selling and administrative	—	—	—	1	1
License and asset acquisition charges	50	393	310	377	1,130
IPRD impairments	75	—	—	—	75
Site exit costs	72	96	64	151	383
Research and development	197	489	374	528	1,588
Provision for restructuring	164	15	28	86	293
Litigation and other settlements	(481)	—	—	—	(481)
Divestiture gains	(100)	—	—	(26)	(126)
Royalties and licensing income	—	(497)	—	—	(497)
Pension and postretirement	33	36	22	71	162
Loss on debt redemption	—	109	—	—	109
Other income (net)	(384)	(337)	50	131	(540)

Increase/(decrease) to pretax income	(187)	282	425	678	1,198
Income taxes on items above	72	20	(41)	(138)	(87)
Income taxes attributed to U.S. tax reform	—	—	—	2,911	2,911
Income taxes	72	20	(41)	2,773	2,824
Increase/(decrease) to net earnings	(115)	302	384	3,451	4,022
Noncontrolling interest	(59)	—	—	—	(59)
Increase/(decrease) to net earnings attributable to BMS	$(174)	$ 302	$ 384	$3,451	$3,963

(a) Specified items in Cost of products sold are accelerated depreciation, asset impairment and other shutdown costs.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the shareholders and the Board of Directors of Bristol-Myers Squibb Company

Opinion on the Financial Statements
We have audited the accompanying consolidated balance sheets of Bristol-Myers Squibb Company and subsidiaries (the "Company") as of December 31, 2018 and 2017, the related consolidated statements of earnings, comprehensive income, and cash flows, for each of the three years in the period ended December 31, 2018, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018, in conformity with accounting principles generally accepted in the United States of America.
We have also 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 (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated February 25, 2019, expressed an unqualified opinion on the Company's internal control over financial reporting.

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/ DELOITTE & TOUCHE LLP

Parsippany, New Jersey
February 25, 2019

We have served as the Company's auditor since 2006.

Item 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE.

None.

Item 9A. CONTROLS AND PROCEDURES.

Evaluation of Disclosure Controls and Procedures

As of December 31, 2018, management carried out an evaluation, under the supervision and with the participation of its chief executive officer and chief financial officer, of the effectiveness of the design and operation of its disclosure controls and procedures as defined in Exchange Act Rules 13a-15(e) and 15d-15(e), as of the end of the period covered by this 2018 Form 10-K. Based on this evaluation, management has concluded that as of December 31, 2018, such disclosure controls and procedures were effective.

Management’s Report on Internal Control Over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting, as defined in Exchange Act Rule 13a-15(f). Under the supervision and with the participation of management, including the chief executive officer and chief financial officer, management assessed the effectiveness of internal control over financial reporting as of December 31, 2018 based on the framework in “Internal Control—Integrated Framework” (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on that assessment, management has concluded that the Company’s internal control over financial reporting was effective at December 31, 2018 to provide reasonable assurance regarding the reliability of its financial reporting and the preparation of its financial statements for external purposes in accordance with United States generally accepted accounting principles. Due to its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Deloitte & Touche LLP, an independent registered public accounting firm, has audited the Company’s financial statements included in this report on this 2018 Form 10-K and issued its report on the effectiveness of the Company’s internal control over financial reporting as of December 31, 2018, which is included herein.

Changes in Internal Control Over Financial Reporting

There were no changes in the Company's internal control over financial reporting during the quarter ended December 31, 2018 that have materially affected, or are reasonable likely to materially affect, the Company's internal control over financial reporting.

Item 9B. OTHER INFORMATION.

On February 20, 2019, in the Company's Amendment No. 2 to its Registration Statement on Form S-4 for the Company's pending acquisition of Celgene, the Company disclosed that Starboard Value LP sent a notice of nomination of five directors to the Company's board of directors, which the Company informed Starboard Value that it would review. In connection with its delivery of the notice, Starboard Value requested to meet with the Company's management and that, pending these discussions, the notice and meetings be kept confidential. The Company's management has subsequently met with Starboard Value on multiple occasions. Any vote on potential changes to Company’s board of directors would come at our 2019 Annual Meeting of Shareholders, the date for which has not

been set as of the time of this filing. The Company's shareholders are expected to vote on the proposed acquisition of Celgene on April 12, 2019.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the shareholders and the Board of Directors of Bristol-Myers Squibb Company

Opinion on Internal Control over Financial Reporting
We have audited the internal control over financial reporting of Bristol-Myers Squibb Company and subsidiaries (the "Company") as of December 31, 2018, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control - Integrated Framework (2013) issued by COSO.
We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements as of and for the year ended December 31, 2018, of the Company and our report dated February 25, 2019, expressed an unqualified opinion on those consolidated financial statements.

Basis for Opinion
The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.
We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting
A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.
Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ DELOITTE & TOUCHE LLP

Parsippany, New Jersey

February 25, 2019

104

PART III

Item 10. DIRECTORS AND EXECUTIVE OFFICERS OF THE REGISTRANT.

(a) Reference is made to our 2019 Proxy Statement with respect to our Directors, which is incorporated herein by reference and made a part hereof in response to the information required by Item 10.

(b) The information required by Item 10 with respect to our Executive Officers has been included in Part IA of this 2018 Form 10-K in reliance on General Instruction G of Form 10-K and Instruction 3 to Item 401(b) of Regulation S-K, which is incorporated herein by reference and made a part hereof in response to the information required by Item 10.

Item 11. EXECUTIVE COMPENSATION.

Reference is made to our 2019 Proxy Statement with respect to Executive Compensation, which is incorporated herein by reference and made a part hereof in response to the information required by Item 11.

Item 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS.

Reference is made to our 2019 Proxy Statement with respect to the security ownership of certain beneficial owners and management, which is incorporated herein by reference and made a part hereof in response to the information required by Item 12.

Item 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS.

Reference is made to our 2019 Proxy Statement with respect to certain relationships and related transactions, which is incorporated herein by reference and made a part hereof in response to the information required by Item 13.

Item 14. AUDITOR FEES.

Reference is made to our 2019 Proxy Statement with respect to auditor fees, which is incorporated herein by reference and made a part hereof in response to the information required by Item 14.

PART IV

Item 15. EXHIBITS and FINANCIAL STATEMENT SCHEDULE.

(a)

	Page Number
1. Consolidated Financial Statements	
Consolidated Statements of Earnings and Comprehensive Income	55
Consolidated Balance Sheets	56
Consolidated Statements of Cash Flows	57
Notes to Consolidated Financial Statements	58
Report of Independent Registered Public Accounting Firm	102

2. Financial Statement Schedules

All other schedules not included with this additional financial data are omitted because they are not applicable or the required information is included in the financial statements or notes thereto.

3. Exhibits

The information called for by this Item is incorporated herein by reference to the Exhibit Index in this 2018 Form 10-K.

(b)

Exhibits Required to be filed by Item 601 of Regulation S-K 109

The information called for by this Item is incorporated herein by reference to the Exhibit Index in this 2018 Form 10-K.

Item 16. FORM 10-K SUMMARY.

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15 (d) of the Securities Exchange Act of 1934, the Registrant has duly caused this Report to be signed on its behalf by the undersigned, thereunto duly authorized.
BRISTOL-MYERS SQUIBB COMPANY
(Registrant)

By /s/ GIOVANNI CAFORIO
Giovanni Caforio
Chairman of the Board and Chief Executive Officer

Date: February 25, 2019
Pursuant to the requirements of the Securities Exchange Act of 1934, this Report has been signed below by the following persons on behalf of the Registrant and in the capacities and on the dates indicated.

Signature	Title	Date
/s/ GIOVANNI CAFORIO, M.D. (Giovanni Caforio, M.D.)	Chairman of the Board and Chief Executive Officer (Principal Executive Officer)	February 25, 2019
/s/ CHARLES BANCROFT (Charles Bancroft)	Chief Financial Officer (Principal Financial Officer)	February 25, 2019
/s/ KAREN SANTIAGO (Karen Santiago)	Senior Vice President and Corporate Controller (Principal Accounting Officer)	February 25, 2019
/s/ PETER J. ARDUINI (Peter J. Arduini)	Director	February 25, 2019
/s/ ROBERT BERTOLINI (Robert Bertolini)	Director	February 25, 2019
/s/ MATTHEW W. EMMENS (Matthew W. Emmens)	Director	February 25, 2019
/s/ MICHAEL GROBSTEIN (Michael Grobstein)	Director	February 25, 2019
/s/ ALAN J. LACY (Alan J. Lacy)	Director	February 25, 2019
/s/ DINESH C. PALIWAL (Dinesh C. Paliwal)	Director	February 25, 2019
/s/ THEODORE R. SAMUELS (Theodore R. Samuels)	Director	February 25, 2019
/s/ VICKI L. SATO, PH.D. (Vicki L. Sato, Ph.D.)	Director	February 25, 2019

/s/ GERALD L. STORCH (Gerald L. Storch)	Director	February 25, 2019
/s/ KAREN H. VOUSDEN, PH.D. (Karen H. Vousden, Ph.D.)	Director	February 25, 2019

SUMMARY OF ABBREVIATED TERMS

Bristol-Myers Squibb Company and its consolidated subsidiaries may be referred to as Bristol-Myers Squibb, BMS, the Company, we, our or us in this 2018 Form 10-K, unless the context otherwise indicates. Throughout this 2018 Form 10-K we have used terms which are defined below:

2018 Form 10-K	Annual Report on Form 10-K for the fiscal year ended December 31, 2018	LOE	loss of exclusivity
AbbVie	AbbVie Inc.	MAA	Marketing Authorization Application
ALL	acute lymphoblastic leukemia	MCOs	Managed Care Organizations
Amgen	Amgen Inc.	mCRC	metastatic colorectal cancer
Amylin	Amylin Pharmaceuticals, Inc.	mCRPC	metastatic castration-resistant prostate cancer
aNDA	abbreviated New Drug Application	MDL	multi-district litigation
ASEAN	Association of Southeast Asian Nations	Mead Johnson	Mead Johnson Nutrition Company
AstraZeneca	AstraZeneca PLC	Merck	Merck & Co., Inc.
Biogen	Biogen, Inc.	MF	myelofibrosis
BLA	Biologics License Application	MPM	malignant pleural mesothelioma
Cardioxyl	Cardioxyl Pharmaceuticals, Inc.	MSI-H	high microsatellite instability
CERCLA	U.S. Comprehensive Environmental Response, Compensation and Liability Act	mUC	metastatic urothelial carcinoma
Celgene	Celgene Corporation	NAV	net asset value
cGMP	current Good Manufacturing Practices	Nektar	Nektar Therapeutics
CHMP	Committee for Medicinal Products for Human Use	NDA	New Drug Application
CML	chronic myeloid leukemia	Nitto Denko	Nitto Denko Corporation
Cormorant	Cormorant Pharmaceuticals	NKT	natural killer T
CPPIB	CPPIB Credit Europe S.A.R.L., a Luxembourg private limited liability company	Novartis	Novartis Pharmaceutical Corporation
CRC	colorectal cancer	NSCLC	non-small cell lung cancer
CytomX	CytomX Therapeutics, Inc.	NVAF	non-valvular atrial fibrillation
dMMR	DNA mismatch repair deficient	OIG	Office of Inspector General of the U.S. Department of Health and Human Services
DSA	Distribution Services Agreement	Ono	Ono Pharmaceutical Co., Ltd.
EC	European Commission	OTC	Over-the-counter
EMA	European Medicines Agency	Otsuka	Otsuka Pharmaceutical Co., Ltd.
EPO	European Patent Office	PAD	Protein/Peptidyl Arginine Deiminase
EPS	earnings per share	Padlock	Padlock Therapeutics, Inc.
ERISA	Employee Retirement Income Security Act of 1974	PBMs	Pharmacy Benefit Managers
EU	European Union	PD-1	programmed death receptor-1
FASB	Financial Accounting Standards Board	PDMA	Prescription Drug Marketing Act
FCPA	Foreign Corrupt Practices Act	Pfizer	Pfizer, Inc.
FDA	U.S. Food and Drug Administration	PhRMA Code	Pharmaceutical Research and Manufacturers of America’s Professional Practices Code
Five Prime	Five Prime Therapeutics, Inc.	Promedior	Promedior, Inc.
Flexus	Flexus Biosciences, Inc.	PRP	potentially responsible party
F-Star	F-Star Alpha Ltd.	PSA	prostate-specific antigen

GAAP	U.S. generally accepted accounting principles
Gilead	Gilead Sciences, Inc.
GlaxoSmithKline	GlaxoSmithKline PLC
GTN	gross-to-net
Halozyme	Halozyme Therapeutics, Inc.
HCC	Hepatocellular carcinoma
HIV	human immunodeficiency virus
HR 3590	The Patient Protection and Affordable Care Act
IFM	IFM Therapeutics, Inc.
ImClone	ImClone Systems Incorporated
IO	Immuno-Oncology
IPF	idiopathic pulmonary fibrosis
iPierian	iPierian, Inc.
IPRD	in-process research and development
Janssen	Janssen Pharmaceuticals, Inc.
JIA	Juvenile Idiopathic Arthritis
LIBOR	London Interbank Offered Rate
Lilly	Eli Lilly and Company
PsiOxus	PsiOxus Therapeutics, Ltd.
R&D	Research and Development
RA	rheumatoid arthritis
RCC	renal cell carcinoma
RDP	regulatory data protection
Reckitt	Reckitt Benckiser Group plc
Roche	Roche Holding AG
Sanofi	Sanofi S.A.
sBLA	supplemental Biologics License Application
SCCHN	squamous cell carcinoma of the head and neck
SCLC	small cell lung cancer
SEC	U.S. Securities and Exchange Commission
SK Biotek	SK Biotek Co., Ltd.
the 2012 Plan	The 2012 Stock Award and Incentive Plan
U.S.	United States
UK	United Kingdom
VTE	venous thromboembolic
WTO	World Trade Organization

EXHIBIT INDEX

The Exhibits listed below are identified by numbers corresponding to the Exhibit Table of Item 601 of Regulation S-K. The Exhibits designated by the symbol ‡‡ are management contracts or compensatory plans or arrangements required to be filed pursuant to Item 15. The symbol ‡ in the Page column indicates that the Exhibit has been previously filed with the Commission and is incorporated herein by reference. Unless otherwise indicated, all Exhibits are part of Commission File Number 1-1136.

Exhibit No.	Description	Page No
2	Agreement and Plan of Merger, dated as of January 2, 2019, among Bristol-Myers Squibb Company, Burgundy Merger Sub, Inc. and Celgene Corporation (incorporated herein by reference to Exhibit 2.1 to the Form 8-K dated January 2, 2019 and filed on January 4, 2019).†	‡
3a.	Amended and Restated Certificate of Incorporation of Bristol-Myers Squibb Company (incorporated herein by reference to Exhibit 3a to the Form 10-Q for the quarterly period ended June 30, 2005).	‡
3b.	Certificate of Correction to the Amended and Restated Certificate of Incorporation, effective as of December 24, 2009 (incorporated herein by reference to Exhibit 3b to the Form 10-K for the fiscal year ended December 31, 2010).	‡
3c.	Certificate of Amendment to the Amended and Restated Certificate of Incorporation, effective as of May 7, 2010 (incorporated herein by reference to Exhibit 3a to the Form 8-K dated May 4, 2010 and filed on May 10, 2010).	‡
3d.	Certificate of Amendment to the Amended and Restated Certificate of Incorporation, effective as of May 7, 2010 (incorporated herein by reference to Exhibit 3b to the Form 8-K dated May 4, 2010 and filed on May 10, 2010).	‡
3e.	Bylaws of Bristol-Myers Squibb Company, as amended as of November 2, 2016 (incorporated herein by reference to Exhibit 3.1 to the Form 8-K dated November 2, 2016 and filed November 4, 2016).	‡
4a.	Letter of Agreement dated March 28, 1984 (incorporated herein by reference to Exhibit 4 to the Form 10-K for the fiscal year ended December 31, 1983).	‡
4b.	Indenture, dated as of June 1, 1993, between Bristol-Myers Squibb Company and JPMorgan Chase Bank (as successor trustee to The Chase Manhattan Bank (National Association)) (incorporated herein by reference to Exhibit 4.1 to the Form 8-K dated May 27, 1993 and filed on June 3, 1993).	‡
4c.	Form of 7.15% Debenture due 2023 of Bristol-Myers Squibb Company (incorporated herein by reference to Exhibit 4.2 to the Form 8-K dated May 27, 1993 and filed on June 3, 1993).	‡
4d.	Form of 6.80% Debenture due 2026 of Bristol-Myers Squibb Company (incorporated herein by reference to Exhibit 4e to the Form 10-K for the fiscal year ended December 31, 1996).	‡
4e.	Form of 6.875% Debenture due 2097 of Bristol-Myers Squibb Company (incorporated herein by reference to Exhibit 4f to the Form 10-Q for the quarterly period ended September 30, 1997).	‡

4f.	Indenture, dated October 1, 2003, between Bristol-Myers Squibb Company, as Issuer, and JPMorgan Chase Bank, as Trustee (incorporated herein by reference to Exhibit 4q to the Form 10-Q for the quarterly period ended September 30, 2003).	‡
4g.	Form of Floating Rate Convertible Senior Debenture due 2023 (incorporated herein by reference to Exhibit 4s to the Form 10-Q for the quarterly period ended September 30, 2003).	‡
4h.	Specimen Certificate of Common Stock (incorporated herein by reference to Exhibit 4s to the Form 10-K for the fiscal year ended December 31, 2003).	‡
4i.	Form of Fourth Supplemental Indenture between Bristol-Myers Squibb Company and The Bank of New York, as Trustee, to the indenture dated June 1, 1993 (incorporated herein by reference to Exhibit 4r to the Form 8-K dated November 20, 2006 and filed on November 27, 2006).	‡
4j.	Form of 5.875% Notes due 2036 (incorporated herein by reference to Exhibit 4s to the Form 8-K dated November 20, 2006 and filed November 27, 2006).	‡
4k.	Form of 4.625% Notes due 2021 (incorporated herein by reference to Exhibit 4u to the Form 8-K dated November 20, 2006 and filed November 27, 2006).	‡
4l.	Form of Fifth Supplemental Indenture between Bristol-Myers Squibb Company and The Bank of New York, as Trustee, to the indenture dated June 1, 1993 (incorporated herein by reference to Exhibit 4.1 to the Form 8-K dated May 1, 2008 and filed on May 7, 2008).	‡
4m.	Form of 6.125% Notes due 2038 (incorporated herein by reference to Exhibit 4.3 to the Form 8-K dated May 1, 2008 and filed on May 7, 2008).	‡

4n.	Form of Sixth Supplemental Indenture between Bristol-Myers Squibb Company and The Bank of New York, as Trustee, to the indenture dated June 1, 1993 (incorporated herein by reference to Exhibit 4.1 to the Form 8-K dated July 26, 2012 and filed on July 31, 2012).	‡
4o.	Form of 2.000% Notes Due 2022 (incorporated herein by reference to Exhibit 4.3 to the Form 8-K dated July 26, 2012 and filed on July 31, 2012).	‡
4p.	Form of 3.250% Notes Due 2042 (incorporated herein by reference to Exhibit 4.4 to the Form 8-K dated July 26, 2012 and filed on July 31, 2012).	‡
4q.	Seventh Supplemental Indenture, dated as of October 31, 2013, between Bristol-Myers Squibb Company and The Bank of New York Mellon, as Trustee to the Indenture dated as of June 1, 1993 (incorporated herein by reference to Exhibit 4.1 to the Form 8-K dated and filed on October 31, 2013).	‡
4r.	Form of 1.750% Notes Due 2019 (incorporated herein by reference to Exhibit 4.1 to the Form 8-K dated and filed on October 31, 2013).	‡
4s.	Form of 3.250% Notes Due 2023 (incorporated herein by reference to Exhibit 4.1 to the Form 8-K dated and filed on October 31, 2013).	‡
4t.	Form of 4.500% Notes Due 2044 (incorporated herein by reference to Exhibit 4.1 to the Form 8-K dated and filed on October 31, 2013).	‡
4u.	Eighth Supplemental Indenture, dated as of May 5, 2015, between Bristol-Myers Squibb Company and The Bank of New York Mellon, as Trustee, to the Indenture dated as of June 1, 1993 (incorporated herein by reference to Exhibit 4.1 to the Form 8-K dated and filed on May 5, 2015).	‡
4v.	Form of €575,000,000 1.000% Notes Due 2025 (incorporated herein by reference to Exhibit 4.2 to the Form 8-K dated and filed on May 5, 2015).	‡
4w.	Form of €575,000,000 1.750% Notes Due 2035 (incorporated herein by reference to Exhibit 4.3 to the Form 8-K dated and filed on May 5, 2015).	‡
10a.	$1,500,000,000 Five Year Competitive Advance and Revolving Credit Facility Agreement dated as of September 29, 2011 among Bristol-Myers Squibb Company, the borrowing subsidiaries, the lenders named in the agreement, BNP Paribas and The Royal Bank of Scotland plc, as documentation agents, Bank of America N.A., as syndication agent, and JPMorgan Chase Bank, N.A. and Citibank, N.A., as administrative agents (incorporated herein by reference to Exhibit 10.1 to the Form 8-K dated September 29, 2011 and filed on October 4, 2011).	‡
10b.	First Amendment dated June 21, 2013 to the Five Year Competitive Advance and Revolving Credit Facility Agreement dated as of September 29, 2011 among Bristol-Myers Squibb Company, the several financial institutions from time to time party to the agreement, and JPMorgan Chase Bank, N.A. and Citibank N.A. as administrative agents (incorporated herein by reference to Exhibit 10a to the Form 10-Q for the quarterly period ended June 30, 2013).	‡
10c.	$1,500,000,000 Five Year Competitive Advance and Revolving Credit Facility Agreement dated as of July 30, 2012 among Bristol-Myers Squibb Company, the borrowing subsidiaries, the lenders named in the agreement, Bank of America N.A., Barclays Bank plc, Deutsche Bank Securities Inc., and Wells Fargo Bank, National	‡

	Association as documentation agents, Citibank, N.A. and JPMorgan Chase Bank, N.A., as administrative agents (incorporated herein by reference to Exhibit 10.1 to the Form 8-K dated July 26, 2012 and filed on July 31, 2012).	
10d.	Amendment and Waiver dated as of June 21, 2016, to the Five Year Competitive Advance and Revolving Credit Facility Agreement dated as of September 29, 2011 among Bristol-Myers Squibb Company, the several financial institutions from time to time party to the agreement, and JPMorgan Chase Bank, N.A. and Citibank N.A. as administrative agents (incorporated herein by reference to Exhibit 10a to the Form 10-Q for the quarterly period ended June 30, 2016).	‡
10e.	Amendment dated as of June 21, 2016, to the Five Year Competitive Advance and Revolving Credit Facility Agreement dated as of July 30, 2012 among Bristol-Myers Squibb Company, the several financial institutions from time to time party to the agreement, and JPMorgan Chase Bank, N.A. and Citibank N.A. as administrative agents (incorporated herein by reference to Exhibit 10b to the Form 10-Q for the quarterly period ended June 30, 2016).	‡
10f.	Amendment and Waiver dated as of June 26, 2017, to the Five Year Competitive Advance and Revolving Credit Facility Agreement dated as of September 29, 2011 among Bristol-Myers Squibb Company, the several financial institutions from time to time party to the agreement, and JPMorgan Chase Bank, N.A. and Citibank N.A. as administrative agents (incorporated herein by reference to Exhibit 10a to the Form 10-Q for the quarterly period ended June 30, 2017)	‡

10g.	Amendment dated as of June 26, 2017, to the Five Year Competitive Advance and Revolving Credit Facility Agreement dated as of July 30, 2012 among Bristol-Myers Squibb Company, the several financial institutions from time to time party to the agreement, and JPMorgan Chase Bank, N.A. and Citibank N.A. as administrative agents (incorporated herein by reference to Exhibit 10b to the Form 10-Q for the quarterly period ended June 30, 2017)	‡
10h.	Extension to the Five Year Competitive Advance and Revolving Credit Facility Agreement dated as of September 29, 2011 (incorporated herein by reference to Exhibit 10a to the Form 10-Q for the quarterly period ended June 30, 2018).	‡
10i.	Extension to the Five Year Competitive Advance and Revolving Credit Facility Agreement dated as of July 30, 2012 (incorporated herein by reference to Exhibit 10b to the Form 10-Q for the quarterly period ended June 30, 2018).	‡
10j.	$1,000,000,000 Three-Year Revolving Credit Facility Agreement dated as of January 25, 2019 by and among Bristol-Myers Squibb Company, the lenders party thereto and Morgan Stanley Senior Funding, Inc., as administrative agent (incorporated by reference herein to Exhibit 10.2 to the Form 8-K dated January 25, 2019 and filed on January 30, 2019).	‡
10k.	$33,500,000,000 364-Day Senior Unsecured Bridge Facility Commitment Letter dated as of January 2, 2019 among Morgan Stanley Senior Funding, Inc., MUFG Bank, Ltd. and Bristol-Myers Squibb Company (incorporated by reference herein to Exhibit 10.2 to the Form 8-K dated January 2, 2019 and filed on January 4, 2019).	‡
10l.	$8,000,000,000 Term Loan Credit Agreement dated as of January 18, 2019 by and among Bristol-Myers Squibb Company, the lenders party thereto and Morgan Stanley Senior Funding, Inc., as administrative agent (incorporated by reference herein to Exhibit 10.1 to the Form 8-K dated January 18, 2019 and filed on January 22, 2019).	‡
10m.	SEC Consent Order (incorporated herein by reference to Exhibit 10s to the Form 10-Q for the quarterly period ended September 30, 2004).	‡
10n.	Master Restructuring Agreement between Bristol-Myers Squibb Company and Sanofi dated as of September 27, 2012 (incorporated by reference herein to Exhibit 10a to the Form 10-Q for the quarterly period ended September 30, 2012). †	‡
10o.	Side Letter to Master Restructuring Agreement between Bristol-Myers Squibb Company and Sanofi dated as of January 1, 2013 (incorporated herein by reference to Exhibit 10p to the Form 10-K for the fiscal year ended December 31, 2012). †	‡
10p.	Amended and Restated Co-Development and Co-Promotion Agreement (Apixaban) by and between Bristol-Myers Squibb Company and Pfizer, Inc. dated April 26, 2007 as amended and restated as of August 23, 2007 (incorporated herein by reference to Exhibit 10c to the Form 10-Q for the quarterly period ended June 30, 2016).†	‡
10q.	Second Amendment to Amended and Restated Co-Development and Co-Promotion Agreement (Apixaban) by and between Bristol-Myers Squibb Company and Pfizer, Inc. dated as of March 15, 2012 (incorporated herein by reference to Exhibit 10d to the Form 10-Q for the quarterly period ended June 30, 2016).†	‡

10r.	Fourth Amendment to Amended and Restated Co-Development and Co-Promotion Agreement (Apixaban) by and between Bristol-Myers Squibb Company and Pfizer, Inc. dated as of May 18, 2015 (incorporated herein by reference to Exhibit 10e to the Form 10-Q for the quarterly period ended June 30, 2016).†	‡
‡‡10s.	Bristol-Myers Squibb Company 2012 Stock Award and Incentive Plan, effective as of May 1, 2012 (incorporated herein by reference to Exhibit B to the 2012 Proxy Statement dated March 20, 2012).	‡
‡‡10t.	Form of Non-Qualified Stock Option Agreement under the 2002 Stock Award and Incentive Plan (incorporated herein by reference to Exhibit 10s to the Form 10-K for the fiscal year ended December 31, 2005).	‡
‡‡10u.	Form of 2016-2018 Performance Share Units Agreement under the 2012 Stock Award and Incentive Plan (incorporated herein by reference to Exhibit 10y to the Form 10-K for the fiscal year ended December 31, 2015).	‡
‡‡10v.	Form of 2017-2019 Performance Share Units Agreement under the 2012 Stock Award and Incentive Plan (incorporated herein by reference to Exhibit 10ee to the Form 10-K for the fiscal year ended December 31, 2016).	‡
‡‡10w.	Form of 2018-2020 Performance Share Units Agreement under the 2012 Stock Award and Incentive Plan (incorporated herein by reference to Exhibit 10z to the Form 10-K for the fiscal year ended December 31, 2017).	‡
‡‡10x.	Form of Restricted Stock Units Agreement with five year vesting under the 2012 Stock Award and Incentive Plan (incorporated herein by reference to Exhibit 10aa to the Form 10-K for the fiscal year ended December 31, 2017).	‡

‡‡10y.	Form of Restricted Stock Units Agreement with four year vesting under the 2012 Stock Award and Incentive Plan (incorporated herein by reference to Exhibit 10bb to the Form 10-K for the fiscal year ended December 31, 2017)	‡
‡‡10z.	Form of Restricted Stock Units Agreement with one-year cliff vesting with a two-year post-vest holding period under the 2012 Stock Award and Incentive Plan (filed herewith).	E-10-1
‡‡10aa.	Form of Restricted Stock Units Agreement with two-year cliff vesting with a one-year post-vest holding period under the 2012 Stock Award and Incentive Plan (filed herewith).	E-10-2
‡‡10bb.	Form of Market Share Units Agreement under the 2012 Stock Award and Incentive Plan (incorporated herein' by reference to Exhibit 10cc to the Form 10-K for the fiscal year ended December 31, 2017).	‡
‡‡10cc.	Bristol-Myers Squibb Company Performance Incentive Plan, as amended (as adopted, incorporated herein by reference to Exhibit 2 to the Form 10-K for the fiscal year ended December 31, 1978; as amended as of January 8, 1990, incorporated herein by reference to Exhibit 19b to the Form 10-K for the fiscal year ended December 31, 1990; as amended on April 2, 1991, incorporated herein by reference to Exhibit 19b to the Form 10-K for the fiscal year ended December 31, 1991; as amended effective January 1, 1994, incorporated herein by reference to Exhibit 10d to the Form 10-K for the fiscal year ended December 31, 1993; and as amended effective January 1, 1994, incorporated herein by reference to Exhibit 10d to the Form 10-K for the fiscal year ended December 31, 1994).	‡
‡‡10dd.	Bristol-Myers Squibb Company Executive Performance Incentive Plan effective January 1, 1997 (incorporated herein by reference to Exhibit 10b to the Form 10-K for the fiscal year ended December 31, 1996).	‡
‡‡10ee.	Bristol-Myers Squibb Company Executive Performance Incentive Plan effective January 1, 2003 and as amended effective June 10, 2008 (incorporated herein by reference to Exhibit 10.3 to the Form 10-Q for the quarterly period ended September 30, 2008).	‡
‡‡10ff.	Bristol-Myers Squibb Company 2007 Senior Executive Performance Incentive Plan (as amended and restated effective June 8, 2010 and incorporated herein by reference to Exhibit 10a. to the Form 10-Q for the quarterly period ended June 30, 2010).	‡
‡‡10gg.	Bristol-Myers Squibb Company Benefit Equalization Plan – Retirement Income Plan, as amended and restated effective as of January 1, 2012, (incorporated herein by reference to Exhibit 10ww to the Form 10-K for the fiscal year ended December 31, 2012).	‡
‡‡10hh.	Bristol-Myers Squibb Company Benefit Equalization Plan – Savings and Investment Program, as amended and restated effective as of January 1, 2012 (incorporated herein by reference to Exhibit 10xx to the Form 10-K for the fiscal year ended December 31, 2012).	‡
‡‡10ii.	Squibb Corporation Supplementary Pension Plan, as amended (as previously amended and restated, incorporated herein by reference to Exhibit 19g to the Form 10-K for the fiscal year ended December 31, 1991; as amended as of September 14, 1993, and incorporated herein by reference to Exhibit 10g to the Form 10-K for the fiscal year ended December 31, 1993).	‡

‡‡10jj.	Senior Executive Severance Plan, effective as of April 26, 2007 and as amended effective February 16, 2012 (incorporated herein by reference to Exhibit 10ll to the Form 10-K for the fiscal year ended December 31, 2011).	‡
‡‡10kk.	Form of Agreement entered into between the Registrant and each of the named executive officers and certain other executives effective January 1, 2016 (incorporated by reference to Exhibit 10kk to the Form 10-K for the fiscal year ended December 31, 2015).	‡
‡‡10ll.	Bristol-Myers Squibb Company Retirement Income Plan for Non-Employee Directors, as amended March 5, 1996 (incorporated herein by reference to Exhibit 10k to the Form 10-K for the fiscal year ended December 31, 1996).	‡
‡‡10mm.	Bristol-Myers Squibb Company 1987 Deferred Compensation Plan for Non-Employee Directors, as amended and restated January 20, 2015 (incorporated herein by reference to Exhibit 10mm to the Form 10-K for the fiscal year ended December 31, 2014).	‡
‡‡10nn.	Bristol-Myers Squibb Company Non-Employee Directors' Stock Option Plan, as amended (as approved by the Stockholders on May 1, 1990, incorporated herein by reference to Exhibit 28 to Registration Statement No. 33-38587 on Form S-8; as amended May 7, 1991, incorporated herein by reference to Exhibit 19c to the Form 10-K for the fiscal year ended December 31, 1991), as amended January 12, 1999 (incorporated herein by reference to Exhibit 10m to the Form 10-K for the fiscal year ended December 31, 1998).	‡
‡‡10oo.	Bristol-Myers Squibb Company Non-Employee Directors' Stock Option Plan, as amended (as approved by the Stockholders on May 2, 2000, incorporated herein by reference to Exhibit A to the 2000 Proxy Statement dated March 20, 2000).	‡

‡‡10pp.	Squibb Corporation Deferral Plan for Fees of Outside Directors, as amended (as adopted, incorporated herein by reference to Exhibit 10e Squibb Corporation 1991 Form 10-K for the fiscal year ended December 31, 1987, File No. 1-5514; as amended effective December 31, 1991 incorporated herein by reference to Exhibit 10m to the Form 10-K for the fiscal year ended December 31, 1992).	‡
21	Subsidiaries of the Registrant (filed herewith).	E-21-1
23	Consent of Deloitte & Touche LLP (filed herewith).	E-23-1
31a.	Section 302 Certification Letter (filed herewith).	E-31-1
31b.	Section 302 Certification Letter (filed herewith).	E-31-2
32a.	Section 906 Certification Letter (filed herewith).	E-32-1
32b.	Section 906 Certification Letter (filed herewith).	E-32-2
101.	The following financial statements from the Bristol-Myers Squibb Company Annual Report on Form 10-K for the years ended December 31, 2018, 2017 and 2016, formatted in Extensible Business Reporting Language (XBRL): (i) consolidated statements of earnings, (ii) consolidated statements of comprehensive income, (iii) consolidated balance sheets, (iv) consolidated statements of cash flows, and (v) the notes to the consolidated financial statements.	

† Confidential treatment has been granted for certain portions which are omitted in the copy of the exhibit electronically filed with the Commission.

* Indicates, in this 2018 Form 10-K, brand names of products, which are registered trademarks not solely owned by the Company or its subsidiaries. Abilify is a trademark of Otsuka Pharmaceutical Co., Ltd.; Atripla, Truvada and Tybost are trademarks of Gilead Sciences, Inc.; Avapro/Avalide (known in the EU as Aprovel/Karvea) and Plavix are trademarks of Sanofi; Byetta is a trademark of Amylin Pharmaceuticals, LLC; ENHANZE is a trademark of Halozyme, Inc.; Erbitux is a trademark of ImClone LLC; Farxiga and Onglyza are trademarks of AstraZeneca AB; Gleevec is a trademark of Novartis AG; Keytruda is a trademark of Merck Sharp & Dohme Corp.; Pomalyst and Revlimid are trademarks of Celgene Corporation; and Prostvac is a trademark of BN ImmunoTherapeutics Inc. and/or one of its affiliates. Brand names of products that are in all italicized letters, without an asterisk, are registered trademarks of BMS and/or one of its subsidiaries.