AMGEN INC
Form 10-Q
July 26, 2017
UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
Form 10-Q
(Mark One)
þ QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the quarterly period ended June 30, 2017
OR
¨ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
Commission file number 001-37702
Amgen Inc.
(Exact name of registrant as specified in its charter)

Delaware	95-3540776
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
One Amgen Center Drive, Thousand Oaks, California	91320-1799
(Address of principal executive offices)	(Zip Code)

(805) 447-1000
(Registrant's telephone number, including area code)
Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or Section 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 þ No ¨
Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes þ No ¨
Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer þ	Accelerated filer ¨	Non-accelerated filer ¨ (Do not check if a smaller reporting company)

Smaller reporting company ¨ Emerging growth company ¨
Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act) Yes ¨ No þ
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.¨
As of July 18, 2017, the registrant had 729,674,773 shares of common stock, $0.0001 par value, outstanding.

AMGEN INC.
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PART I — FINANCIAL INFORMATION

Item 1. FINANCIAL STATEMENTS
AMGEN INC.
CONDENSED CONSOLIDATED STATEMENTS OF INCOME
(In millions, except per share data)
(Unaudited)

	Three months ended June 30,		Six months ended June 30,	
	2017	2016	2017	2016
Revenues:				
Product sales	$5,574	$5,474	$10,773	$10,713
Other revenues	236	214	501	502
Total revenues	5,810	5,688	11,274	11,215
Operating expenses:				
Cost of sales	1,024	1,050	2,020	2,068
Research and development	873	900	1,642	1,772
Selling, general and administrative	1,209	1,292	2,273	2,495
Other	6	66	50	98
Total operating expenses	3,112	3,308	5,985	6,433
Operating income	2,698	2,380	5,289	4,782
Interest expense, net	321	313	647	607
Interest and other income, net	165	137	360	287
Income before income taxes	2,542	2,204	5,002	4,462
Provision for income taxes	391	334	780	692
Net income	$2,151	$1,870	$4,222	$3,770
Earnings per share:				
Basic	$2.93	$2.49	$5.74	$5.01
Diluted	$2.91	$2.47	$5.71	$4.97
Shares used in calculation of earnings per share:				
Basic	734	751	736	753
Diluted	738	756	740	759
Dividends paid per share	$1.15	$1.00	$2.30	$2.00

See accompanying notes.

AMGEN INC.
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(In millions)
(Unaudited)

	Three months ended June 30,		Six months ended June 30,	
	2017	2016	2017	2016
Net income	$2,151	$1,870	$4,222	$3,770
Other comprehensive (loss) income, net of reclassification adjustments and taxes:				
Foreign currency translation gains (losses)	35	(17)	59	16
Effective portion of cash flow hedges	(201)	(6)	(274)	(185)
Net unrealized gains on available-for-sale securities	80	184	238	542
Other	(1)	1	(1)	1
Other comprehensive (loss) income, net of taxes	(87)	162	22	374
Comprehensive income	$2,064	$2,032	$4,244	$4,144

See accompanying notes.

AMGEN INC.
CONDENSED CONSOLIDATED BALANCE SHEETS
(In millions, except per share data)
(Unaudited)

	June 30, 2017	December 31, 2016
ASSETS		
Current assets:		
Cash and cash equivalents	$2,629	$ 3,241
Marketable securities	36,598	34,844
Trade receivables, net	3,560	3,165
Inventories	2,961	2,745
Other current assets	2,694	2,015
Total current assets	48,442	46,010
Property, plant and equipment, net	4,980	4,961
Intangible assets, net	9,561	10,279
Goodwill	14,766	14,751
Other noncurrent assets	1,838	1,625
Total assets	$79,587	$ 77,626
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$883	$ 917
Accrued liabilities	5,473	5,884
Short-term borrowings and current portion of long-term debt	1,459	4,403
Total current liabilities	7,815	11,204
Long-term debt	33,603	30,193
Long-term deferred tax liabilities	2,299	2,436
Long-term tax liabilities	2,605	2,419
Other noncurrent liabilities	1,543	1,499
Contingencies and commitments		
Stockholders' equity:		
Common stock and additional paid-in capital; $0.0001 par value; 2,750.0 shares authorized; outstanding — 730.7 shares in 2017 and 738.2 shares in 2016	30,793	30,784
Retained earnings (accumulated deficit)	1,378	(438)
Accumulated other comprehensive loss	(449)	(471)
Total stockholders' equity	31,722	29,875
Total liabilities and stockholders' equity	$79,587	$ 77,626

See accompanying notes.

AMGEN INC.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(In millions)
(Unaudited)

	Six months ended June 30,	
	2017	2016
Cash flows from operating activities:		
Net income	$4,222	$3,770
Depreciation and amortization	1,042	1,043
Share-based compensation expense	156	139
Deferred income taxes	(180)	245
Other items, net	109	42
Changes in operating assets and liabilities:		
Trade receivables, net	(391)	(119)
Inventories	(90)	(156)
Other assets	(194)	(330)
Accounts payable	(43)	(100)
Accrued income taxes	(120)	(328)
Other liabilities	200	386
Net cash provided by operating activities	4,711	4,592
Cash flows from investing activities:		
Purchases of property, plant and equipment	(353)	(344)
Purchases of intangible assets	—	(99)
Purchases of marketable securities	(19,244)	(14,969)
Proceeds from sales of marketable securities	14,425	9,063
Proceeds from maturities of marketable securities	3,284	1,339
Other	(82)	(37)
Net cash used in investing activities	(1,970)	(5,047)
Cash flows from financing activities:		
Net proceeds from issuance of debt	3,485	2,908
Repayment of debt	(4,405)	(1,000)
Net change in commercial paper	959	—
Repurchases of common stock	(1,562)	(1,218)
Dividends paid	(1,693)	(1,504)
Other	(137)	(245)
Net cash used in financing activities	(3,353)	(1,059)
Decrease in cash and cash equivalents	(612)	(1,514)
Cash and cash equivalents at beginning of period	3,241	4,144
Cash and cash equivalents at end of period	$2,629	$2,630

See accompanying notes.

AMGEN INC.
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
June 30, 2017
(Unaudited)

1. Summary of significant accounting policies

Business

Amgen Inc. (including its subsidiaries, referred to as “Amgen,” “the Company,” “we,” “our” or “us”) is a global biotechnology pioneer that discovers, develops, manufactures and delivers innovative human therapeutics. We operate in one business segment: human therapeutics.

Basis of presentation

The financial information for the three and six months ended June 30, 2017 and 2016, is unaudited but includes all adjustments (consisting of only normal, recurring adjustments unless otherwise indicated), which Amgen considers necessary for a fair presentation of its condensed consolidated results of operations for those periods. Interim results are not necessarily indicative of results for the full fiscal year.

The condensed consolidated financial statements should be read in conjunction with our consolidated financial statements and the notes thereto contained in our Annual Report on Form 10-K for the year ended December 31, 2016, and with our condensed consolidated financial statements and the notes thereto contained in our Quarterly Report on Form 10-Q for the period ended March 31, 2017.

Principles of consolidation

The condensed consolidated financial statements include the accounts of Amgen as well as its majority-owned subsidiaries. We do not have any significant interests in any variable interest entities. All material intercompany transactions and balances have been eliminated in consolidation.

Use of estimates

The preparation of condensed consolidated financial statements in conformity with U.S. generally accepted accounting principles (GAAP) requires management to make estimates and assumptions that affect the amounts reported in the condensed consolidated financial statements and accompanying notes. Actual results may differ from those estimates.

Property, plant and equipment, net

Property, plant and equipment is recorded at historical cost, net of accumulated depreciation and amortization, of $7.8 billion and $7.5 billion as of June 30, 2017, and December 31, 2016, respectively.

Recent accounting pronouncements

In May 2014, the Financial Accounting Standards Board (FASB) issued a new accounting standard that amends the guidance for the recognition of revenue from contracts with customers to transfer goods and services. The FASB has subsequently issued additional, clarifying standards to address issues arising from implementation of the new revenue recognition standard. The new revenue recognition standard and clarifying standards are effective for interim and annual periods beginning on January 1, 2018. The new standards are required to be adopted using either a full retrospective or a modified-retrospective approach. We expect to adopt this standard by using the modified-retrospective approach beginning in 2018. We have substantially completed our impact assessment and do not currently anticipate a material impact on Total revenues in our Consolidated Statements of Income. We continue to review the impact that the new standard will have on our collaborations and license arrangements, as well as our financial statement disclosures. As we complete our assessment, we are also identifying and preparing to implement changes to our accounting policies, business processes, and internal controls to support the new accounting and disclosure requirements.

In January 2016, the FASB issued a new accounting standard that amends the accounting and disclosures of financial instruments, including a provision requiring that equity investments (except for investments accounted for under the equity method of accounting) be measured at fair value, with changes in fair value recognized in current earnings. The new standard is effective for interim and annual periods beginning on January 1, 2018. With the exception of equity investments currently being accounted for at cost, adjustments are applied using a modified-retrospective approach by reflecting adjustments through a cumulative-effect impact on retained earnings as of the beginning of the fiscal year of adoption. The new standard will be applied prospectively to those investments currently accounted for at cost. The

impact that this new standard will have on our consolidated financial statements will depend on the fair value of available-for-sale securities in our portfolio in the future. See Note 6, Available-for-sale investments, for the fair value of equity securities as of June 30, 2017.

In February 2016, the FASB issued a new accounting standard that amends the guidance for the accounting and disclosure of leases. This new standard requires that lessees recognize the assets and liabilities that arise from leases on the balance sheet, including leases classified as operating leases under current GAAP, and disclose qualitative and quantitative information about leasing arrangements. The new standard requires a modified-retrospective approach to adoption and is effective for interim and annual periods beginning on January 1, 2019, but may be adopted earlier. We expect to adopt this standard beginning in 2019. We continue to evaluate the impact that this new standard will have on our consolidated financial statements, including related disclosures, as well as on our business processes and systems, accounting policies and internal controls. We do not expect that this standard will have a material impact on our Consolidated Statements of Income, but we do expect that upon adoption, this standard will have a material impact on our assets and liabilities on our Consolidated Balance Sheets. The primary effect of adoption will be the requirement to record right-of-use assets and corresponding lease obligations for current operating leases. In addition, the standard will require us to update our systems and processes used to track, record and account for our lease portfolio.

In June 2016, the FASB issued a new accounting standard that amends the guidance for measuring and recording credit losses on financial assets measured at amortized cost by replacing the “incurred loss” model with an “expected loss” model. Accordingly, these financial assets will be presented at the net amount expected to be collected. This new standard also requires that credit losses related to available-for-sale debt securities be recorded as an allowance through Net income rather than reducing the carrying amount under the current, other-than-temporary-impairment model. The new standard is effective for interim and annual periods beginning on January 1, 2020, but may be adopted earlier, beginning on January 1, 2019. With certain exceptions, adjustments are to be applied using a modified-retrospective approach by reflecting adjustments through a cumulative-effect impact on retained earnings as of the beginning of the fiscal year of adoption. We are currently evaluating the impact that this new standard will have on our consolidated financial statements.

In October 2016, the FASB issued a new accounting standard that amends the income tax accounting guidance for intra-entity transfers of assets other than inventory. The new standard requires entities to recognize the income tax consequences of an intercompany transfer of an asset, other than inventory, in the period the transfer occurs. The current exception to defer the recognition of any tax impact on intercompany transfers of inventory until it is sold to a third party remains unaffected. The new standard is effective for interim and annual periods beginning on January 1, 2018, but may be adopted earlier. We expect to adopt this standard beginning in 2018. The standard would be applied prospectively to any transaction occurring on or after the adoption date. We are currently evaluating the impact that this new standard will have on our consolidated financial statements.

In January 2017, the FASB issued a new accounting standard that changes the definition of a business to assist entities with the evaluation of when a set of assets acquired or disposed of should be considered a business. The new standard requires an entity to evaluate whether substantially all of the fair value of the gross assets acquired is concentrated in a single identifiable asset or group of similar identifiable assets; if so, the set would not be considered a business. The new standard also requires a business to include at least one substantive process and narrows the definition of outputs. The new standard will be applied prospectively and is effective for interim and annual periods beginning on January 1, 2018, but may be adopted earlier. We expect to adopt this standard beginning in 2018. Adoption of this new standard may result in more transactions being accounted for as asset acquisitions versus business combinations; however, the impact on our consolidated financial statements will depend on the facts and circumstances of any specific future transactions.

2. Restructuring

In 2014, we initiated a restructuring plan to both invest in continuing innovation and the launch of our new pipeline molecules while improving our cost structure. As part of the plan, we closed facilities in Washington State and Colorado and are reducing the number of buildings we occupy at our headquarters in Thousand Oaks, California, as well as at other locations.

We continue to estimate that we will incur $800 million to $900 million of pre-tax charges in connection with our restructuring, including (i) separation and other headcount-related costs of $535 million to $585 million with respect to staff reductions and (ii) asset-related charges of $265 million to $315 million that consist primarily of asset impairments, accelerated depreciation and other related costs resulting from the consolidation of our worldwide

facilities. Through June 30, 2017, we incurred a total of $517 million of separation and other headcount-related costs and $243 million of net asset-related charges.

The amounts related to the restructuring recorded in the Condensed Consolidated Statements of Income during the three and six months ended June 30, 2017 and 2016, were not significant. As of June 30, 2017, the total restructuring liability was not significant.

3. Income taxes

The effective tax rates for the three and six months ended June 30, 2017, were 15.4% and 15.6%, respectively, compared with 15.2% and 15.5%, respectively, for the corresponding periods of the prior year. The effective rates differ from the federal statutory rates primarily as a result of indefinitely invested earnings of our foreign operations. We do not provide for U.S. income taxes on undistributed earnings of our foreign operations that are intended to be invested indefinitely outside the United States.

The increase in our effective tax rate for the three months ended June 30, 2017, was due primarily to a prior year benefit associated with tax incentives and lower tax benefits from share-based compensation payments, offset partially by discrete benefits associated with the effective settlement of certain state and federal tax matters.

The increase in our effective tax rate for the six months ended June 30, 2017, was due primarily to lower tax benefits from share-based compensation payments, offset partially by discrete benefits associated with the effective settlement of certain state and federal tax matters and favorable tax impacts of changes in the jurisdictional mix of income and expenses.

The U.S. territory of Puerto Rico imposes an excise tax on the gross intercompany purchase price of goods and services from our manufacturer in Puerto Rico. The rate is 4% and is effective through December 31, 2027. We account for the excise tax as a manufacturing cost that is capitalized in inventory and expensed in cost of sales when the related products are sold. For U.S. income tax purposes, the excise tax results in foreign tax credits that are generally recognized in our provision for income taxes when the excise tax is incurred.

One or more of our legal entities file income tax returns in the U.S. federal jurisdiction, various U.S. state jurisdictions and certain foreign jurisdictions. Our income tax returns are routinely audited by the tax authorities in those jurisdictions. Significant disputes may arise with authorities involving issues of the timing and amount of deductions, the use of tax credits and allocations of income and expenses among various tax jurisdictions because of differing interpretations of tax laws, regulations and the interpretation of the relevant facts. As previously disclosed, on April 12, 2017, we received a Revenue Agent Report (RAR) from the Internal Revenue Service (IRS) for the years 2010, 2011, and 2012. The RAR proposes to make significant adjustments that relate primarily to the allocation of profits between certain of our entities in the United States and the U.S. territory of Puerto Rico. We disagree with the proposed adjustments and are pursuing resolution through the IRS administrative appeals process, which we believe will likely not be concluded within the next 12 months. Final resolution of the IRS audit could have a material impact on our results of operations and cash flows if not resolved favorably, however, we believe our income tax reserves are appropriately provided for all open tax years. We are no longer subject to U.S. federal income tax examinations for years ended on or before December 31, 2009. In addition, we are currently under examination by a number of other state and foreign tax jurisdictions.

During the three and six months ended June 30, 2017, the gross amount of our unrecognized tax benefits (UTBs) increased approximately $110 million and $225 million, respectively, as a result of tax positions taken during the current year. The UTB balance decreased approximately $65 million during the second quarter of 2017 due to the effective settlement of certain state and federal tax matters. Substantially all of the UTBs as of June 30, 2017, if recognized, would affect our effective tax rate.

4. Earnings per share

The computation of basic earnings per share (EPS) is based on the weighted-average number of our common shares outstanding. The computation of diluted EPS is based on the weighted-average number of our common shares outstanding and dilutive potential common shares, which include primarily shares that may be issued under our stock option, restricted stock and performance unit award programs, as determined using the treasury stock method (collectively, dilutive securities).

The computations for basic and diluted EPS were as follows (in millions, except per share data):

	Three months ended June 30,		Six months ended June 30,	
	2017	2016	2017	2016
Income (Numerator):				
Net income for basic and diluted EPS	$2,151	$1,870	$4,222	$3,770
Shares (Denominator):				
Weighted-average shares for basic EPS	734	751	736	753
Effect of dilutive securities	4	5	4	6
Weighted-average shares for diluted EPS	738	756	740	759

Basic EPS	$2.93	$2.49	$5.74	$5.01
Diluted EPS	$2.91	$2.47	$5.71	$4.97

For the three and six months ended June 30, 2017 and 2016, the number of anti-dilutive employee share-based awards excluded from the computation of diluted EPS was not significant.

5. Collaborations

A collaborative arrangement is a contractual arrangement that involves a joint operating activity. These arrangements involve two or more parties that are both: (i) active participants in the activity and (ii) exposed to significant risks and rewards dependent on the commercial success of the activity.

From time to time, we enter into collaborative arrangements for the research and development (R&D), manufacture and/or commercialization of products and/or product candidates. These collaborations generally provide for non-refundable up-front license fees, development and commercial performance milestone payments, cost sharing, royalty payments and/or profit sharing. Our collaboration arrangements are performed with no guarantee of either technological or commercial success and each is unique in nature. Below is a significant arrangement that had a material change since the filing of our Annual Report on Form 10-K for the year ended December 31, 2016.

Novartis Pharma AG

In April 2017, we expanded our existing collaboration with Novartis Pharma AG (Novartis), a wholly owned subsidiary of Novartis AG, in the area of migraine. In the United States, Amgen and Novartis will jointly develop and collaborate on the commercialization of Aimovig™ (erenumab). Amgen, as the principal, will recognize product sales of Aimovig™ in the United States, and will share U.S. commercialization costs with Novartis and pay Novartis a significant royalty on net sales in the United States. Novartis holds global co-development rights and exclusive commercial rights outside the United States and Japan. Novartis will pay Amgen double-digit royalties on net sales of the products in the Novartis exclusive territories. Novartis will fund a portion of global R&D expenses. Novartis will also make payments to Amgen that could collectively exceed $400 million if certain regulatory events occur and commercial thresholds are achieved. Amgen will manufacture and supply Aimovig™ worldwide.

The migraine collaboration will continue for the commercial life of the products unless terminated in accordance with its terms.

During the three months ended June 30, 2017 and 2016, costs recovered from Novartis for the migraine products were $31 million and $11 million, respectively. During the six months ended June 30, 2017 and 2016, costs recovered from Novartis for the migraine products were $57 million and $20 million, respectively. Costs recovered are included primarily in Research and development expense in the Condensed Consolidated Statements of Income.

6. Available-for-sale investments

The amortized cost, gross unrealized gains, gross unrealized losses and estimated fair values of available-for-sale investments by type of security were as follows (in millions):

Type of security as of June 30, 2017	Amortized cost	Gross unrealized gains	Gross unrealized losses	Estimated fair value
U.S. Treasury securities	$ 7,664	$ 9	$ (12)	$ 7,661
Other government-related debt securities:				
U.S.	226	1	(1)	226
Foreign and other	2,334	27	(8)	2,353
Corporate debt securities:				
Financial	9,591	56	(10)	9,637
Industrial	9,499	88	(18)	9,569
Other	1,229	8	(2)	1,235
Residential mortgage-backed securities	1,689	1	(8)	1,682
Other mortgage- and asset-backed securities	1,854	2	(3)	1,853
Money market mutual funds	2,165	—	—	2,165
Other short-term interest-bearing securities	2,382	—	—	2,382
Total interest-bearing securities	38,633	192	(62)	38,763
Equity securities	134	30	(5)	159
Total available-for-sale investments	$ 38,767	$ 222	$ (67)	$ 38,922

Type of security as of December 31, 2016	Amortized cost	Gross unrealized gains	Gross unrealized losses	Estimated fair value
U.S. Treasury securities	$ 6,681	$ 1	$ (68)	$ 6,614
Other government-related debt securities:				
U.S.	302	—	(3)	299
Foreign and other	1,784	9	(34)	1,759
Corporate debt securities:				
Financial	8,476	21	(37)	8,460
Industrial	8,793	59	(63)	8,789
Other	1,079	5	(7)	1,077
Residential mortgage-backed securities	1,968	1	(29)	1,940
Other mortgage- and asset-backed securities	1,731	1	(13)	1,719
Money market mutual funds	2,782	—	—	2,782
Other short-term interest-bearing securities	4,188	—	—	4,188
Total interest-bearing securities	37,784	97	(254)	37,627
Equity securities	127	31	(4)	154
Total available-for-sale investments	$ 37,911	$ 128	$ (258)	$ 37,781

The fair values of available-for-sale investments by classification in the Condensed Consolidated Balance Sheets were as follows (in millions):

Classification in the Condensed Consolidated Balance Sheets	June 30, 2017	December 31, 2016
Cash and cash equivalents	$2,165	$ 2,783
Marketable securities	36,598	34,844
Other noncurrent assets	159	154
Total available-for-sale investments	$38,922	$ 37,781

Cash and cash equivalents in the above table excludes bank account cash of $464 million and $458 million as of June 30, 2017 and December 31, 2016, respectively.

The fair values of available-for-sale interest-bearing security investments by contractual maturity, except for mortgage- and asset-backed securities that do not have a single maturity date, were as follows (in millions):

Contractual maturity	June 30, 2017	December 31, 2016
Maturing in one year or less	$6,905	$ 8,393
Maturing after one year through three years	11,629	10,404
Maturing after three years through five years	13,346	12,157
Maturing after five years through ten years	3,286	2,974
Maturing after ten years	62	40
Mortgage- and asset-backed securities	3,535	3,659
Total interest-bearing securities	$38,763	$ 37,627

For the three months ended June 30, 2017 and 2016, realized gains totaled $40 million and $31 million, respectively, and realized losses totaled $87 million and $54 million, respectively. For the six months ended June 30, 2017 and 2016, realized gains totaled $75 million and $68 million, respectively, and realized losses totaled $171 million and $121 million, respectively. The cost of securities sold is based on the specific identification method.

The unrealized losses on available-for-sale investments and their related fair values were as follows (in millions):

	Less than 12 months		12 months or greater	
Type of security as of June 30, 2017	Fair value	Unrealized losses	Fair value	Unrealized losses
U.S. Treasury securities	$5,784	$ (12)	$—	$ —
Other government-related debt securities:				
U.S.	132	(1)	—	—
Foreign and other	968	(8)	11	—
Corporate debt securities:				
Financial	2,231	(9)	22	(1)
Industrial	2,646	(18)	62	—
Other	370	(2)	5	—
Residential mortgage-backed securities	1,355	(6)	69	(2)
Other mortgage- and asset-backed securities	917	(3)	8	—
Equity securities	20	(5)	—	—
Total	$14,423	$ (64)	$177	$ (3)

Type of security as of December 31, 2016	Less than 12 months		12 months or greater	
	Fair value	Unrealized losses	Fair value	Unrealized losses
U.S. Treasury securities	$5,774	$ (68)	$—	$ —
Other government-related debt securities:				
U.S.	201	(3)	—	—
Foreign and other	1,192	(34)	17	—
Corporate debt securities:				
Financial	3,975	(37)	44	—
Industrial	3,913	(61)	149	(2)
Other	486	(7)	7	—
Residential mortgage-backed securities	1,631	(26)	158	(3)
Other mortgage- and asset-backed securities	1,087	(10)	118	(3)
Equity securities	22	(4)	—	—
Total	$18,281	$ (250)	$493	$ (8)

The primary objective of our investment portfolio is to enhance overall returns in an efficient manner while maintaining safety of principal, prudent levels of liquidity and acceptable levels of risk. Our investment policy limits interest-bearing security investments to certain types of debt and money market instruments issued by institutions with primarily investment-grade credit ratings, and it places restrictions on maturities and concentration by asset class and issuer.

We review our available-for-sale investments for other-than-temporary declines in fair value below our cost basis each quarter and whenever events or changes in circumstances indicate that the cost basis of an asset may not be recoverable. The evaluation is based on a number of factors, including the length of time and the extent to which the fair value has been below our cost basis and adverse conditions related specifically to the security, including any changes to the credit rating of the security, and the intent to sell, or whether we will more likely than not be required to sell, the security before recovery of its amortized cost basis. Our assessment of whether a security is other-than-temporarily impaired could change in the future based on new developments or changes in assumptions related to that particular security. As of June 30, 2017 and December 31, 2016, we believe the cost bases for our available-for-sale investments were recoverable in all material respects.

7. Inventories

Inventories consisted of the following (in millions):

	June 30, 2017	December 31, 2016
Raw materials	$ 237	$ 225
Work in process	1,618	1,608
Finished goods	1,106	912
Total inventories	$ 2,961	$ 2,745

8. Goodwill and other intangible assets

Goodwill

Changes in the carrying amounts of goodwill were as follows (in millions):

	Six months ended June 30,	
	2017	2016
Beginning balance	$14,751	$14,787
Goodwill related to acquisitions of businesses[(1)]	—	2
Currency translation adjustments	15	10
Ending balance	$14,766	$14,799

(1) Consists of goodwill recognized on the acquisition dates of business combinations and subsequent adjustments to these amounts resulting from changes to the acquisition date fair values of net assets acquired in the business

combinations recorded during their respective measurement periods.

Identifiable intangible assets

Identifiable intangible assets consisted of the following (in millions):

	June 30, 2017			December 31, 2016		
	Gross carrying amount	Accumulated amortization	Intangible assets, net	Gross carrying amount	Accumulated amortization	Intangible assets, net
Finite-lived intangible assets:						
Developed product technology rights	$12,562	$ (6,436)	$ 6,126	$12,534	$ (5,947)	$ 6,587
Licensing rights	3,274	(1,450)	1,824	3,275	(1,300)	1,975
Marketing-related rights	1,326	(865)	461	1,333	(793)	540
Research and development technology rights	1,145	(755)	390	1,122	(704)	418
Total finite-lived intangible assets	18,307	(9,506)	8,801	18,264	(8,744)	9,520
Indefinite-lived intangible assets:						
In-process research and development	760	—	760	759	—	759
Total identifiable intangible assets	$19,067	$ (9,506)	$ 9,561	$19,023	$ (8,744)	$ 10,279

Developed product technology rights consist of rights related to marketed products acquired in business combinations. Licensing rights consist primarily of contractual rights acquired in business combinations to receive future milestones, royalties and profit sharing payments, capitalized payments to third parties for milestones related to regulatory approvals to commercialize products and up-front payments associated with royalty obligations for marketed products. Marketing-related intangible assets consist primarily of rights related to the sale and distribution of marketed products. R&D technology rights consist of technology used in R&D with alternative future uses.

In-process research and development (IPR&D) consists of R&D projects acquired in a business combination that are not complete at the time of acquisition due to remaining technological risks and/or lack of receipt of required regulatory approvals. As of June 30, 2017, the primary projects are AMG 899 (formerly TA-8995), acquired in the acquisition of Dezima Pharma B.V. (Dezima) in 2015, and oprozomib, acquired in the acquisition of Onyx Pharmaceuticals, Inc. in 2013. The valuation of AMG 899 reflects delayed development pending competitor clinical trials in the class. Detailed information from these trials is expected in the third quarter of 2017 and may have a material impact on the value of our related IPR&D.

All IPR&D projects have major risks and uncertainties associated with the timely and successful completion of development and commercialization of product candidates, including our ability to confirm safety and efficacy based on data from clinical trials, our ability to obtain necessary regulatory approvals and our ability to successfully complete these tasks within budgeted costs. We are not permitted to market a human therapeutic without obtaining regulatory approvals, and such approvals require our completing clinical trials that demonstrate a product candidate is safe and effective. In addition, the availability and extent of coverage and reimbursement from third-party payers, including government healthcare programs and private insurance plans, as well as competitive product launches, impact the revenues a product can generate. Consequently, the eventual realized value, if any, of the acquired IPR&D projects may vary from their estimated fair values. We review IPR&D projects for impairment annually, whenever events or changes in circumstances indicate that the carrying amount may not be recoverable and upon the establishment of technological feasibility or regulatory approval.

During both of the three months ended June 30, 2017 and 2016, we recognized amortization charges associated with our finite-lived intangible assets of $371 million. During the six months ended June 30, 2017 and 2016, we recognized amortization charges associated with our finite-lived intangible assets of $744 million and $740 million, respectively. The total estimated amortization charges for our finite-lived intangible assets for the remaining six months ending December 31, 2017, and the years ending December 31, 2018, 2019, 2020, 2021 and 2022, are $0.6 billion, $1.2 billion, $1.1 billion, $1.1 billion, $0.9 billion and $0.9 billion, respectively.

9. Financing arrangements

The carrying values and fixed contractual coupon rates of our borrowings were as follows (in millions):

	June 30, 2017	December 31, 2016
Commercial paper	$ 960	$ —
Short-term loan	—	605
2.125% notes due 2017 (2.125% 2017 Notes)	—	1,250
Floating Rate Notes due 2017	—	600
1.25% notes due 2017 (1.25% 2017 Notes)	—	850
5.85% notes due 2017 (5.85% 2017 Notes)	—	1,100
6.15% notes due 2018 (6.15% 2018 Notes)	500	500
4.375% €550 million notes due 2018 (4.375% 2018 euro Notes)	620	577
5.70% notes due 2019 (5.70% 2019 Notes)	1,000	1,000
1.90% notes due 2019 (1.90% 2019 Notes)	700	—
Floating Rate Notes due 2019	550	250
2.20% notes due 2019 (2.20% 2019 Notes)	1,400	1,400
2.125% €675 million notes due 2019 (2.125% 2019 euro Notes)	771	710
4.50% notes due 2020 (4.50% 2020 Notes)	300	300
2.125% notes due 2020 (2.125% 2020 Notes)	750	750
Floating Rate Notes due 2020	300	—
2.20% notes due 2020 (2.20% 2020 Notes)	700	—

3.45% notes due 2020 (3.45% 2020 Notes)	900	900
4.10% notes due 2021 (4.10% 2021 Notes)	1,000	1,000
1.85% notes due 2021 (1.85% 2021 Notes)	750	750
3.875% notes due 2021 (3.875% 2021 Notes)	1,750	1,750
1.25% €1,250 million notes due 2022 (1.25% 2022 euro Notes)	1,429	1,315
2.70% notes due 2022 (2.70% 2022 Notes)	500	500
2.65% notes due 2022 (2.65% 2022 Notes)	1,500	—
3.625% notes due 2022 (3.625% 2022 Notes)	750	750
0.41% CHF700 million bonds due 2023 (0.41% 2023 Swiss franc Bonds)	731	687
2.25% notes due 2023 (2.25% 2023 Notes)	750	750
3.625% notes due 2024 (3.625% 2024 Notes)	1,400	1,400
3.125% notes due 2025 (3.125% 2025 Notes)	1,000	1,000
2.00% €750 million notes due 2026 (2.00% 2026 euro Notes)	857	789
2.60% notes due 2026 (2.60% 2026 notes)	1,250	1,250
5.50% £475 million notes due 2026 (5.50% 2026 pound sterling Notes)	619	586
4.00% £700 million notes due 2029	912	864

(4.00% 2029 pound sterling Notes)					
6.375% notes due 2037 (6.375% 2037 Notes)	552			552	
6.90% notes due 2038 (6.90% 2038 Notes)	291			291	
6.40% notes due 2039 (6.40% 2039 Notes)	466			466	
5.75% notes due 2040 (5.75% 2040 Notes)	412			412	
4.95% notes due 2041 (4.95% 2041 Notes)	600			600	
5.15% notes due 2041 (5.15% 2041 Notes)	974			974	
5.65% notes due 2042 (5.65% 2042 Notes)	487			487	
5.375% notes due 2043 (5.375% 2043 Notes)	261			261	
4.40% notes due 2045 (4.40% 2045 Notes)	2,250			2,250	
4.563% notes due 2048 (4.563% 2048 Notes)	1,415			1,415	
4.663% notes due 2051 (4.663% 2051 Notes)	3,541			3,541	
Other notes due 2097	100			100	
Unamortized bond discounts, premiums and issuance costs, net	(936	)		(936	)
Total carrying value of debt	$	35,062		$	34,596
Less current portion	(1,459	)		(4,403	)
Total noncurrent debt	$	33,603		$	30,193

There are no material differences between the effective interest rates and coupon rates of any of our borrowings, except for the 4.563% 2048 Notes and the 4.663% 2051 Notes, which have effective interest rates of approximately 6.3% and 5.6%, respectively.

Debt repayments

During the six months ended June 30, 2017, we repaid the $605 million short-term loan, the $1.25 billion aggregate principal amount of the 2.125% 2017 Notes, the $600 million aggregate principal amount of the Floating Rate Notes due 2017, the $850 million aggregate principal amount of the 1.25% 2017 Notes and the $1.1 billion aggregate principal of the 5.85% 2017 Notes.

Debt issuances

In May 2017, we issued a $3.5 billion principal amount of notes, consisting of the Floating Rate Notes due 2019, the 1.90% 2019 Notes, the Floating Rate Notes due 2020, the 2.20% 2020 Notes and the 2.65% 2022 Notes. In the event of a change-of-control triggering event, as defined in the terms of the notes, we may be required to purchase all or a portion of these debt securities at a price equal to 101% of the principal amount of the notes plus accrued and unpaid interest. All of the aforementioned fixed-rate notes may be redeemed at any time, in whole or in part, at the principal amount of the notes being redeemed plus accrued and unpaid interest and, except for the 2.65% 2022 Notes, a make-whole amount, which is defined by the terms of the notes. The 2.65% 2022 Notes may be redeemed without payment of the make-whole amount if redemption occurs on or after one month prior to maturity.

During the three months ended June 30, 2017, we issued commercial paper under our commercial paper program. As of June 30, 2017, the weighted-average effective borrowing rate on outstanding commercial paper was 1.3%.

10. Stockholders' equity

Stock repurchase program

Activity under our stock repurchase program, on a trade date basis, was as follows (in millions):

	2017		2016	
	Shares	Dollars	Shares	Dollars
First quarter	3.4	$ 555	4.7	$ 690
Second quarter	6.2	1,006	3.9	591
	9.6	$ 1,561	8.6	$ 1,281

As of June 30, 2017, $2.5 billion remained available under our stock repurchase program.

Dividends

In March 2017 and December 2016, the Board of Directors declared quarterly cash dividends of $1.15 per share of common stock, which were paid in June 2017 and March 2017, respectively.

Accumulated other comprehensive income/(loss)

The components of accumulated other comprehensive income/(loss) (AOCI) were as follows (in millions):

	Foreign currency translation	Cash flow hedges	Available-for-sale securities	Other	AOCI
Balance as of December 31, 2016	$ (610)	$ 282	$ (138)	$ (5)	$(471)
Foreign currency translation adjustments	21	—	—	—	21
Unrealized gains	—	17	116	—	133
Reclassification adjustments to income	—	(131)	49	—	(82)
Income taxes	3	41	(7)	—	37
Balance as of March 31, 2017	$ (586)	$ 209	$ 20	$ (5)	$(362)
Foreign currency translation adjustments	37	—	—	—	37
Unrealized gains	—	17	73	—	90
Reclassification adjustments to income	—	(330)	47	—	(283)
Other	—	—	—	(1)	(1)
Income taxes	(2)	112	(40)	—	70
Balance as of June 30, 2017	$ (551)	$ 8	$ 100	$ (6)	$(449)

The reclassifications out of AOCI and into earnings were as follows (in millions):

Components of AOCI	Amounts reclassified out of AOCI Three months ended June 30, 2017	Three months ended June 30, 2016	Line item affected in the Condensed Consolidated Statements of Income
Cash flow hedges:			
Foreign currency contract gains	$33	$ 79	Product sales
Cross-currency swap contract gains (losses)	297	(212)	Interest and other income, net
	330	(133)	Income before income taxes
	(117)	49	Provision for income taxes
	$213	$ (84)	Net income
Available-for-sale securities:			
Net realized losses	$(47)	$ (23)	Interest and other income, net
	(2)	8	Provision for income taxes
	$(49)	$ (15)	Net income

Components of AOCI	Amounts reclassified out of AOCI Six months ended June 30, 2017	Six months ended June 30, 2016	Line item affected in the Condensed Consolidated Statements of Income
Cash flow hedges:			
Foreign currency contract gains	$90	$ 175	Product sales
Cross-currency swap contract gains (losses)	371	(142)	Interest and other income, net
	461	33	Income before income taxes
	(164)	(12)	Provision for income taxes
	$297	$ 21	Net income
Available-for-sale securities:			
Net realized losses	$(96)	$ (53)	Interest and other income, net
	(2)	8	Provision for income taxes
	$(98)	$ (45)	Net income

11. Fair value measurement

To estimate the fair value of our financial assets and liabilities, we use valuation approaches within a hierarchy that maximizes the use of observable inputs and minimizes the use of unobservable inputs by requiring that observable inputs be used when available. Observable inputs are inputs that market participants would use in pricing an asset or liability based on market data obtained from sources independent of the Company. Unobservable inputs are inputs that reflect the Company's assumptions about the inputs that market participants would use in pricing an asset or liability and are developed based on the best information available in the circumstances. The fair value hierarchy is divided into three levels based on the source of inputs as follows:

Level 1 Valuations based on unadjusted quoted prices in active markets for identical assets or liabilities that the Company has the ability to access

Level 2 Valuations for which all significant inputs are observable, either directly or indirectly, other than level 1 inputs

Level 3 Valuations based on inputs that are unobservable and significant to the overall fair value measurement

The availability of observable inputs can vary among the various types of financial assets and liabilities. To the extent that the valuation is based on models or inputs that are less observable or unobservable in the market, the determination of fair value requires more judgment. In certain cases, the inputs used for measuring fair value may fall into different levels of the fair value hierarchy. In such cases, for financial statement disclosure purposes, the level in the fair value hierarchy within which the fair value measurement is categorized is based on the lowest level of input used that is significant to the overall fair value measurement.

The fair values of each major class of the Company's financial assets and liabilities measured at fair value on a recurring basis were as follows (in millions):

Fair value measurement as of June 30, 2017, using:	Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Total
Assets:				
Available-for-sale investments:				
U.S. Treasury securities	$ 7,661	$ —	$ —	$7,661
Other government-related debt securities:				
U.S.	—	226	—	226
Foreign and other	—	2,353	—	2,353
Corporate debt securities:				
Financial	—	9,637	—	9,637
Industrial	—	9,569	—	9,569
Other	—	1,235	—	1,235
Residential mortgage-backed securities	—	1,682	—	1,682
Other mortgage- and asset-backed securities	—	1,853	—	1,853
Money market mutual funds	2,165	—	—	2,165
Other short-term interest-bearing securities	—	2,382	—	2,382
Equity securities	159	—	—	159
Derivatives:				
Foreign currency contracts	—	18	—	18
Cross-currency swap contracts	—	153	—	153
Interest rate swap contracts	—	52	—	52
Total assets	$ 9,985	$ 29,160	$ —	$39,145
Liabilities:				
Derivatives:				
Foreign currency contracts	$ —	$ 93	$ —	$93
Cross-currency swap contracts	—	398	—	398
Contingent consideration obligations in connection with business combinations	—	—	182	182
Total liabilities	$ —	$ 491	$ 182	$673

Fair value measurement as of December 31, 2016, using:	Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Total
Assets:				
Available-for-sale investments:				
U.S. Treasury securities	$ 6,614	$ —	$ —	$6,614
Other government-related debt securities:				
U.S.	—	299	—	299
Foreign and other	—	1,759	—	1,759
Corporate debt securities:				
Financial	—	8,460	—	8,460
Industrial	—	8,789	—	8,789
Other	—	1,077	—	1,077
Residential mortgage-backed securities	—	1,940	—	1,940
Other mortgage- and asset-backed securities	—	1,719	—	1,719
Money market mutual funds	2,782	—	—	2,782
Other short-term interest-bearing securities	—	4,188	—	4,188
Equity securities	154	—	—	154
Derivatives:				
Foreign currency contracts	—	203	—	203
Interest rate swap contracts	—	41	—	41
Total assets	$ 9,550	$ 28,475	$ —	$38,025
Liabilities:				
Derivatives:				
Foreign currency contracts	$ —	$ 4	$ —	$4
Cross-currency swap contracts	—	523	—	523
Interest rate swap contracts	—	7	—	7
Contingent consideration obligations in connection with business combinations	—	—	179	179
Total liabilities	$ —	$ 534	$ 179	$713

The fair values of our U.S. Treasury securities, money market mutual funds and equity securities are based on quoted market prices in active markets with no valuation adjustment.

Most of our other government-related and corporate debt securities are investment grade with maturity dates of five years or less from the balance sheet date. Our other government-related debt securities portfolio is composed of securities with weighted-average credit ratings of A- or equivalent by Moody's Investors Service, Inc. (Moody's), and BBB+ or equivalent by Standard & Poor's Financial Services LLC (S&P) or Fitch Ratings Inc. (Fitch); and our corporate debt securities portfolio has a weighted-average credit rating of A- or equivalent by Fitch, and BBB + or equivalent by S&P or Moody's. We estimate the fair values of these securities by taking into consideration valuations obtained from third-party pricing services. The pricing services utilize industry standard valuation models, including both income- and market-based approaches, for which all significant inputs are observable, either directly or indirectly, to estimate fair value. The inputs include reported trades of and broker/dealer quotes on the same or similar securities; issuer credit spreads; benchmark securities; and other observable inputs.

Our residential mortgage-, other mortgage- and asset-backed securities portfolio is composed entirely of senior tranches, with credit ratings of AAA by S&P, Moody's or Fitch. We estimate the fair values of these securities by taking into consideration valuations obtained from third-party pricing services. The pricing services utilize industry standard valuation models, including both income- and market-based approaches, for which all significant inputs are observable, either directly or indirectly, to estimate fair value. The inputs include reported trades of and broker/dealer

quotes on the same or similar securities; issuer credit spreads; benchmark securities; prepayment/default projections based on historical data; and other observable inputs.

We value our other short-term interest-bearing securities at amortized cost, which approximates fair value given their near-term maturity dates.

All of our foreign currency forward and option derivatives contracts have maturities of three years or less, and all are with counterparties that have minimum credit ratings of A- or equivalent by S&P or Moody's. We estimate the fair values of these contracts by taking into consideration valuations obtained from a third-party valuation service that utilizes an income-based industry standard valuation model for which all significant inputs are observable, either directly or indirectly. The inputs include foreign currency exchange rates, London Interbank Offered Rates (LIBOR), swap rates and obligor credit default swap rates. In addition, inputs for our foreign currency option contracts include implied volatility measures. The inputs, when applicable, are at commonly quoted intervals. See Note 12, Derivative instruments.

Our cross-currency swap contracts are with counterparties that have minimum credit ratings of A- or equivalent by S&P or Moody's. We estimate the fair values of these contracts by taking into consideration valuations obtained from a third-party valuation service that utilizes an income-based industry standard valuation model for which all significant inputs are observable either directly or indirectly. The inputs include foreign currency exchange rates, LIBOR, swap rates, obligor credit default swap rates and cross-currency basis swap spreads. See Note 12, Derivative instruments.

Our interest rate swap contracts are with counterparties that have minimum credit ratings of A- or equivalent by S&P or Moody's. We estimate the fair values of these contracts by using an income-based industry standard valuation model for which all significant inputs were observable either directly or indirectly. The inputs included LIBOR, swap rates and obligor credit default swap rates.

Contingent consideration obligations

As a result of our business acquisitions, we incurred contingent consideration obligations, as discussed below. The contingent consideration obligations are recorded at their estimated fair values by using probability-adjusted discounted cash flows, and we revalue the obligations each reporting period until the related contingencies have been resolved. The fair value measurements of these obligations are based on significant unobservable inputs related to product candidates acquired in business combinations and are reviewed quarterly by management in our R&D and commercial sales organizations. The inputs include, as applicable, estimated probabilities and timing of achieving specified regulatory and commercial milestones and estimated annual sales. Significant changes that increase or decrease the probabilities of achieving the related regulatory and commercial events, that shorten or lengthen the time required to achieve such events, or that increase or decrease estimated annual sales would result in corresponding increases or decreases in the fair values of the obligations, as applicable. Changes in the fair values of contingent consideration obligations are recognized in Other operating expenses in the Condensed Consolidated Statements of Income.

Changes in the carrying amounts of contingent consideration obligations were as follows (in millions):

	Three months ended June 30,		Six months ended June 30,	
	2017	2016	2017	2016
Beginning balance	$184	$194	$179	$188
Net changes in valuation	(2)	(23)	3	(17)
Ending balance	$182	$171	$182	$171

As a result of our acquisition of Dezima in October 2015, we are obligated to pay its former shareholders up to $1.25 billion of additional consideration contingent upon achieving certain development and sales-related milestones and low single-digit royalties on net product sales above a certain threshold. The estimated fair values of the contingent consideration obligations had an aggregate value of $110 million at acquisition. The valuation of the contingent consideration reflects delayed development of AMG 899 pending competitor clinical trials. Detailed information from these trials is expected in the third quarter of 2017 and may have a material impact on the value of the Dezima contingent consideration.

As a result of our acquisition of BioVex Group, Inc. in 2011, we are obligated to pay its former shareholders up to $325 million of additional consideration contingent upon the achievement of certain sales thresholds related to IMLYGIC® (talimogene laherparepvec) within specified periods of time.

During the six months ended June 30, 2017 and 2016, there were no transfers of assets or liabilities between fair value measurement levels, and there were no material remeasurements of the fair values of assets and liabilities that are not

measured at fair value on a recurring basis.

Summary of the fair values of other financial instruments

Cash equivalents

The estimated fair values of cash equivalents approximate their carrying values due to the short-term nature of such financial instruments.

Borrowings

We estimated the fair value of our borrowings (Level 2) by taking into consideration indicative prices obtained from a third-party financial institution that utilizes industry standard valuation models, including both income- and market-based approaches, for which all significant inputs are observable either directly or indirectly. These inputs include reported trades of and broker/dealer quotes on the same or similar securities; credit spreads; benchmark yields; foreign currency exchange rates, as applicable; and other observable inputs. As of June 30, 2017, and December 31, 2016, the aggregate fair values of our borrowings were $37.9 billion and $36.5 billion, respectively, and the carrying values were $35.1 billion and $34.6 billion, respectively.

12. Derivative instruments

The Company is exposed to foreign currency exchange rate and interest rate risks related to its business operations. To reduce our risks related to these exposures, we utilize or have utilized certain derivative instruments, including foreign currency forward, foreign currency option, cross-currency swap, forward interest rate and interest rate swap contracts. We do not use derivatives for speculative trading purposes.

Cash flow hedges

We are exposed to possible changes in the values of certain anticipated foreign currency cash flows resulting from changes in foreign currency exchange rates, associated primarily with our euro-denominated international product sales. Increases and decreases in the cash flows associated with our international product sales due to movements in foreign currency exchange rates are offset partially by corresponding increases and decreases in the cash flows from our international operating expenses resulting from these foreign currency exchange rate movements. To further reduce our exposure to foreign currency exchange rate fluctuations on our international product sales, we enter into foreign currency forward and option contracts to hedge a portion of our projected international product sales primarily over a three-year time horizon, with, at any given point in time, a higher percentage of nearer-term projected product sales being hedged than in successive periods.

As of June 30, 2017 and December 31, 2016, we had open foreign currency forward contracts with notional amounts of $3.7 billion and $3.4 billion, respectively, and open foreign currency option contracts with notional amounts of $289 million and $608 million, respectively. We have designated these foreign currency forward and foreign currency option contracts, which are primarily euro based, as cash flow hedges; and accordingly, we report the effective portions of the unrealized gains and losses on these contracts in AOCI in the Condensed Consolidated Balance Sheets, and we reclassify them to earnings in the same periods during which the hedged transactions affect earnings.

To hedge our exposure to foreign currency exchange rate risk associated with certain of our long-term debt denominated in foreign currencies, we enter into cross-currency swap contracts. Under the terms of such contracts, we paid euros, pounds sterling and Swiss francs and received U.S. dollars for the notional amounts at the inception of the contracts; and based on these notional amounts, we exchange interest payments at fixed rates over the lives of the contracts by paying U.S. dollars and receiving euros, pounds sterling and Swiss francs. In addition, we will pay U.S. dollars to and receive euros, pounds sterling and Swiss francs from the counterparties at the maturities of the contracts for these same notional amounts. The terms of these contracts correspond to the related hedged debt, effectively converting the interest payments and principal repayment on the debt from euros, pounds sterling and Swiss francs to U.S. dollars. We have designated these cross-currency swap contracts as cash flow hedges, and accordingly, the effective portions of the unrealized gains and losses on these contracts are reported in AOCI in the Condensed Consolidated Balance Sheets and reclassified to earnings in the same periods during which the hedged debt affects earnings.

The notional amounts and interest rates of our cross-currency swaps were as follows (notional amounts in millions):

Hedged notes	Foreign currency		U.S. dollars	
	Notional amount	Interest rate	Notional amount	Interest rate
2.125% 2019 euro Notes	€ 675	2.125%	$864	2.6 %
1.25% 2022 euro Notes	€ 1,250	1.25 %	$1,388	3.2 %
0.41% 2023 Swiss franc Bonds	CHF700	0.41 %	$704	3.4 %
2.00% 2026 euro Notes	€ 750	2.00 %	$833	3.9 %
5.50% 2026 pound sterling Notes	£ 475	5.50 %	$747	6.0 %
4.00% 2029 pound sterling Notes	£ 700	4.00 %	$1,111	4.5 %

In connection with anticipated issuances of long-term fixed-rate debt, we entered into forward interest rate contracts during the six months ended June 30, 2017. The forward interest rate contracts hedged the variability in cash flows due to changes in the applicable Treasury rate between the time we entered into these contracts and the time the related debt was issued in May 2017. Gains and losses realized on such contracts, which were designated as cash flow hedges, were recognized in AOCI and are being amortized into earnings over the lives of the associated debt issuances.

The effective portions of the unrealized gain/(loss) recognized in other comprehensive income for our derivative instruments designated as cash flow hedges were as follows (in millions):

	Three months ended June 30,		Six months ended June 30,	
Derivatives in cash flow hedging relationships	2017	2016	2017	2016
Foreign currency contracts	$(203)	$86	$(250)	$(62)
Cross-currency swap contracts	217	(226)	281	(195)
Forward interest rate contracts	3	(4)	3	(4)
Total	$17	$(144)	$34	$(261)

The locations in the Condensed Consolidated Statements of Income and the effective portions of the gain/(loss) reclassified out of AOCI and into earnings for our derivative instruments designated as cash flow hedges were as follows (in millions):

		Three months ended June 30,		Six months ended June 30,	
Derivatives in cash flow hedging relationships	Statements of Income location	2017	2016	2017	2016
Foreign currency contracts	Product sales	$33	$79	$90	$175
Cross-currency swap contracts	Interest and other income, net	297	(212)	371	(142)
Total		$330	$(133)	$461	$33

No portions of our cash flow hedge contracts are excluded from the assessment of hedge effectiveness, and the gains and losses of the ineffective portions of these hedging instruments were not material for the three and six months ended June 30, 2017 and 2016. As of June 30, 2017, the amounts expected to be reclassified out of AOCI and into earnings during the next 12 months are approximately $114 million of net losses on our foreign currency and cross-currency swap contracts and approximately $1 million of losses on forward interest rate contracts.

Fair value hedges

To achieve the desired mix of fixed and floating interest rates on our long-term debt, we entered into interest rate swap contracts that qualified and are designated as fair value hedges. The terms of these interest rate swap contracts correspond to the related hedged debt instruments and effectively convert a fixed interest rate coupon to a floating LIBOR-based coupon over the lives of the respective notes. As of March 31, 2017 and December 31, 2016, we had interest rate swap agreements with aggregate notional amounts of $6.65 billion that hedge certain of our long-term debt issuances. The contracts have rates that range from three-month LIBOR plus 0.4% to three-month LIBOR plus

2.0%. During the three months ended June 30, 2017, we entered into interest rate swap contracts with an aggregate notional amount of $3.65 billion with respect to our 3.625% 2024 Notes, 3.125% 2025 Notes and 2.60% 2026 Notes. The contracts have rates that range from three-month LIBOR plus 0.3% to three-month LIBOR plus 1.4%. In addition, during the three months ended June 30, 2017, interest rate swap contracts that had an aggregate notional amount of $850 million matured. These contracts had rates of three-month LIBOR plus 0.4%.

For derivative instruments that qualify and are designated as fair value hedges, we recognize in current earnings the unrealized gain or loss on the derivative resulting from a change in fair value during the period, as well as the offsetting unrealized loss or gain of the hedged item resulting from a change in fair value during the period attributable to the hedged risk. For the three and six months ended June 30, 2017, we included unrealized gains of $37 million and $18 million, respectively, on our interest rate swap agreements in the same line item, Interest expense, net, in the Condensed Consolidated Statements of Income, as the offsetting unrealized losses of $37 million and $18 million, respectively, on the related hedged debt. For the three and six months ended June 30, 2016, we included unrealized gains of $49 million and $198 million, respectively, on our interest rate swap agreements in the same line item, Interest expense, net, in the Condensed Consolidated Statements of Income, as the offsetting unrealized losses of $49 million and $198 million, respectively, on the related hedged debt.

Derivatives not designated as hedges

To reduce our exposure to foreign currency fluctuations of certain assets and liabilities denominated in foreign currencies, we enter into foreign currency forward contracts that are not designated as hedging transactions. These exposures are hedged on a month-to-month basis. As of June 30, 2017 and December 31, 2016, the total notional amounts of these foreign currency forward contracts were $812 million and $666 million, respectively.

The location in the Condensed Consolidated Statements of Income and the amounts of gain/(loss) recognized in earnings for our derivative instruments not designated as hedging instruments were as follows (in millions):

		Three months ended June 30,		Six months ended June 30,	
Derivatives not designated as hedging instruments	Statements of Income location	2017	2016	2017	2016
Foreign currency contracts	Interest and other income, net	$13	$(24)	$14	$(34)

The fair values of derivatives included in the Condensed Consolidated Balance Sheets were as follows (in millions):

	Derivative assets		Derivative liabilities	
June 30, 2017	Balance Sheet location	Fair value	Balance Sheet location	Fair value
Derivatives designated as hedging instruments:				
Foreign currency contracts	Other current assets/ Other noncurrent assets	$ 18	Accrued liabilities/ Other noncurrent liabilities	$ 93
Cross-currency swap contracts	Other current assets/ Other noncurrent assets	153	Accrued liabilities/ Other noncurrent liabilities	398
Interest rate swap contracts	Other current assets/ Other noncurrent assets	52	Accrued liabilities/ Other noncurrent liabilities	—
Total derivatives designated as hedging instruments		223		491
Derivatives not designated as hedging instruments:				
Foreign currency contracts	Other current assets	—	Accrued liabilities	—
Total derivatives not designated as hedging instruments		—		—
Total derivatives		$ 223		$ 491

	Derivative assets		Derivative liabilities	
December 31, 2016	Balance Sheet location	Fair value	Balance Sheet location	Fair value
Derivatives designated as hedging instruments:				
Foreign currency contracts	Other current assets/ Other noncurrent assets	$ 203	Accrued liabilities/ Other noncurrent liabilities	$ 4
Cross-currency swap contracts	Other current assets/ Other noncurrent assets	—	Accrued liabilities/ Other noncurrent liabilities	523
Interest rate swap contracts	Other current assets/ Other noncurrent assets	41	Accrued liabilities/ Other noncurrent liabilities	7
Total derivatives designated as hedging instruments		244		534
Derivatives not designated as hedging instruments:				
Foreign currency contracts	Other current assets	—	Accrued liabilities	—
Total derivatives not designated as hedging instruments		—		—
Total derivatives		$ 244		$ 534

Our derivative contracts that were in liability positions as of June 30, 2017, contain certain credit-risk-related contingent provisions that would be triggered if: (i) we were to undergo a change in control and (ii) our or the surviving entity's creditworthiness deteriorates, which is generally defined as having either a credit rating that is below investment grade or a materially weaker creditworthiness after the change in control. If these events were to occur, the counterparties would have the right, but not the obligation, to close the contracts under early-termination provisions. In such circumstances, the counterparties could request immediate settlement of the contracts for amounts that approximate the then current fair values of the contracts. In addition, our derivative contracts are not subject to any type of master netting arrangement, and amounts due to or from a counterparty under the contracts may be offset against other amounts due to or from the same counterparty only if an event of default or termination, as defined, were to occur.

The cash flow effects of our derivative contracts for the six months ended June 30, 2017 and 2016, are included within Net cash provided by operating activities in the Condensed Consolidated Statements of Cash Flows.

13. Contingencies and commitments

Contingencies

In the ordinary course of business, we are involved in various legal proceedings, government investigations and other matters that are complex in nature and have outcomes that are difficult to predict. (See our Annual Report on Form 10-K for the year ended December 31, 2016, Part I, Item 1A. Risk Factors—Our business may be affected by litigation and government investigations.) We describe our legal proceedings and other matters that are significant or that we believe could become significant in this Note; in Note 18, Contingencies and commitments to the consolidated financial statements in our Annual Report on Form 10-K for the year ended December 31, 2016; and in Note 12, Contingencies and commitments to the condensed consolidated financial statements in our Quarterly Report on Form 10-Q for the period ended March 31, 2017.

We record accruals for loss contingencies to the extent that we conclude it is probable that a liability has been incurred and the amount of the related loss can be reasonably estimated. We evaluate, on a quarterly basis, developments in legal proceedings and other matters that could cause an increase or decrease in the amount of the liability that has been accrued previously.

Our legal proceedings range from cases brought by a single plaintiff to a class action with thousands of putative class members. These legal proceedings, as well as other matters, involve various aspects of our business and a variety of claims—including but not limited to patent infringement, marketing, pricing and trade practices—some of which present novel factual allegations and/or unique legal theories. In each of the matters described in this filing, in Note 18, Contingencies and commitments to the consolidated financial statements in our Annual Report on Form 10-K for the year ended December 31, 2016, or in Note 12, Contingencies and commitments to the condensed consolidated

financial statements in our Quarterly Report on Form 10-Q for the period ended March 31, 2017, plaintiffs seek an award of a not-yet-quantified amount of damages or an amount that is not material. In addition, a number of the matters pending against us are at very early stages of the legal process (which in complex proceedings of the sort faced by us often extend for several years). As a result, none of the matters pending against us described in this filing, in Note 18, Contingencies and commitments to the consolidated financial statements in our Annual Report on Form 10-K for the year ended December 31, 2016, or in Note 12, Contingencies and commitments to the condensed consolidated financial

statements in our Quarterly Report on Form 10-Q for the period ended March 31, 2017, have progressed sufficiently through discovery and/or development of important factual information and legal issues to enable us to estimate a range of possible loss, if any, or such amounts are not material. While it is not possible to accurately predict or determine the eventual outcomes of these matters, an adverse determination in one or more of these matters currently pending could have a material adverse effect on our consolidated results of operations, financial position or cash flows.

Certain recent developments concerning our legal proceedings and other matters are discussed below:

PCSK9 Antibody Patent Litigation

U.S. Patent Litigation—Sanofi/Regeneron

On June 6, 2017, the U.S. Court of Appeals for the Federal Circuit (the Federal Circuit Court) heard argument on the appeal by defendants Sanofi, Sanofi-Aventis U.S. LLC, Aventisub LLC, formerly doing business as Aventis Pharmaceuticals Inc., and Regeneron Pharmaceuticals, Inc. (Regeneron) of the judgment of the U.S. District Court for Delaware (the Delaware District Court), which had found that the patents in suit are valid and infringed by the defendants and the permanent injunction granted by the Delaware District Court prohibiting the infringing manufacture, use, sale, offer for sale or import of alirocumab in the United States.

Patent Disputes in the European Region

On May 2, 2017, Amgen filed its response to five oppositions seeking to invalidate European Patent No. 2,215,124 granted to Amgen by the European Patent Office and filed by each of Sanofi, Eli Lilly and Company, Regeneron, and Strawman Ltd., and a joint opposition filed by Sanofi-Aventis Deutschland GmbH, Sanofi-Aventis Groupe S.A. and Sanofi Winthrop Industrie S.A.

Sensipar® (cinacalcet) Patent Litigation

On April 6, 2017, the Delaware District Court consolidated Amgen's lawsuit against Zydus Pharmaceuticals (USA) Inc. and Cadila Healthcare Ltd. with 13 lawsuits previously consolidated that were filed by Amgen against defendants for infringement of our U.S. Patent No. 9,375,405 (the '405 Patent). These lawsuits are based on defendants' separate Abbreviated New Drug Applications (ANDAs) that seek approval to market generic versions of Sensipar® before expiration of the asserted patent. The Delaware District Court issued a claim construction ruling on July 19, 2017. Amgen filed an additional four lawsuits that have not been consolidated in the Delaware District Court for infringement of the '405 Patent against: (1) Piramal Healthcare UK Limited (Piramal) on June 9, 2017; (2) Alkem Laboratories Ltd. on June 23, 2017; (3) Lupin Ltd. and Lupin Pharmaceuticals, Inc. (Lupin) on June 23, 2017; and (4) Macleods Pharmaceuticals Ltd. and Macleods Pharma USA, Inc. (MacLeods) on June 23, 2017. Responses seeking a declaration of non-infringement and invalidity of the '405 Patent were filed by Piramal on June 30, 2017, MacLeods on July 17, 2017, and Lupin on July 19, 2017. MacLeod's response included a counterclaim alleging sham litigation in violation of the Sherman Antitrust Act.

KYPROLIS® (carfilzomib) Patent Litigation

On April 18 and July 3, 2017, the Delaware District Court consolidated for purposes of discovery ten previously-disclosed lawsuits filed by Amgen against defendants for infringement of certain of our patents into a single case. These lawsuits are based on defendants' separate ANDAs that seek approval to market generic versions of KYPROLIS® before expiration of the asserted patent or patents. Responses to Amgen's complaints have been filed by defendants in all lawsuits alleging invalidity and, in certain instances, non-infringement of our patents. A claim construction hearing has been scheduled for March 26, 2018 and trial is scheduled to commence on March 11, 2019.

Other Biosimilars Patent Litigations

We have filed a number of lawsuits against manufacturers of products that purport to be biosimilars of certain of our products. In each case, our complaint alleges that the manufacturer's actions infringe certain patents we hold and may also allege that the manufacturer has failed to comply with certain provisions of the Biologics Price Competition and Innovation Act (BPCIA).

Sandoz Filgrastim Litigation

On June 12, 2017, the U.S. Supreme Court reversed the Federal Circuit Court ruling that a biosimilar applicant must wait to give the 180-day advance notice of first commercial marketing until after the U.S. Food and Drug Administration (FDA) has licensed the biosimilar product, holding that such notice can be given either before or after

the FDA approval. On a second issue, the U.S. Supreme Court vacated the Federal Circuit Court's decision that the only remedy available when a biosimilar applicant refuses to provide its Biologics License Application is to bring a patent infringement claim. The U.S. Supreme Court agreed with the Federal Circuit Court that there is no remedy under federal law for failing to make the disclosure but remanded the case to the

Federal Circuit Court to determine whether California law would treat noncompliance with such requirement as unlawful and, if so, to determine whether the BPCIA pre-empts any additional remedy available under state law and whether Sandoz Inc. (Sandoz) forfeited any pre-emption defense. On June 29, 2017, Sandoz filed a request of the Federal Circuit Court to remand the case to the U.S. District Court for the Northern District of California to allow that court to address the questions of California law.

Apotex Pegfilgrastim/Filgrastim Litigation

On May 22, 2017, Amgen filed its response to the previously-disclosed inter partes review of our U.S. Patent Nos. 8,952,138 instituted by the Patent Trial and Appeal Board of the U.S. Patent and Trademark Office in response to Apotex's petition. Oral argument on the inter partes review, if requested, is scheduled for December 13, 2017.

Hospira Epoetin Alfa Litigation

On May 12, 2017, Hospira, Inc. (Hospira) filed a motion for summary judgment of non-infringement of the patents-in-suit and, on June 28, 2017, the Delaware District Court heard arguments on this motion. This lawsuit stems from the submission by Hospira under the BPCIA of an application for FDA licensure of an epoetin product as biosimilar to Amgen's EPOGEN® (epoetin alfa). Trial is scheduled to commence on September 18, 2017.

Coherus Pegfilgrastim Litigation

On May 10, 2017, Amgen filed a lawsuit in the District Court of Delaware against Coherus BioSciences, Inc. (Coherus) for infringement of our U.S. Patent No. 8,273,707 (the '707 Patent). This lawsuit stems from Coherus' submission of an application for FDA licensure of a pegfilgrastim product as biosimilar to Amgen's Neulasta® (pegfilgrastim) under the BPCIA. By its complaint, Amgen seeks, among other remedies, an injunction prohibiting Coherus from infringing the '707 Patent. On June 1, 2017, Coherus filed a motion to dismiss the complaint as purportedly failing to state a claim of patent infringement.

State Derivative Litigation

On June 2, 2017, plaintiffs in the consolidated state stockholder derivative cases (now captioned Andersen v. Sharer, et. al) filed a third amended complaint with the Ventura County Superior Court, adding Robert A. Bradway, François de Carbonnel, Vance D. Coffman, Robert A. Eckert, Rebecca M. Henderson, Tyler Jacks, and Ronald D. Sugar as defendants (together with the previously-disclosed defendants, the State Defendants) and removing Chris Larson as a plaintiff. The third amended complaint alleges that the State Defendants breached their fiduciary duties, wasted corporate assets, were unjustly enriched and violated the California Corporations Code. Plaintiffs allege that the State Defendants failed to disclose and/or misrepresented results of Aranesp® (darbepoetin alfa) clinical studies, marketed both Aranesp® and EPOGEN® for off-label uses and that these actions or inactions caused stockholders to suffer damages. The complaint also alleges insider trading by the State Defendants and that Amgen engaged in improper marketing with respect to Enbrel®(eternacept), Vectibix®(panitumumab), Sensipar®, and XGEVA®(denosumab). The plaintiffs seek treble damages based on various causes of action, reformed corporate governance, equitable and/or injunctive relief, restitution, disgorgement of profits, benefits and other compensation and legal costs.

ERISA Litigation

As previously disclosed, the U.S. District Court for the Central District of California entered a final order approving the settlement of this class action lawsuit on April 5, 2017. On May 4, 2017, plaintiff Don Hanks filed an appeal of the settlement with the U.S. Court of Appeals for the Ninth Circuit.

Pediatric Exclusivity Litigation

On May 25, 2017, Amgen filed a lawsuit in the U.S. District Court for the District of Columbia seeking effectively to reverse the FDA's May 22, 2017 rejection of Amgen's request for pediatric exclusivity for cinacalcet hydrochloride (Sensipar®/Mimpara®). On June 5, 2017, this litigation was stayed through early August 2017 pending additional review by the FDA of Amgen's request for pediatric exclusivity.

Item 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following Management's Discussion and Analysis of Financial Condition and Results of Operations (MD&A) is intended to assist the reader in understanding Amgen's business. MD&A is provided as a supplement to, and should be read in conjunction with, our Annual Report on Form 10-K for the year ended December 31, 2016, and our Quarterly Report on Form 10-Q for the period ended March 31, 2017. Our results of operations discussed in MD&A are presented in conformity with GAAP. Amgen operates in one business segment: human therapeutics. Therefore, our results of operations are discussed on a consolidated basis.

Forward-looking statements

This report and other documents we file with the U.S. Securities and Exchange Commission (SEC) contain forward-looking statements that are based on current expectations, estimates, forecasts and projections about us, our future performance, our business, our beliefs and our management's assumptions. In addition, we or others on our behalf may make forward-looking statements in press releases or written statements or in our communications and discussions with investors and analysts in the normal course of business through meetings, webcasts, phone calls and conference calls. Such words as "expect," "anticipate," "outlook," "could," "target," "project," "intend," "plan," "believe," "see "should," "may," "assume" and "continue," as well as variations of such words and similar expressions, are intended to identify such forward-looking statements. These statements are not guarantees of future performance, and they involve certain risks, uncertainties and assumptions that are difficult to predict. We describe our respective risks, uncertainties and assumptions that could affect the outcome or results of operations in Item 1A. Risk Factors in Part II herein. We have based our forward-looking statements on our management's beliefs and assumptions based on information available to our management at the time the statements are made. We caution you that actual outcomes and results may differ materially from what is expressed, implied or forecast by our forward-looking statements. Reference is made in particular to forward-looking statements regarding product sales, regulatory activities, clinical trial results, reimbursement, expenses, EPS, liquidity and capital resources, trends, planned dividends, stock repurchases and restructuring plans. Except as required under the federal securities laws and the rules and regulations of the SEC, we do not have any intention or obligation to update publicly any forward-looking statements after the distribution of this report, whether as a result of new information, future events, changes in assumptions or otherwise.

Overview

Amgen is committed to unlocking the potential of biology for patients suffering from serious illnesses by discovering, developing, manufacturing and delivering innovative human therapeutics. This approach begins by using tools like advanced human genetics to unravel the complexities of disease and understand the fundamentals of human biology. Amgen focuses on areas of high unmet medical need and leverages its expertise to strive for solutions that improve health outcomes and dramatically improve people's lives. A biotechnology pioneer since 1980, Amgen has grown to be one of the world's leading independent biotechnology companies, has reached millions of patients around the world and is developing a pipeline of medicines with breakaway potential.

Currently, we market therapeutics for oncology/hematology, inflammation, nephrology, bone health and cardiovascular disease. Our principal products are ENBREL, Neulasta®, Aranesp®, Prolia® (denosumab), Sensipar®/Mimpara®, XGEVA®, and EPOGEN®. We market several other products as well, including KYPROLIS®, Nplate® (romiplostim), Vectibix®, NEUPOGEN® (filgrastim), Repatha® (evolocumab), BLINCYTO® (blinatumomab), IMLYGIC® and Corlanor® (ivabradine).

Significant developments

Following is a summary of selected significant developments affecting our business that have occurred since the filing of our Quarterly Report on Form 10-Q for the period ended March 31, 2017. For additional developments or for a more comprehensive discussion of certain developments discussed below, see our Annual Report on Form 10-K for the year ended December 31, 2016, and our Quarterly Report on Form 10-Q for the period ended March 31, 2017.

Products/Pipeline

Bone Health

EVENITY™ (romosozumab)*

- In May 2017, we and UCB, our global collaboration partner in the development of EVENITY,™ announced that the EVENITY™ ARCH (Active-contRolled FraCture Study in Postmenopausal Women with Osteoporosis at High Risk of Fracture) study met both primary endpoints and the key secondary endpoint. An imbalance in positively adjudicated cardiovascular serious adverse events was observed as a new safety signal.
- In July 2017, we and UCB announced that the FDA issued a Complete Response Letter for the Biologics License Application (BLA) for EVENITY™ as a treatment for postmenopausal women with osteoporosis. The resubmission will include data from the Phase 3 ARCH study and the Phase 3 BRIDGE (placeBo-contRolled study evaluatIng the efficacy anD safety of romosozumab in treatinG mEn with osteoporosis) study evaluating EVENITY™ in men with osteoporosis, in addition to the Phase 3 FRAME (FRActure study in postmenopausal woMen with ostEoporosis) study. We do not expect approval of EVENITY™ in the United States to occur in 2017.

XGEVA®

- In June 2017, we announced that the FDA accepted the XGEVA® supplemental Biologics License Application (sBLA) that seeks to expand the current approved indication for the prevention of fractures and other skeletal-related events in patients with bone metastases from solid tumors to include patients with multiple myeloma. The FDA has set a Prescription Drug User Fee Act (PDUFA) target action date of February 3, 2018.

Cardiovascular

Repatha®

- In June 2017, we announced the submission of a sBLA to the FDA and a variation to the marketing authorization to the European Medicines Agency (EMA) for Repatha®. The regulatory submissions are based on the Repatha® cardiovascular outcomes study (Further Cardiovascular OUtcomes Research with PCSK9 Inhibition in Subjects with Elevated Risk).

Neuroscience

Aimovig™

- In July 2017, we announced that the FDA accepted for review the BLA for Aimovig™ for the prevention of migraine in patients experiencing four or more migraine days per month. The FDA has set a PDUFA target action date of May 17, 2018. Aimovig™ is being developed and commercialized jointly with Novartis.

Oncology/Hematology

BLINCYTO®

- In July 2017, we announced that the FDA approved the sBLA for BLINCYTO® to include overall survival data from the Phase 3 TOWER study. The approval converts BLINCYTO®'s accelerated approval to a full approval. The approval expands the indication of BLINCYTO® for the treatment of relapsed or refractory B-cell precursor acute lymphoblastic leukemia (ALL) in adults and children.

KYPROLIS®

- In July 2017, we announced positive results from the final analysis of the Phase 3 ASPIRE (CArfilzomib, Lenalidomide, and DexamethaSone versus Lenalidomide and Dexamethasone for the treatment of PatIents with Relapsed Multiple MyEloma) study. The study met the key secondary endpoint of overall survival, demonstrating that KYPROLIS®, lenalidomide and dexamethasone reduced the risk of death by 21% over lenalidomide and dexamethasone alone.
- In July 2017, we announced the submission of a supplemental New Drug Application to the FDA and a variation to the marketing application to the EMA to include overall survival data from the Phase 3 head-to-head ENDEAVOR (RandomizEd, OpeN Label, Phase 3 Study of Carfilzomib Plus DExamethAsone Vs Bortezomib Plus

DexamethasOne in Patients With Relapsed Multiple Myeloma) study in the product label for KYPROLIS®.

Vectibix®

- In June 2017, we announced that the FDA approved a label update for Vectibix® to more precisely molecularly define patients with wild-type RAS metastatic colorectal cancer, as first-line therapy in combination with FOLFOX and as monotherapy following disease progression after prior treatment with fluoropyrimidine, oxaliplatin, and irinotecan-containing chemotherapy.

Biosimilars

ABP 215

- In July 2017, the FDA's Oncologic Drugs Advisory Committee voted unanimously to recommend approval of ABP 215, a biosimilar candidate to Avastin® (bevacizumab). The FDA is not bound by the Committee's recommendation but does take its advice into consideration when considering the approval of a new therapeutic. The FDA has set a Biosimilar User Fee Act target action date of September 14, 2017. ABP 215 is being developed in collaboration with Allergan plc.

Next-Generation Biomanufacturing

- In May 2017, our Next-Generation Biomanufacturing plant in Singapore was approved by the FDA for commercial production of denosumab drug substance.

*FDA provisionally approved trade name

Selected financial information

The following is an overview of our results of operations (dollar and share amounts in millions, except per share data):

	Three months ended June 30,			Six months ended June 30,		
	2017	2016	Change	2017	2016	Change
Product sales:						
U.S.	$4,386	$4,317	2 %	$8,481	$8,436	1 %
Rest of the world (ROW)	1,188	1,157	3 %	2,292	2,277	1 %
Total product sales	5,574	5,474	2 %	10,773	10,713	1 %
Other revenues	236	214	10 %	501	502	— %
Total revenues	$5,810	$5,688	2 %	$11,274	$11,215	1 %
Operating expenses	$3,112	$3,308	(6)%	$5,985	$6,433	(7)%
Operating income	$2,698	$2,380	13 %	$5,289	$4,782	11 %
Net income	$2,151	$1,870	15 %	$4,222	$3,770	12 %
Diluted EPS	$2.91	$2.47	18 %	$5.71	$4.97	15 %
Diluted shares	738	756	(2)%	740	759	(3)%

The increases in global product sales for the three and six months ended June 30, 2017, were driven primarily by Prolia®, Sensipar®/Mimpara®, Repatha®, and KYPROLIS®.

The increase in other revenues for the three months ended June 30, 2017, was driven primarily by higher Ibrance® (palbociclib) royalty income. Other revenues for the six months ended June 30, 2017, were relatively flat, as lower milestone payments received were offset by higher Ibrance® royalty income.

Operating expenses decreased for the three and six months ended June 30, 2017. All expense categories benefited from our transformation and process improvement efforts. As in prior years, our operating expenses are expected to be higher in the second half of the year driven by the timing of expenses.

The increases in net income and diluted EPS for the three and six months ended June 30, 2017, were driven primarily by higher operating margins.

Although changes in foreign currency exchange rates result in increases or decreases in our reported international product sales, the benefit or detriment that such movements have on our international product sales is offset partially by corresponding increases or decreases in our international operating expenses and our related foreign currency hedging activities. Our hedging activities seek to offset the impacts, both positive and negative, that foreign currency exchange rate changes may have on our net income by hedging our net foreign currency exposure, primarily with respect to product sales denominated in euros. The net impact from changes in foreign currency exchange rates was not material for the three and six months ended June 30, 2017 and 2016.

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Results of operations

Product sales

Worldwide product sales were as follows (dollar amounts in millions):

	Three months ended June 30,			Six months ended June 30,		
	2017	2016	Change	2017	2016	Change
ENBREL	$1,466	$1,484	(1)%	$2,647	$2,869	(8)%
Neulasta®	1,087	1,149	(5)%	2,297	2,332	(2)%
Aranesp®	535	504	6 %	1,046	1,036	1 %
Prolia®	505	441	15 %	930	793	17 %
Sensipar®/Mimpara®	427	389	10 %	848	756	12 %
XGEVA®	395	381	4 %	797	759	5 %
EPOGEN®	292	331	(12)%	562	631	(11)%
Other products	867	795	9 %	1,646	1,537	7 %
Total product sales	$5,574	$5,474	2 %	$10,773	$10,713	1 %

Future sales of our products are influenced by a number of factors, some of which may impact sales of certain of our products more significantly than others. Such factors are discussed below and in the following sections of our Annual Report on Form 10-K for the year ended December 31, 2016: (i) Overview, Item 1. Business—Marketing, Distribution and Selected Marketed Products, (ii) Item 1A. Risk Factors and (iii) Item 7. Results of Operations—Product Sales; and in our Quarterly Report on Form 10-Q for the period ended March 31, 2017, Part II, Item 1A. Risk Factors.

ENBREL

Total ENBREL sales by geographic region were as follows (dollar amounts in millions):

	Three months ended June 30,			Six months ended June 30,		
	2017	2016	Change	2017	2016	Change
ENBREL — U.S.	$1,411	$1,423	(1)%	$2,529	$2,749	(8)%
ENBREL — Canada	55	61	(10)%	118	120	(2)%
Total ENBREL	$1,466	$1,484	(1)%	$2,647	$2,869	(8)%

The decrease in ENBREL sales for the three months ended June 30, 2017, was driven primarily by the impact of competition, offset partially by favorable changes in inventory and net selling price.

The decrease in ENBREL sales for the six months ended June 30, 2017, was driven primarily by the impact of competition.

Neulasta®

Total Neulasta® sales by geographic region were as follows (dollar amounts in millions):

	Three months ended June 30,			Six months ended June 30,		
	2017	2016	Change	2017	2016	Change
Neulasta®— U.S.	$937	$962	(3)%	$1,985	$1,958	1 %
Neulasta®— ROW	150	187	(20)%	312	374	(17)%
Total Neulasta®	$1,087	$1,149	(5)%	$2,297	$2,332	(2)%

The decrease in global Neulasta® sales for the three months ended June 30, 2017, was driven primarily by a decline in unit demand.

The decrease in global Neulasta® sales for the six months ended June 30, 2017, was driven primarily by a decline in unit demand, offset partially by favorable changes in accounting estimates.

As of June 30, 2017, utilization of the Neulasta® Onpro® kit continued to grow in the United States.

We expect to face competition in the United States, which over time may have a material adverse impact on future sales of Neulasta®. Multiple companies have announced applications to the FDA for proposed biosimilar versions of Neulasta®. Two of these companies have received Complete Response Letters from the FDA regarding their applications.

Future Neulasta® sales will also depend in part on the development of new protocols, tests and/or treatments for cancer and/or new chemotherapy treatments or alternatives to chemotherapy that may have reduced and may continue to reduce the use of chemotherapy in some patients.

Aranesp®

Total Aranesp® sales by geographic region were as follows (dollar amounts in millions):

	Three months ended June 30,			Six months ended June 30,		
	2017	2016	Change	2017	2016	Change
Aranesp® — U.S.	$288	$260	11 %	$566	$521	9 %
Aranesp® — ROW	247	244	1 %	480	515	(7)%
Total Aranesp®	$535	$504	6 %	$1,046	$1,036	1 %

The increase in global Aranesp® sales for the three months ended June 30, 2017, was driven primarily by higher unit demand.

The increase in global Aranesp® sales for the six months ended June 30, 2017, was driven primarily by higher unit demand, including a shift by some U.S. dialysis customers from EPOGEN® to Aranesp®, offset partially by unfavorable changes in foreign exchange rates.

Aranesp® may face short-acting competition from a proposed biosimilar in the United States.

Prolia®

Total Prolia® sales by geographic region were as follows (dollar amounts in millions):

	Three months ended June 30,			Six months ended June 30,		
	2017	2016	Change	2017	2016	Change
Prolia® — U.S.	$326	$286	14 %	$605	$507	19 %
Prolia® — ROW	179	155	15 %	325	286	14 %
Total Prolia®	$505	$441	15 %	$930	$793	17 %

The increases in global Prolia® sales for the three and six months ended June 30, 2017, were driven primarily by higher unit demand.

Sensipar®/Mimpara®

Total Sensipar®/Mimpara® sales by geographic region were as follows (dollar amounts in millions):

	Three months ended June 30,			Six months ended June 30,		
	2017	2016	Change	2017	2016	Change
Sensipar® — U.S.	$342	$303	13 %	$679	$581	17 %
Sensipar®/Mimpara® — ROW	85	86	(1)%	169	175	(3)%
Total Sensipar®/Mimpara®	$427	$389	10 %	$848	$756	12 %

The increases in global Sensipar®/Mimpara® sales for the three and six months ended June 30, 2017, were driven primarily by an increase in net selling price.

Our U.S. composition of matter patent relating to Sensipar®, a small molecule, expires in March 2018. We are also involved in a number of litigation matters related to Sensipar®. See Note 13, Contingencies and commitments, to the condensed consolidated financial statements.

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XGEVA®

Total XGEVA® sales by geographic region were as follows (dollar amounts in millions):

	Three months ended June 30,			Six months ended June 30,		
	2017	2016	Change	2017	2016	Change
XGEVA® — U.S.	$292	$275	6 %	$590	$546	8 %
XGEVA® — ROW	103	106	(3)%	207	213	(3)%
Total XGEVA®	$395	$381	4 %	$797	$759	5 %

The increases in global XGEVA® sales for the three and six months ended June 30, 2017, were driven primarily by higher unit demand.

EPOGEN®

Total EPOGEN® sales were as follows (dollar amounts in millions):

	Three months ended June 30,			Six months ended June 30,		
	2017	2016	Change	2017	2016	Change
EPOGEN® — U.S.	$292	$331	(12)%	$562	$631	(11)%

The decreases in EPOGEN® sales for the three and six months ended June 30, 2017, were driven primarily by a decrease in net selling price due to a negotiated contract with DaVita Inc.

We face competition in the United States, which has had, and will continue to have, a material adverse impact on sales of EPOGEN®. Multiple companies are developing proposed biosimilar versions of EPOGEN®. One company has received a Complete Response Letter from the FDA regarding its application.

Other products

Other product sales by geographic region were as follows (dollar amounts in millions):

	Three months ended June 30,			Six months ended June 30,		
	2017	2016	Change	2017	2016	Change
KYPROLIS® — U.S.	$140	$142	(1)%	$277	$271	2 %
KYPROLIS® — ROW	71	30	*	124	55	*
Nplate® — U.S.	99	84	18 %	196	170	15 %
Nplate® — ROW	65	58	12 %	122	113	8 %
Vectibix® — U.S.	62	52	19 %	123	108	14 %
Vectibix® — ROW	106	108	(2)%	192	196	(2)%
NEUPOGEN® — U.S.	90	141	(36)%	191	291	(34)%
NEUPOGEN® — ROW	47	55	(15)%	94	118	(20)%
Repatha® — U.S.	60	20	*	93	34	*
Repatha® — ROW	23	7	*	39	9	*
BLINCYTO®—U.S.	28	21	33 %	51	42	21 %
BLINCYTO®—ROW	15	9	67 %	26	15	73 %
Other — U.S.	19	17	12 %	34	27	26 %
Other — ROW	42	51	(18)%	84	88	(5)%
Total other products	$867	$795	9 %	$1,646	$1,537	7 %
Total U.S. — other products	$498	$477	4 %	$965	$943	2 %
Total ROW — other products	369	318	16 %	681	594	15 %
Total other products	$867	$795	9 %	$1,646	$1,537	7 %

* Change in excess of 100%

Operating expenses

Operating expenses were as follows (dollar amounts in millions):

	Three months ended June 30,			Six months ended June 30,		
	2017	2016	Change	2017	2016	Change
Cost of sales	$1,024	$1,050	(2)%	$2,020	$2,068	(2)%
% of product sales	18.4%	19.2%		18.8%	19.3%	
% of total revenues	17.6%	18.5%		17.9%	18.4%	
Research and development	$873	$900	(3)%	$1,642	$1,772	(7)%
% of product sales	15.7%	16.4%		15.2%	16.5%	
% of total revenues	15.0%	15.8%		14.6%	15.8%	
Selling, general and administrative	$1,209	$1,292	(6)%	$2,273	$2,495	(9)%
% of product sales	21.7%	23.6%		21.1%	23.3%	
% of total revenues	20.8%	22.7%		20.2%	22.2%	
Other	$6	$66	(91)%	$50	$98	(49)%

Transformation and process improvements

During 2014, we announced transformation and process improvement efforts that we continue to execute. As part of these efforts, we committed to a more agile and efficient operating model. Our transformation and process improvement efforts across the Company are enabling us to reallocate resources to fund many of our innovative pipeline and growth opportunities that deliver value to patients and stockholders.

The transformation includes a restructuring plan that will result in pre-tax accounting charges in the range of $800 million to $900 million. As of June 30, 2017, restructuring costs incurred to date were $760 million. The charges that were recorded related to the restructuring during the three and six months ended June 30, 2017, were not significant. Since 2014, we have realized approximately $1.3 billion of transformation and process improvement savings. Net savings have not been significant as savings were reinvested in product launches, clinical programs and external business development.

Cost of sales

Cost of sales decreased to 17.6% of total revenues for the three months ended June 30, 2017, driven primarily by lower royalties.

Cost of sales decreased to 17.9% of total revenues for the six months ended June 30, 2017, driven primarily by manufacturing efficiencies and lower royalties, offset partially by product mix.

The excise tax imposed by the U.S. territory of Puerto Rico on the gross intercompany purchase price of goods and services from our manufacturer in Puerto Rico (Puerto Rico excise tax) is recorded as a cost of sales expense. Excluding the impact of the Puerto Rico excise tax, cost of sales would have been 16.0% and 16.3% of total revenues for the three and six months ended June 30, 2017, respectively, compared with 16.7% and 16.8% for the corresponding periods of the prior year. See Note 3, Income taxes, to the condensed consolidated financial statements for further discussion of the Puerto Rico excise tax.

Research and development

The decrease in R&D expenses for the three months ended June 30, 2017, was driven primarily by lower spending required to support certain later-stage clinical programs. The costs associated with our later-stage clinical programs decreased by $31 million. The costs associated with Discovery Research and Translational Sciences (DRTS) and marketed products were relatively unchanged.

The decrease in R&D expenses for the six months ended June 30, 2017, was driven primarily by lower spending required to support certain later-stage clinical programs and a payment related to a third-party collaboration agreement in the prior year period. The costs associated with later-stage clinical programs and marketed products decreased by $71 million and $58 million, respectively. DRTS spend was relatively unchanged.

Selling, general and administrative

The decrease in Selling, general and administrative (SG&A) expenses for the three months ended June 30, 2017, was driven primarily by the expiration of ENBREL residual royalty payments on October 31, 2016, offset partially by investments in product launches.

The decrease in SG&A expenses for the six months ended June 30, 2017, was driven primarily by the expiration of ENBREL residual royalty payments on October 31, 2016, as well as a charge related to an acquisition in the three months ended March 31, 2016, offset partially by investments in product launches.

Other

Other operating expenses for the three and six months ended June 30, 2017, included certain charges related to our restructuring plan.

Other operating expenses for the three and six months ended June 30, 2016, included legal proceeding charges of $78 million and $105 million, respectively.

Non-operating expenses/income and income taxes

Non-operating expenses/income and income taxes were as follows (dollar amounts in millions):

	Three months ended June 30,		Six months ended June 30,	
	2017	2016	2017	2016
Interest expense, net	$321	$313	$647	$607
Interest and other income, net	$165	$137	$360	$287
Provision for income taxes	$391	$334	$780	$692
Effective tax rate	15.4 %	15.2 %	15.6 %	15.5 %

Interest expense, net

The increase in Interest expense, net, for the three and six months ended June 30, 2017, was due primarily to a higher average amount of debt outstanding.

Interest and other income, net

The increase in Interest and other income, net, for the three and six months ended June 30, 2017, was due primarily to higher interest income that resulted from higher average investment balances.

Income taxes

The increase in our effective tax rate for the three months ended June 30, 2017, was due primarily to a prior year benefit associated with tax incentives and lower tax benefits from share-based compensation payments, offset partially by discrete benefits associated with the effective settlement of certain state and federal tax matters.

The increase in our effective tax rate for the six months ended June 30, 2017, was due primarily to lower tax benefits from share-based compensation payments, offset partially by discrete benefits associated with the effective settlement of certain state and federal tax matters and favorable tax impacts of changes in the jurisdictional mix of income and expenses.

Excluding the impact of the Puerto Rico excise tax, our effective tax rate for the three and six months ended June 30, 2017, would have been 18.1% and 18.3%, respectively, compared with 18.1% and 18.4%, respectively, for the corresponding period of the prior year.

As previously disclosed, on April 12, 2017, we received a RAR from the IRS for the years 2010, 2011, and 2012. The RAR proposes to make significant adjustments that relate primarily to the allocation of profits between certain of our entities in the United States and the U.S. territory of Puerto Rico. We disagree with the proposed adjustments and are pursuing resolution through the IRS administrative appeals process, which we believe will likely not be concluded within the next 12 months. Final resolution of the IRS audit could have a material impact on our results of operations and cash flows if not resolved favorably, however, we believe our income tax reserves are appropriately provided for all open tax years.

See Note 3, Income taxes, to the condensed consolidated financial statements for further discussion.

Financial condition, liquidity and capital resources

Selected financial data were as follows (in millions):

	June 30, 2017	December 31, 2016
Cash, cash equivalents and marketable securities	$39,227	$ 38,085
Total assets	$79,587	$ 77,626
Short-term borrowings and current portion of long-term debt	$1,459	$ 4,403
Long-term debt	$33,603	$ 30,193
Stockholders' equity	$31,722	$ 29,875

We intend to continue to return capital to stockholders through the payment of cash dividends and stock repurchases reflecting our confidence in the future cash flows of our business. The timing and amounts of future dividends and stock repurchases will vary based on a number of factors, including future capital requirements for strategic transactions, the availability of financing on acceptable terms, debt service requirements, our credit rating, changes to applicable tax laws or corporate laws, changes to our business model and periodic determination by our Board of Directors that cash dividends and/or stock repurchases are in the best interests of stockholders and are in compliance with applicable laws and agreements of the Company. In addition, the timing and amounts of stock repurchases may also be affected by the stock price and blackout periods, during which we are restricted from repurchasing stock. The manner of stock repurchases may include private block purchases, tender offers and market transactions.

In March 2017 and December 2016, the Board of Directors declared quarterly cash dividends of $1.15 per share of common stock, which were paid on June 8 and March 8, 2017, respectively.

We have also returned capital to stockholders through our stock repurchase program. During the six months ended June 30, 2017, we repurchased and paid in cash $1.6 billion of our stock during the period. During the six months ended June 30, 2016, we repurchased $1.3 billion of our stock and paid $1.2 billion in cash during the period. As of June 30, 2017, $2.5 billion remained available under the Board of Directors-approved stock repurchase program.

We believe that existing funds, cash generated from operations and existing sources of and access to financing are adequate to satisfy our needs for working capital; capital expenditure and debt service requirements; our plans to pay dividends and repurchase stock; and other business initiatives we plan to strategically pursue, including acquisitions and licensing activities. We anticipate that our liquidity needs can be met through a variety of sources, including cash provided by operating activities, sales of marketable securities, borrowings through commercial paper and/or our syndicated credit facilities and access to other domestic and foreign debt markets and equity markets. During the three months ended June 30, 2017, we began borrowing under our $2.5 billion commercial paper program and had $960 million outstanding under this program as of the end of the period.

With respect to our U.S. operations, we believe that existing funds intended for use in the United States; cash generated from our U.S. operations, including intercompany payments and receipts; and existing sources of and access to financing (collectively, U.S. funds) are adequate to continue meeting our U.S. obligations, including our plans to pay dividends and repurchase stock with U.S. funds, for the foreseeable future. See our Annual Report on Form 10-K for the year ended December 31, 2016, Part I, Item 1A. Risk Factors—Global economic conditions may negatively affect us and may magnify certain risks that affect our business.

Of our cash, cash equivalents and marketable securities balances totaling $39.2 billion as of June 30, 2017, approximately $37.4 billion was generated from operations in foreign tax jurisdictions and is intended to be invested indefinitely outside the United States. Under current tax laws, if these funds were repatriated for use in our U.S. operations, we would be required to pay additional income taxes at the tax rates then in effect.

Certain of our financing arrangements contain non-financial covenants. In addition, our revolving credit agreement includes a financial covenant with respect to the level of our borrowings in relation to our equity, as defined. We were in compliance with all applicable covenants under these arrangements as of June 30, 2017.

Cash flows

Our cash flow activities were as follows (in millions):

	Six months ended June 30,	
	2017	2016
Net cash provided by operating activities	$4,711	$4,592
Net cash used in investing activities	$(1,970)	$(5,047)
Net cash used in financing activities	$(3,353)	$(1,059)

Operating

Cash provided by operating activities has been and is expected to continue to be our primary recurring source of funds. Cash provided by operating activities during the six months ended June 30, 2017, increased compared with the same period in the prior year due primarily to an increase in net income offset partially by the timing of payments to taxing authorities and receipts from customers.

Investing

Cash used in investing activities during the six months ended June 30, 2017, was due primarily to net activity related to marketable securities of $1.5 billion and capital expenditures of $353 million. Cash used in investing activities during the six months ended June 30, 2016, was due primarily to net activity related to marketable securities of $4.6 billion and capital expenditures of $344 million. Capital expenditures during the six months ended June 30, 2017 and 2016, were associated primarily with manufacturing capacity expansions in various locations, as well as other site developments. We currently estimate 2017 spending on capital projects and equipment to be approximately $700 million.

Financing

Cash used in financing activities during the six months ended June 30, 2017, was due primarily to payment of dividends of $1.7 billion, repurchases of our common stock of $1.6 billion, and repayment of long-term debt, net of proceeds from issuances, of $920 million, offset partially by proceeds from the issuance of commercial paper of $959 million. Cash used in financing activities during the six months ended June 30, 2016, was due primarily to the payment of dividends of $1.5 billion and repurchases of our common stock of $1.2 billion, offset partially by proceeds from the issuance of long-term debt, net of repayments, of $1.9 billion. See Note 9, Financing arrangements, and Note 10, Stockholders' equity, to the condensed consolidated financial statements for further discussion.

Critical accounting policies

The preparation of our condensed consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the amounts reported in the financial statements and the notes to the financial statements. Some of those judgments can be subjective and complex, and therefore, actual results could differ materially from those estimates under different assumptions or conditions. A summary of our critical accounting policies is presented in Part II, Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations, of our Annual Report on Form 10-K for the year ended December 31, 2016. There were no material changes to our critical accounting policies during the six months ended June 30, 2017.

Item 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Information about our market risk is disclosed in Part II, Item 7A. Quantitative and Qualitative Disclosures About Market Risk, of our Annual Report on Form 10-K for the year ended December 31, 2016, and is incorporated herein by reference. Except as discussed below, there have been no material changes during the six months ended June 30, 2017, to the information provided in Part II, Item 7A. Quantitative and Qualitative Disclosures About Market Risk, of our Annual Report on Form 10-K for the year ended December 31, 2016.

Interest rate sensitive financial instruments

To achieve a desired mix of fixed and floating interest rate debt, we entered into additional interest rate swap contracts with an aggregate notional amount of $3.65 billion during the three months ended June 30, 2017. In addition, we had interest rate swap contracts with an aggregate notional amount of $850 million mature during the three months ended June 30, 2017. As of June 30, 2017, interest rate swap contracts with an aggregate notional amount of $9.45 billion were outstanding. These interest rate swap

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contracts effectively converted a fixed interest rate coupon to a floating-rate LIBOR-based coupon over the life of the respective note. A hypothetical 100 basis point increase in interest rates relative to interest rates at June 30, 2017, would have resulted in reductions in fair values of approximately $470 million on our interest rate swap contracts on this date and would not result in a material effect on the related income in the ensuing year. The analysis for the interest rate swap contracts does not consider the impact that hypothetical changes in interest rates would have on the related fair values of debt that these interest rate sensitive interests were designed to offset.

Item 4. CONTROLS AND PROCEDURES

We maintain "disclosure controls and procedures," as such term is defined under Exchange Act Rule 13a-15(e), that are designed to ensure that information required to be disclosed in Amgen's Exchange Act reports is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to Amgen's management, including its Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosures. In designing and evaluating the disclosure controls and procedures, Amgen's management recognized that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives and, in reaching a reasonable level of assurance, Amgen's management necessarily was required to apply its judgment in evaluating the cost-benefit relationship of possible controls and procedures. We have carried out an evaluation under the supervision and with the participation of our management, including Amgen's Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of Amgen's disclosure controls and procedures. Based upon their evaluation and subject to the foregoing, the Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective as of June 30, 2017.

Management determined that, as of June 30, 2017, there were no changes in our internal control over financial reporting that occurred during the fiscal quarter then ended that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II — OTHER INFORMATION

Item 1. LEGAL PROCEEDINGS

See Note 13, Contingencies and commitments, to the condensed consolidated financial statements included in our Quarterly Report on Form 10-Q for the period ended June 30, 2017 and Note 12, Contingencies and commitments, to the condensed consolidated financial statements included in our Quarterly Report on Form 10-Q for the period ended March 31, 2017, for discussions that are limited to certain recent developments concerning our legal proceedings. Those discussions should be read in conjunction with Note 18, Contingencies and commitments, to the consolidated financial statements in Part IV of our Annual Report on Form 10-K for the year ended December 31, 2016.

Item 1A. RISK FACTORS

This report and other documents we file with the SEC contain forward-looking statements that are based on current expectations, estimates, forecasts and projections about us, our future performance, our business, our beliefs and our management's assumptions. These statements are not guarantees of future performance, and they involve certain risks, uncertainties and assumptions that are difficult to predict. You should carefully consider the risks and uncertainties facing our business. We have described in our Annual Report on Form 10-K for the fiscal year ended December 31, 2016, the primary risks related to our business, and we periodically update those risks for material developments. Those risks are not the only ones facing us. Our business is also subject to the risks that affect many other companies, such as employment relations, general economic conditions, geopolitical events and international operations. Further, additional risks not currently known to us or that we currently believe are immaterial may in the future materially and adversely affect our business, operations, liquidity and stock price.

Below, we are providing, in supplemental form, the material changes to our risk factors that occurred during the past quarter. Our risk factors disclosed in Part I, Item 1A. Risk Factors, of our Annual Report, on Form 10-K for the year ended December 31, 2016, and in our Quarterly Report on Form 10-Q for the period ended March 31, 2017, provide additional disclosure for these supplemental risks and are incorporated herein by reference.

Our current products and products in development cannot be sold without regulatory approval.

Our business is subject to extensive regulation by numerous state and federal government authorities in the United States, including the FDA, and by foreign regulatory authorities, including the EMA. We are required in the United States and in foreign countries to obtain approval from regulatory authorities before we manufacture, market and sell

our products. Once our products are approved, the FDA and other U.S. and foreign regulatory agencies have substantial authority to require additional testing and

reporting, perform inspections, change product labeling or mandate withdrawals of our products. Failure to comply with applicable regulatory requirements may subject us to administrative and/or judicially imposed sanctions or monetary penalties as well as reputational and other harms. The sanctions could include the FDA's or foreign regulatory authorities' refusals to approve pending applications, delays in obtaining or withdrawals of approvals, delays or suspensions of clinical trials, warning letters, product recalls or seizures, total or partial suspensions of our operations, injunctions, fines, civil penalties and/or criminal prosecutions.

Obtaining and maintaining regulatory approval have been, and will continue to be, increasingly difficult, time-consuming and costly. Legislative bodies or regulatory agencies could enact new laws or regulations, change existing laws or regulations, or change their interpretations of laws or regulations at any time, which could affect our ability to obtain or maintain approval of our products or product candidates. The rate and degree of change in existing laws and regulations and regulatory expectations have accelerated in established markets, and regulatory expectations continue to evolve in emerging markets. We are unable to predict whether and when any further changes to laws or regulatory policies affecting our business could occur, such as changes to regulations governing manufacturer communications concerning drug products and drug product candidates, and whether such changes could have a material adverse effect on our business and results of operations.

Regulatory authorities may also question the sufficiency for approval of the endpoints we select for our clinical trials. A number of our products and product candidates have been evaluated in clinical trials using surrogate endpoints that measure an effect that is known to correlate with an ultimate clinical endpoint. For example, a therapeutic oncology product candidate may be evaluated for its ability to extend the length of time during and after the treatment that a patient lives without the disease worsening progression-free survival (PFS). Demonstrating that the product candidate produces a statistically significant improvement in PFS does not necessarily mean that the product candidate will show a statistically significant improvement in overall survival or the time that the patients remain alive. In the cardiovascular setting, a heart disease therapeutic candidate may be evaluated for its ability to reduce LDL-C levels, as elevated LDL-C level has been a surrogate endpoint for cardiovascular events such as death, heart attack and stroke. The use of surrogate endpoints such as PFS and LDL-C reduction, in the absence of other measures of clinical benefit, may not be sufficient for broad usage or approval even when such results are statistically significant. Regulatory authorities could also add new requirements, such as the completion of enrollment in a confirmatory study or the completion of an outcomes study or a meaningful portion of an outcomes study, as conditions for obtaining approval or obtaining an indication. For example, our initial FDA application for Repatha® sought approval for a broader patient population based on data demonstrating that Repatha® reduced LDL-C levels. However, the FDA ultimately approved Repatha® only for a subset of those patients, citing among other things the absence of positive outcomes data showing that Repatha® prevents cardiovascular events. We subsequently announced that our phase 3 outcomes study evaluating the ability of Repatha® to prevent cardiovascular events met its primary composite endpoint and key secondary composite endpoint and that we submitted applications to the FDA and EMA to incorporate the results of the outcomes study into the respective Repatha® labels. See Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations—Significant Developments. However, we cannot predict the degree to which the results of this study will be incorporated into the Repatha® labels by regulators. There may also be situations in which demonstrating the efficacy and safety of a product candidate may not be sufficient to gain regulatory approval unless superiority to other existing treatment options can be shown. The imposition of additional requirements or our inability to meet them in a timely fashion or at all may delay our clinical development and regulatory filing efforts, delay or prevent us from obtaining regulatory approval for new product candidates or new indications for existing products, or prevent us from maintaining our current labels.

Some of our products have been approved by U.S. and foreign regulatory authorities on a conditional basis with full approval conditioned upon fulfilling the requirements of regulators. For example, BLINCYTO® received conditional marketing authorization for the treatment of patients with Philadelphia chromosome-negative relapsed or refractory B-cell precursor ALL from the European Commission in November 2015. Regulatory authorities are placing greater focus on monitoring products originally approved on an accelerated or conditional basis and on whether the sponsors of such products have met the conditions of the accelerated or conditional approvals. If we are unable to fulfill the regulators' requirements that were conditions of a product's accelerated or conditional approval and/or if regulators re-evaluate the data or risk-benefit profile of our product, the conditional approval may not result in full approval or

may be revoked or not renewed. Alternatively, we may be required to change the product's labeled indications or even withdraw the product from the market.

Safety problems or signals can arise as our products and product candidates are evaluated in clinical trials, including investigator sponsored studies, or as our marketed products are used in clinical practice. We are required to continuously collect and assess adverse events reported to us and to communicate to regulatory agencies these adverse events and safety signals regarding our products. Regulatory agencies periodically perform inspections of our pharmacovigilance processes, including our adverse event reporting. In 2012, pharmacovigilance legislation became effective in the EU that enhanced the authority of European regulators to require companies to conduct additional post-approval clinical efficacy and safety studies and increased the requirements on sponsor companies to analyze and evaluate the risk-benefit profiles of their products. Similarly, for our products with approved risk evaluation and mitigation strategy (REMS) (see our Annual Report on Form 10-K for the year ended December 31, 2016, Part I, Item 1. Business—Government Regulation—Post-approval Phase), we are required to submit periodic assessment

reports to the FDA to demonstrate that the goals of the REMS are being met. REMS and other risk management programs are designed to ensure that a drug's benefits outweigh the risks, and vary in the elements they contain. If the FDA is not satisfied with the results of the periodic assessment reports we submit for any of our REMS, the FDA may also modify our REMS or take other regulatory actions, such as implementing revised or restrictive labeling. The drug delivery devices approved for use in combination with our products are also subject to regulatory oversight and review for safety. As such, we are also required to collect and assess device and user complaints regarding our drug delivery devices. Additionally, regulatory agencies conduct routine monitoring and conduct inspections to identify and evaluate potential issues with our devices. For example, in July 2017 the FDA reported on its adverse event reporting system that it is evaluating our Neulasta® Onpro® kit. If regulatory agencies determine that we or other parties (including our clinical trial investigators, those operating our patient support programs or licensees of our products) have not complied with the applicable reporting, other pharmacovigilance or other safety or quality assessment requirements, we may become subject to additional inspections, warning letters or other enforcement actions, including fines, marketing authorization withdrawal and other penalties. Our product candidates and marketed products can also be affected by safety problems or signals occurring with respect to products that are similar to ours and that implicate an entire class of products. Further, as a result of clinical trials, including sub-analyses or meta-analyses of earlier clinical trials (a meta-analysis involves the use of various statistical methods to combine results from previous separate but related studies) performed by us or others, concerns may arise about the sufficiency of the data or studies underlying a product's approved label. Such actual or perceived safety problems or concerns can lead to:

- revised or restrictive labeling for our products, or the potential for restrictive labeling that may result in our decision not to commercialize a product candidate;
- requirement of risk management activities or other regulatory agency compliance actions related to the promotion and sale of our products;
- mandated post-marketing commitments or pharmacovigilance programs for our approved products;
- product recalls of our approved products;
- revocation of approval for our products from the market completely, or within particular therapeutic areas or patient types;
- increased timelines or delays in being approved by the FDA or other regulatory bodies; and/or
- fewer treatments or product candidates being approved by regulatory bodies.

For example, since 2006, when adverse safety results involving erythropoiesis-stimulating agents (ESAs) were observed, ESAs continue to be the subject of ongoing review and scrutiny. Reviews by regulatory authorities of the risk-benefit profile of ESAs have resulted in, and may continue to result in, changes to ESA labeling and usage in both the oncology and nephrology clinical settings.

In addition to our innovative products, we are working to develop and commercialize biosimilar versions of a number of products currently manufactured, marketed and sold by other pharmaceutical companies. In some markets, there is not yet a legislative or regulatory pathway for the approval of biosimilars. In the United States, the Affordable Care Act (ACA) provided for such a pathway; while the FDA continues to implement it, questions remain as to the evidence needed to demonstrate biosimilarity or interchangeability for specific products and what information can be included in biosimilar labeling. See our Annual Report on Form 10-K for the year ended December 31, 2016, Part I, Item 1A. Risk Factors—We currently face competition from biosimilars and expect to face increasing competition in the future. Delays or uncertainties in the development of such pathways could result in delays or difficulties in getting our biosimilar products approved by regulatory authorities, subject us to unanticipated development costs or otherwise reduce the value of the investments we have made in the biosimilars area. Further, we cannot predict whether any repeal or reform of the ACA would affect the biosimilar pathway or have a material adverse effect on our development of biosimilars. In addition, if we are unable to bring our biosimilar products to market on a timely basis, and secure "first-to-market" positions, our future biosimilar sales and results of operations could be materially and adversely affected.

We perform a substantial majority of our commercial manufacturing activities at our facility in the U.S. territory of Puerto Rico and substantially all of our clinical manufacturing activities at our facility in Thousand Oaks, California; if significant disruptions or production failures occur at the Puerto Rico facility, we may not be able to supply these

products or, at the Thousand Oaks facility, we may not be able to continue our clinical trials.

We currently perform a substantial majority of our commercial manufacturing activities at our facility in the U.S. territory of Puerto Rico and substantially all of our clinical manufacturing activities at our facility in Thousand Oaks, California. The global supply of our products and product candidates for commercial sales and for use in our clinical trials is significantly dependent on the uninterrupted and efficient operation of these facilities. See our Annual Report on Form 10-K for the year ended December

31, 2016, Part I, Item 1A. Risk Factors—Manufacturing difficulties, disruptions or delays could limit supply of our products and limit our product sales.

The operation of our manufacturing facility in the U.S. territory of Puerto Rico is also subject to local economic challenges. Since June 2015, when the Governor of Puerto Rico announced that the government (including certain government entities) was unable to pay its roughly $72 billion in debt, the government's liquidity position has continued to deteriorate and public reports indicate that the Puerto Rico government is not making certain payments with respect to its obligations. On June 30, 2016, President Obama signed into law the Puerto Rico Oversight, Management, and Economic Stability Act (PROMESA) to provide a mechanism for Puerto Rico to restructure its debt, achieve fiscal responsibility, and gain access to capital markets. PROMESA established a federal Financial Oversight and Management Board (Oversight Board) to provide fiscal oversight through the development and approval of fiscal plans and budgets for Puerto Rico and to assist in the debt restructuring. The Oversight Board approved the Puerto Rico government's revised fiscal plan on March 13, 2017 and, on June 30, 2017, the government's budget for fiscal year 2018. The establishment of the Oversight Board initially provided for an automatic stay of creditor actions against the Puerto Rico government until February 15, 2017, and subsequently extended the automatic stay until May 1, 2017, to pursue voluntary negotiations with the Puerto Rico government's creditors. On May 3, 2017, after negotiations with creditors were unsuccessful and the automatic stay expired, the Oversight Board approved and certified the filing in the U.S. District Court for the District of Puerto Rico of a voluntary petition under Title III of PROMESA for the government of Puerto Rico, following thereafter with similar filings for certain Puerto Rico government entities. Title III of PROMESA provides Puerto Rico with a judicial process for restructuring its debt similar to, but not identical to, Chapter 9 of the U.S. Bankruptcy Code. Additionally, on January 29, 2017, the Puerto Rico government enacted the Puerto Rico Fiscal Emergency and Fiscal Responsibility Act, which, among other things, declared a state of financial emergency in Puerto Rico until May 1, 2017, and authorizes the Governor to designate certain services as essential services, and other services as non-essential in order to prioritize the use of available resources to satisfy Puerto Rico's obligations. On July 19, 2017, the Puerto Rico government extended the emergency period through December 31, 2017, and authorized the Governor to further extend the emergency period for six-month terms under certain conditions. While PROMESA and the actions above continue to be important factors in moving Puerto Rico toward economic stability, there is still a risk that Puerto Rico's economic situation could impact the territorial government's provision of utilities or other services in Puerto Rico that we use in the operation of our business, create the potential for increased taxes or fees to operate in Puerto Rico, result in a migration of workers from Puerto Rico to the mainland United States, and/or make it more expensive or difficult for us to operate in Puerto Rico.

Item 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

During the three months ended June 30, 2017, we had one outstanding stock repurchase program and the repurchase activity was as follows:

	Total number of shares purchased	Average price paid per share	Total number of shares purchased as part of publicly announced program	Maximum dollar value that may yet be purchased under the program[(1)]
April 1 - 30	1,108,267	$162.88	1,108,267	$3,340,028,056
May 1 - 31	1,586,272	$154.47	1,586,272	$3,094,997,845
June 1 - 30	3,515,972	$165.05	3,515,972	$2,514,688,372
	6,210,511	$161.96	6,210,511	

(1) In October 2016, our Board of Directors authorized an increase that resulted in a total of $5.0 billion available under the stock repurchase program.

Item 6. EXHIBITS

Reference is made to the Index to Exhibits included herein.

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SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this Quarterly Report to be signed on its behalf by the undersigned, thereunto duly authorized.

Amgen Inc.
(Registrant)

Date: July 26, 2017 By: /S/ DAVID W. MELINE
David W. Meline
Executive Vice President and Chief Financial Officer

AMGEN INC.

INDEX TO EXHIBITS

Exhibit No.	Description
3.1	Restated Certificate of Incorporation of Amgen Inc. (As Restated March 6, 2013.) (Filed as an exhibit to Form 10-Q for the quarter ended March 31, 2013 on May 3, 2013 and incorporated herein by reference.)
3.2	Amended and Restated Bylaws of Amgen Inc. (As Amended and Restated February 15, 2016.) (Filed as an exhibit to Form 8-K on February 17, 2016 and incorporated herein by reference.)
4.1	Form of stock certificate for the common stock, par value $.0001 of the Company. (Filed as an exhibit to Form 10-Q for the quarter ended March 31, 1997 on May 13, 1997 and incorporated herein by reference.)
4.2	Form of Indenture, dated January 1, 1992. (Filed as an exhibit to Form S-3 Registration Statement filed on December 19, 1991 and incorporated herein by reference.)
4.3	Agreement of Resignation, Appointment and Acceptance dated February 15, 2008. (Filed as an exhibit to Form 10-K for the year ended December 31, 2007 on February 28, 2008 and incorporated herein by reference.)
4.4	First Supplemental Indenture, dated February 26, 1997. (Filed as an exhibit to Form 8-K on March 14, 1997 and incorporated herein by reference.)
4.5	8-1/8% Debentures due April 1, 2097. (Filed as an exhibit to Form 8-K on April 8, 1997 and incorporated herein by reference.)
4.6	Officer’s Certificate of Amgen Inc., dated January 1, 1992, as supplemented by the First Supplemental Indenture, dated February 26, 1997, establishing a series of securities entitled “8 1/8% Debentures due April 1, 2097.” (Filed as an exhibit to Form 8-K on April 8, 1997 and incorporated herein by reference.)
4.7	Indenture, dated August 4, 2003. (Filed as an exhibit to Form S-3 Registration Statement on August 4, 2003 and incorporated herein by reference.)
4.8	Corporate Commercial Paper - Master Note between and among Amgen Inc., as Issuer, Cede & Co., as Nominee of The Depository Trust Company, and Citibank, N.A., as Paying Agent. (Filed as an exhibit to Form 10-Q for the quarter ended March 31, 1998 on May 13, 1998 and incorporated herein by reference.)
4.9	Officers’ Certificate of Amgen Inc., dated May 30, 2007, including forms of the Company’s Senior Floating Rate Notes due 2008, 5.85% Senior Notes due 2017 and 6.375% Senior Notes due 2037. (Filed as an exhibit to Form 8-K on May 30, 2007 and incorporated herein by reference.)
4.10	Officers’ Certificate of Amgen Inc., dated May 23, 2008, including forms of the Company’s 6.15% Senior Notes due 2018 and 6.90% Senior Notes due 2038. (Filed as exhibit to Form 8-K on May 23, 2008 and incorporated herein by reference.)
4.11	Officers’ Certificate of Amgen Inc., dated January 16, 2009, including forms of the Company’s 5.70% Senior Notes due 2019 and 6.40% Senior Notes due 2039. (Filed as exhibit to Form 8-K on January 16, 2009 and incorporated herein by reference.)
4.12	

	Officers' Certificate of Amgen Inc., dated March 12, 2010, including forms of the Company's 4.50% Senior Notes due 2020 and 5.75% Senior Notes due 2040. (Filed as exhibit to Form 8-K on March 12, 2010 and incorporated herein by reference.)
4.13	Officers' Certificate of Amgen Inc., dated September 16, 2010, including forms of the Company's 3.45% Senior Notes due 2020 and 4.95% Senior Notes due 2041. (Filed as an exhibit to Form 8-K on September 17, 2010 and incorporated herein by reference.)
4.14	Officers' Certificate of Amgen Inc., dated June 30, 2011, including forms of the Company's 2.30% Senior Notes due 2016, 4.10% Senior Notes due 2021 and 5.65% Senior Notes due 2042. (Filed as an exhibit to Form 8-K on June 30, 2011 and incorporated herein by reference.)
4.15	Officers' Certificate of Amgen Inc., dated November 10, 2011, including forms of the Company's 1.875% Senior Notes due 2014, 2.50% Senior Notes due 2016, 3.875% Senior Notes due 2021 and 5.15% Senior Notes due 2041. (Filed as an exhibit to Form 8-K on November 10, 2011 and incorporated herein by reference.)
4.16	Officers' Certificate of Amgen Inc., dated December 5, 2011, including forms of the Company's 4.375% Senior Notes due 2018 and 5.50% Senior Notes due 2026. (Filed as an exhibit to Form 8-K on December 5, 2011 and incorporated herein by reference.)

Exhibit No.	Description
4.17	Officers' Certificate of Amgen Inc., dated May 15, 2012, including forms of the Company's 2.125% Senior Notes due 2017, 3.625% Senior Notes due 2022 and 5.375% Senior Notes due 2043. (Filed as an exhibit to Form 8-K on May 15, 2012 and incorporated herein by reference.)
4.18	Officers' Certificate of Amgen Inc., dated September 13, 2012, including forms of the Company's 2.125% Senior Notes due 2019 and 4.000% Senior Notes due 2029. (Filed as an exhibit to Form 8-K on September 13, 2012 and incorporated herein by reference.)
4.19	Indenture, dated May 22, 2014, between Amgen Inc. and The Bank of New York Mellon Trust Company, N.A., as Trustee. (Filed as an exhibit to Form 8-K on May 22, 2014 and incorporated herein by reference.)
4.20	Officers' Certificate of Amgen Inc., dated May 22, 2014, including forms of the Company's Senior Floating Rate Notes due 2017, Senior Floating Rate Notes due 2019, 1.250% Senior Notes due 2017, 2.200% Senior Notes due 2019 and 3.625% Senior Notes due 2024. (Filed as an exhibit to Form 8-K on May 22, 2014 and incorporated herein by reference.)
4.21	Officer's Certificate of Amgen Inc., dated May 1, 2015, including forms of the Company's 2.125% Senior Notes due 2020, 2.700% Senior Notes due 2022, 3.125% Senior Notes due 2025 and 4.400% Senior Notes due 2045. (Filed as an exhibit on Form 8-K on May 1, 2015 and incorporated herein by reference.)
4.22	Officer's Certificate of Amgen Inc., dated as of February 25, 2016, including forms of the Company's 1.250% Senior Notes due 2022 and 2.000% Senior Notes due 2026. (Filed as an exhibit on Form 8-K on February 26, 2016 and incorporated herein by reference.)
4.23	Form of Permanent Global Certificate for the Company's 0.410% bonds due 2023. (Filed as an exhibit on Form 8-K on March 8, 2016 and incorporated herein by reference.)
4.24	Terms of the Bonds for the Company's 0.410% bonds due 2023. (Filed as an exhibit on Form 8-K on March 8, 2016 and incorporated herein by reference.)
4.25	Officer's Certificate of Amgen Inc., dated as of June 14, 2016, including forms of the Company's 4.563% Senior Notes due 2048 and 4.663% Senior Notes due 2051. (Filed as an exhibit to Form 8-K on June 14, 2016 and incorporated herein by reference.)
4.26	Registration Rights Agreement, dated as of June 14, 2016, by and among Amgen Inc., Credit Suisse Securities (USA) LLC, J.P. Morgan Securities LLC, Citigroup Global Markets Inc. and Mizuho Securities USA Inc., as lead dealer managers, and Drexel Hamilton, LLC and The Williams Capital Group, L.P., as co-dealer managers. (Filed as an exhibit to Form 8-K on June 14, 2016 and incorporated herein by reference.)
4.27	Officer's Certificate of Amgen Inc., dated as of August 19, 2016, including forms of the Company's 1.850% Senior Notes due 2021, 2.250% Senior Notes due 2023 and 2.600% Senior Notes due 2026. (Filed as an exhibit to Form 8-K on August 19, 2016 and incorporated herein by reference.)
4.28	Officer's Certificate of Amgen Inc., dated as of May 11, 2017, including forms of the Company's Senior Floating Rate Notes due 2019, Senior Floating Rate Notes due 2020, 1.900% Senior Notes due 2019, 2.200% Senior Notes due 2020 and 2.650% Senior Notes due 2022. (Filed as an exhibit to Form 8-K on May 11, 2017 and incorporated herein by reference.)

10.1+	Amgen Inc. Amended and Restated 2009 Equity Incentive Plan. (Filed as Appendix C to the Definitive Proxy Statement on Schedule 14A on April 8, 2013 and incorporated herein by reference.)
10.2+	First Amendment to Amgen Inc. Amended and Restated 2009 Equity Incentive Plan, effective March 4, 2015. (Filed as an exhibit to Form 10-Q for the quarter ended March 31, 2015 on April 27, 2015 and incorporated herein by reference.)
10.3+	Second Amendment to Amgen Inc. Amended and Restated 2009 Equity Incentive Plan, effective March 2, 2016. (Filed as an exhibit to Form 10-Q for the quarter ended March 31, 2016 on May 2, 2016 and incorporated herein by reference.)
10.4+	Form of Stock Option Agreement for the Amgen Inc. Amended and Restated 2009 Equity Incentive Plan. (As Amended on December 20, 2016.) (Filed as an exhibit to Form 10-K for the year ended December 31, 2016 on February 14, 2017 and incorporated herein by reference.)
10.5+	Form of Restricted Stock Unit Agreement for the Amgen Inc. Amended and Restated 2009 Equity Incentive Plan. (As Amended on December 20, 2016.) (Filed as an exhibit to Form 10-K for the year ended December 31, 2016 on February 14, 2017 and incorporated herein by reference.)

Exhibit No.	Description
10.6+	Amgen Inc. 2009 Performance Award Program. (As Amended on March 2, 2016.) (Filed as an exhibit to Form 10-Q for the quarter ended March 31, 2016 on May 2, 2016 and incorporated herein by reference.)
10.7+	Form of Performance Unit Agreement for the Amgen Inc. 2009 Performance Award Program. (As Amended on December 20, 2016.) (Filed as an exhibit to Form 10-K for the year ended December 31, 2016 on February 14, 2017 and incorporated herein by reference.)
10.8+	Amgen Inc. 2009 Director Equity Incentive Program. (As Amended on March 6, 2013.) (Filed as an exhibit to Form 10-Q for the quarter ended March 31, 2013 on May 3, 2013 and incorporated herein by reference.)
10.9+	Form of Grant of Non-Qualified Stock Option Agreement for the Amgen Inc. 2009 Director Equity Incentive Program. (Filed as an exhibit to Form 8-K on May 8, 2009 and incorporated herein by reference.)
10.10+	Form of Restricted Stock Unit Agreement for the Amgen Inc. 2009 Director Equity Incentive Program. (As Amended on March 6, 2013.) (Filed as an exhibit to Form 10-Q for the quarter ended March 31, 2013 on May 3, 2013 and incorporated herein by reference.)
10.11+	Amgen Inc. Supplemental Retirement Plan. (As Amended and Restated effective October 16, 2013.) (Filed as an exhibit to Form 10-K for the year ended December 31, 2013 on February 24, 2014 and incorporated herein by reference.)
10.12+	First Amendment to the Amgen Inc. Supplemental Retirement Plan, effective October 14, 2016. (Filed as an exhibit to Form 10-Q for the quarter ended September 30, 2016 on October 28, 2016 and incorporated herein by reference.)
10.13+	Amended and Restated Amgen Change of Control Severance Plan. (As Amended and Restated effective December 9, 2010 and subsequently amended effective March 2, 2011.) (Filed as an exhibit to Form 10-Q for the quarter ended March 31, 2011 on May 10, 2011 and incorporated herein by reference.)
10.14+	Amgen Inc. Executive Incentive Plan. (As Amended and Restated effective January 1, 2009.) (Filed as an exhibit to Form 10-Q for the quarter ended September 30, 2008 on November 7, 2008 and incorporated herein by reference.)
10.15+	First Amendment to the Amgen Inc. Executive Incentive Plan, effective December 13, 2012. (Filed as an exhibit to Form 10-K for the year ended December 31, 2012 on February 27, 2013 and incorporated herein by reference.)
10.16+	Second Amendment to the Amgen Inc. Executive Incentive Plan, effective January 1, 2017. (Filed as an exhibit to Form 10-Q for the quarter ended March 31, 2017 on April 27, 2017 and incorporated herein by reference.)
10.17+	Amgen Nonqualified Deferred Compensation Plan. (As Amended and Restated effective October 16, 2013.) (Filed as an exhibit to Form 10-K for the year ended December 31, 2013 on February 24, 2014 and incorporated herein by reference.)
10.18+	First Amendment to the Amgen Nonqualified Deferred Compensation Plan, effective October 14, 2016. (Filed as an exhibit to Form 10-Q for the quarter ended September 30, 2016 on October 28, 2016 and

	incorporated herein by reference.)
10.19+	Agreement between Amgen Inc. and David W. Meline, effective July 21, 2014. (Filed as an exhibit to Form 10-Q for the quarter ended September 30, 2014 on October 29, 2014 and incorporated herein by reference.)
10.20+	Agreement between Amgen Inc. and Jonathan Graham, dated May 11, 2015. (Filed as an exhibit to Form 10-Q/A for the quarter ended June 30, 2015 on August 6, 2015 and incorporated herein by reference.)
10.21+	Agreement between Amgen Inc. and Lori Johnston, dated October 25, 2016. (Filed as an exhibit to Form 10-K for the year ended December 31, 2016 on February 14, 2017 and incorporated herein by reference.)
10.22	Shareholders' Agreement, dated May 11, 1984, among Amgen, Kirin Brewery Company, Limited and Kirin-Amgen, Inc. (Filed as an exhibit to Form 10-K for the year ended December 31, 2000 on March 7, 2001 and incorporated herein by reference.)
10.23	Amendment No. 1 dated March 19, 1985, Amendment No. 2 dated July 29, 1985 (effective July 1, 1985), and Amendment No. 3, dated December 19, 1985, to the Shareholders' Agreement dated May 11, 1984. (Filed as an exhibit to Form 10-Q for the quarter ended June 30, 2000 on August 1, 2000 and incorporated herein by reference.)

Exhibit No.	Description
10.24	Amendment No. 4 dated October 16, 1986 (effective July 1, 1986), Amendment No. 5 dated December 6, 1986 (effective July 1, 1986), Amendment No. 6 dated June 1, 1987, Amendment No. 7 dated July 17, 1987 (effective April 1, 1987), Amendment No. 8 dated May 28, 1993 (effective November 13, 1990), Amendment No. 9 dated December 9, 1994 (effective June 14, 1994), Amendment No. 10 effective March 1, 1996, and Amendment No. 11 effective March 20, 2000 to the Shareholders' Agreement, dated May 11, 1984. (Filed as exhibits to Form 10-K for the year ended December 31, 2000 on March 7, 2001 and incorporated herein by reference.)
10.25	Amendment No. 12 to the Shareholders' Agreement, dated January 31, 2001. (Filed as an exhibit to Form 10-Q for the quarter ended June 30, 2005 on August 8, 2005 and incorporated herein by reference.)
10.26	Amendment No. 13 to the Shareholders' Agreement, dated June 28, 2007 (portions of the exhibit have been omitted pursuant to a request for confidential treatment). (Filed as an exhibit to Form 10-Q for the quarter ended June 30, 2007 on August 9, 2007 and incorporated herein by reference.)
10.27	Amendment No. 14 to the Shareholders' Agreement, dated March 26, 2014. (Filed as an exhibit to Form 10-Q for the quarter ended March 31, 2014 on April 30, 2014 and incorporated herein by reference.)
10.28	Assignment and License Agreement, dated October 16, 1986 (effective July 1, 1986), between Amgen and Kirin-Amgen, Inc. (Filed as an exhibit to Form 10-K for the year ended December 31, 2000 on March 7, 2001 and incorporated herein by reference.)
10.29	G-CSF United States License Agreement, dated June 1, 1987 (effective July 1, 1986), Amendment No. 1, dated October 20, 1988, and Amendment No. 2, dated October 17, 1991 (effective November 13, 1990), between Kirin-Amgen, Inc. and Amgen Inc. (Filed as exhibits to Form 10-K for the year ended December 31, 2000 on March 7, 2001 and incorporated herein by reference.)
10.30	G-CSF European License Agreement, dated December 30, 1986, between Kirin-Amgen and Amgen, Amendment No. 1 to Kirin-Amgen, Inc. / Amgen G-CSF European License Agreement, dated June 1, 1987, Amendment No. 2 to Kirin-Amgen, Inc. / Amgen G-CSF European License Agreement, dated March 15, 1998, Amendment No. 3 to Kirin-Amgen, Inc. / Amgen G-CSF European License Agreement, dated October 20, 1988, and Amendment No. 4 to Kirin-Amgen, Inc. / Amgen G-CSF European License Agreement, dated December 29, 1989, between Kirin-Amgen, Inc. and Amgen Inc. (Filed as exhibits to Form 10-K for the year ended December 31, 2000 on March 7, 2001 and incorporated herein by reference.)
10.31	Amended and Restated Credit Agreement, dated July 30, 2014, among Amgen Inc., the Banks therein named, Citibank, N.A., as administrative agent, and JPMorgan Chase Bank, N.A., as syndication agent. (Filed as an exhibit to Form 8-K on July 30, 2014 and incorporated herein by reference.)
10.32	Collaboration and License Agreement between Amgen Inc. and Celltech R&D Limited dated May 10, 2002 (portions of the exhibit have been omitted pursuant to a request for confidential treatment) and Amendment No. 1, effective June 9, 2003, to Collaboration and License Agreement between Amgen Inc. and Celltech R&D Limited (portions of the exhibit have been omitted pursuant to a request for confidential treatment). (Filed as an exhibit to Form 10-K/A for the year ended December 31, 2012 on July 31, 2013 and incorporated herein by reference.)
10.33	Amendment No. 2 to Collaboration and License Agreement, effective November 14, 2016, between Amgen Inc. and Celltech R&D Limited (portions of the exhibit have been omitted pursuant to a request

	for confidential treatment). (Filed as an exhibit to Form 10-K for the year ended December 31, 2016 on February 14, 2017 and incorporated herein by reference.)
10.34	Collaboration Agreement, dated April 22, 1994, by and between Bayer Corporation (formerly Miles, Inc.) and Onyx Pharmaceuticals, Inc. (Filed as an exhibit to Form 10-Q for the quarter ended March 31, 2011 by Onyx Pharmaceuticals, Inc. on May 10, 2011 and incorporated herein by reference.)
10.35	Amendment to Collaboration Agreement, dated April 24, 1996, by and between Bayer Corporation and Onyx Pharmaceuticals, Inc. (Filed as an exhibit to Form 10-Q for the quarter ended March 31, 2006 by Onyx Pharmaceuticals, Inc. on May 10, 2006 and incorporated herein by reference.)
10.36	Amendment to Collaboration Agreement, dated February 1, 1999, by and between Bayer Corporation and Onyx Pharmaceuticals, Inc. (Filed as an exhibit to Form 10-Q for the quarter ended March 31, 2006 by Onyx Pharmaceuticals, Inc. on May 10, 2006 and incorporated herein by reference.)
10.37	Settlement Agreement and Release, dated October 11, 2011, by and between Bayer Corporation, Bayer AG, Bayer HealthCare LLC and Bayer Pharma AG and Onyx Pharmaceuticals, Inc. (Filed as an exhibit to Form 10-K for the year ended December 31, 2011 by Onyx Pharmaceuticals, Inc. on February 27, 2012 and incorporated herein by reference.)

Exhibit No.	Description
10.38	Fourth Amendment to Collaboration Agreement, dated October 11, 2011, by and between Bayer Corporation and Onyx Pharmaceuticals, Inc. (Filed as an exhibit to Form 10-K for the year ended December 31, 2011 by Onyx Pharmaceuticals, Inc. on February 27, 2012 and incorporated herein by reference.)
10.39	Side Letter Regarding Collaboration Agreement, dated May 29, 2015, by and between Bayer HealthCare LLC and Onyx Pharmaceuticals, Inc. (Filed as an exhibit to Form 10-Q for the quarter ended June 30, 2015 on August 5, 2015 and incorporated herein by reference.)
10.40	Sourcing and Supply Agreement, dated January 6, 2017, by and between Amgen USA Inc., a wholly owned subsidiary of Amgen Inc., and DaVita Inc. (portions of the exhibit have been omitted pursuant to a request for confidential treatment). (Filed as an exhibit to Form 10-Q for the quarter ended March 31, 2017 on April 27, 2017 and incorporated herein by reference.)
10.41*	Exclusive License and Collaboration Agreement, dated August 28, 2015, by and between Amgen Inc. and Novartis Pharma AG (portions of the exhibit have been omitted pursuant to a request for confidential treatment).
10.42*	Amendment No. 1 to the Exclusive License and Collaboration Agreement, dated April 21, 2017, by and between Amgen Inc. and Novartis Pharma AG (portions of the exhibit have been omitted pursuant to a request for confidential treatment).
10.43*	Amendment No. 2 to the Exclusive License and Collaboration Agreement, dated April 21, 2017, by and between Amgen Inc. and Novartis Pharma AG (portions of the exhibit have been omitted pursuant to a request for confidential treatment).
10.44*	Collaboration Agreement, dated April 21, 2017, by and between Amgen Inc. and Novartis Pharma AG (portions of the exhibit have been omitted pursuant to a request for confidential treatment).
31*	Rule 13a-14(a) Certifications.
32**	Section 1350 Certifications.
101.INS*	XBRL Instance Document.
101.SCH*	XBRL Taxonomy Extension Schema Document.
101.CAL*	XBRL Taxonomy Extension Calculation Linkbase Document.
101.DEF*	XBRL Taxonomy Extension Definition Linkbase Document.
101.LAB*	XBRL Taxonomy Extension Label Linkbase Document.
101.PRE*	XBRL Taxonomy Extension Presentation Linkbase Document.

(* = filed herewith)
(** = furnished herewith and not “filed” for purposes of Section 18 of the Securities Exchange Act of 1934, as amended)
(+ = management contract or compensatory plan or arrangement)

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