02

Consolidated Financial Statements

Notes to the Statements of Cash Flows

Other Information

Bayer Group Consolidated Income Statements

[Table 4.1]

	Note	2014	2015
		€ million	€ million
Net sales	[7]	**41,339**	**46,324**
Cost of goods sold		(19,909)	(21,158)
Gross profit		**21,430**	**25,166**
Selling expenses	[8]	(10,669)	(12,367)
Research and development expenses	[9]	(3,537)	(4,281)
General administration expenses		(1,703)	(2,098)
Other operating income	[10]	710	1,110
Other operating expenses	[11]	(836)	(1,280)
EBIT[1]		**5,395**	**6,250**
Equity-method loss	[13.1]	(13)	(9)
Financial income		343	371
Financial expenses		(1,311)	(1,367)
Financial result	[13]	**(981)**	**(1,005)**
Income before income taxes		**4,414**	**5,245**
Income taxes	[14]	(1,071)	(1,227)
Income from continuing operations after income taxes		**3,343**	**4,018**
Income from discontinued operations after income taxes	[6.3]	**100**	**80**
Income after income taxes		**3,443**	**4,098**
of which attributable to noncontrolling interest	[15]	17	(12)
of which attributable to Bayer AG stockholders (net income)		**3,426**	**4,110**
		€	€
Earnings per share	[16]		
From continuing operations	[16]		
Basic		4.02	4.87
Diluted		4.02	4.87
From discontinued operations	[16]		
Basic		0.12	0.10
Diluted		0.12	0.10
From continuing and discontinued operations	[16]		
Basic		4.14	4.97
Diluted		4.14	4.97

2014 figures restated
[1] EBIT: earnings before financial result and taxes

Bayer Group Consolidated Statements of Comprehensive Income

[Table 4.2]

	Note	2014	2015
		€ million	€ million
Income after income taxes		**3,443**	**4,098**
of which attributable to noncontrolling interest	[15]	*17*	*(12)*
of which attributable to Bayer AG stockholders		*3,426*	*4,110*
Remeasurements of the net defined benefit liability for post-employment benefit plans	[25]	(5,159)	1,216
Income taxes	[14]	1,621	(430)
Other comprehensive income from remeasurements of the net defined benefit liability for post-employment benefit plans		**(3,538)**	**786**
Other comprehensive income that will not be reclassified subsequently to profit or loss		**(3,538)**	**786**
Changes in fair values of derivatives designated as cash flow hedges	[30.3]	(146)	(266)
Reclassified to profit or loss		(46)	304
Income taxes	[14]	57	(25)
Other comprehensive income from cash flow hedges		**(135)**	**13**
Changes in fair values of available-for-sale financial assets	[20]	–	(5)
Reclassified to profit or loss		–	1
Income taxes	[14]	(2)	(2)
Other comprehensive income from available-for-sale financial assets		**(2)**	**(6)**
Changes in exchange differences recognized on translation of operations outside the eurozone		1,424	748
Changes in exchange differences recognized on translation of operations outside the eurozone, relating to associates accounted for using the equity method		(40)	(20)
Reclassified to profit or loss		–	–
Other comprehensive income from exchange differences		**1,384**	**728**
Other comprehensive income that may be reclassified subsequently to profit or loss		**1,247**	**735**
Effects of changes in scope of consolidation		**–**	**–**
Total other comprehensive income[1]		**(2,291)**	**1,521**
of which attributable to noncontrolling interest		*11*	*33*
of which attributable to Bayer AG stockholders		*(2,302)*	*1,488*
Total comprehensive income		**1,152**	**5,619**
of which attributable to noncontrolling interest		*28*	*21*
of which attributable to Bayer AG stockholders		*1,124*	*5,598*

[1] total changes recognized outside profit or loss

Bayer Group Consolidated Statements of Financial Position

[Table 4.3]

	Note	Dec. 31, 2014	Dec. 31, 2015
		€ million	€ million
Noncurrent assets			
Goodwill	[17]	15,347	16,096
Other intangible assets	[17]	15,653	15,178
Property, plant and equipment	[18]	11,428	12,375
Investments accounted for using the equity method	[19]	223	246
Other financial assets	[20]	1,107	1,092
Other receivables	[23]	447	430
Deferred taxes	[14]	3,802	4,679
		48,007	**50,096**
Current assets			
Inventories	[21]	8,478	8,550
Trade accounts receivable	[22]	9,097	9,933
Other financial assets	[20]	723	756
Other receivables	[23]	1,488	2,017
Claims for income tax refunds		588	509
Cash and cash equivalents		1,853	1,859
Assets held for sale and discontinued operations	[6.3]	–	197
		22,227	**23,821**
Total assets		**70,234**	**73,917**
Equity	[24]		
Capital stock of Bayer AG		2,117	2,117
Capital reserves of Bayer AG		6,167	6,167
Other reserves		11,822	15,981
Equity attributable to Bayer AG stockholders		**20,106**	**24,265**
Equity attributable to noncontrolling interest		112	1,180
		20,218	**25,445**
Noncurrent liabilities			
Provisions for pensions and other post-employment benefits	[25]	12,236	10,873
Other provisions	[26]	1,593	1,740
Financial liabilities	[27]	18,484	16,513
Income tax liabilities		423	475
Other liabilities	[29]	1,088	1,065
Deferred taxes	[14]	689	826
		34,513	**31,492**
Current liabilities			
Other provisions	[26]	4,530	5,045
Financial liabilities	[27]	3,376	3,421
Trade accounts payable	[28]	5,363	5,945
Income tax liabilities		445	923
Other liabilities	[29]	1,789	1,534
Liabilities directly related to assets held for sale and discontinued operations	[6.3]	–	112
		15,503	**16,980**
Total equity and liabilities		**70,234**	**73,917**

2014 figures restated

Bayer Group Consolidated Statements of Cash Flows

[Table 4.4]

	Note	2014	2015
		€ million	€ million
Income after income taxes		3,343	4,018
Income taxes		1,071	1,227
Financial result		981	1,005
Income taxes paid or accrued		(1,304)	(2,258)
Depreciation, amortization and impairments		2,920	3,333
Change in pension provisions		(334)	(221)
(Gains) losses on retirements of noncurrent assets		30	(105)
Gross cash flow		**6,707**	**6,999**
Decrease (increase) in inventories		(748)	(187)
Decrease (increase) in trade accounts receivable		(1,072)	(1,061)
(Decrease) increase in trade accounts payable		485	402
Changes in other working capital, other noncash items		325	694
Net cash provided by (used in) operating activities (net cash flow) from continuing operations		**5,697**	**6,847**
Net cash provided by (used in) operating activities (net cash flow) from discontinued operations		113	43
Net cash provided by (used in) operating activities (net cash flow)	[33]	**5,810**	**6,890**
Cash outflows for additions to property, plant, equipment and intangible assets		(2,371)	(2,517)
Cash inflows from sales of property, plant, equipment and other assets		143	193
Cash inflows from divestitures		304	2
Cash inflows from (outflows for) noncurrent financial assets		(10)	(26)
Cash outflows for acquisitions less acquired cash		(13,545)	(176)
Interest and dividends received		107	106
Cash inflows from (outflows for) current financial assets		(167)	(344)
Net cash provided by (used in) investing activities	[34]	**(15,539)**	**(2,762)**
Proceeds from shares of Covestro AG		–	1,490
Dividend payments		(1,739)	(1,869)
Issuances of debt		27,584	16,620
Retirements of debt		(15,746)	(19,549)
Interest paid including interest-rate swaps		(541)	(812)
Interest received from interest-rate swaps		179	160
Cash outflows for the purchase of additional interests in subsidiaries		(1)	(14)
Net cash provided by (used in) financing activities	[35]	**9,736**	**(3,974)**
Change in cash and cash equivalents due to business activities		**7**	**154**
Cash and cash equivalents at beginning of year		**1,662**	**1,853**
Change in cash and cash equivalents due to changes in scope of consolidation		–	5
Change in cash and cash equivalents due to exchange rate movements		184	(153)
Cash and cash equivalents at end of year		**1,853**	**1,859**

2014 figures restated

Bayer Group Consolidated Statements of Changes in Equity

	Capital stock of Bayer AG	Capital reserves of Bayer AG	Retained earnings including net income	Exchange differences
	€ million	€ million	€ million	€ million
Dec. 31, 2013	**2,117**	**6,167**	**14,817**	**(2,545)**
Equity transactions with owners				
Capital increase/decrease				
Dividend payments			(1,737)	
Other changes			6	
Other comprehensive income			(3,538)	1,373
Income after income taxes			3,426	
Dec. 31, 2014	**2,117**	**6,167**	**12,974**	**(1,172)**
Equity transactions with owners				
Capital increase/decrease				
Dividend payments			(1,861)	
Other changes			582	(155)
Other comprehensive income			776	705
Income after income taxes			4,110	
Dec. 31, 2015	**2,117**	**6,167**	**16,581**	**(622)**

[Table 4.5]

Accumulated total comprehensive income						
	Fair-value measurement of securities	Cash flow hedges	Revaluation surplus	Equity attributable to Bayer AG stockholders	Equity attributable to noncontrolling interest	Equity
	€ million	€ million	€ million	€ million	€ million	€ million
	32	**99**	**31**	**20,718**	**86**	**20,804**
				(1,737)	(2)	(1,739)
			(5)	1		1
	(2)	(135)		(2,302)	11	(2,291)
				3,426	17	3,443
	30	**(36)**	**26**	**20,106**	**112**	**20,218**
				(1,861)	(8)	(1,869)
			(5)	422	1,055	1,477
	(6)	13		1,488	33	1,521
				4,110	(12)	4,098
	24	**(23)**	**21**	**24,265**	**1,180**	**25,445**

Notes to the Consolidated Financial Statements of the Bayer Group

1. Key data by segment and region

Key Data by Segment

	HealthCare			
	Pharmaceuticals		Consumer Health	
	2014	2015	2014	2015
	€ million	€ million	€ million	€ million
Net sales (external)	12,052	13,745	7,023	9,129
Change	+7.7%	+14.0%	+4.4%	+30.0%
Currency-adjusted change	+11.6%	+9.9%	+8.3%	+25.0%
Intersegment sales	99	38	8	5
Net sales (total)	12,151	13,783	7,031	9,134
Other operating income	184	137	150	129
EBIT	2,371	2,807	1,099	1,243
EBIT before special items	2,657	3,061	1,144	1,589
EBITDA before special items	3,699	4,195	1,658	2,224
Gross cash flow	2,745	2,737	1,153	1,384
Capital invested	17,288	17,661	19,718	21,172
CFROI	15.3%	14.1%	9.8%	5.9%
Net cash flow	3,266	2,863	1,065	1,458
Equity-method income (loss)	1	1	–	–
Equity-method investments	2	3	6	11
Assets	19,377	19,477	19,387	20,263
Capital expenditures	668	701	202	288
Additions to noncurrent assets from acquisitions	2,645	(122)	10,153	126
Depreciation, amortization and impairments	1,075	1,180	514	684
of which impairment losses	39	48	69	73
of which impairment loss reversals	–	–	–	(1)
Liabilities	7,075	7,487	3,079	3,172
Research and development expenses	1,878	2,333	386	501
Number of employees (as of Dec. 31)	39,069	38,927	20,130	18,894

2014 figures restated

Key Data by Region

	Europe		North America	
	2014	2015	2014	2015
	€ million	€ million	€ million	€ million
Net sales (external) – by market	15,312	15,949	9,953	12,740
Change	+5.2%	+4.2%	+7.0%	+28.0%
Currency-adjusted change	+6.3%	+5.2%	+8.4%	+10.8%
Net sales (external) – by point of origin	16,999	17,704	9,787	12,450
Change	+5.6%	+4.1%	+6.6%	+27.2%
Currency-adjusted change	+6.7%	+5.1%	+8.0%	+9.4%
Interregional sales	9,096	10,865	3,294	3,995
Other operating income	324	572	146	109
EBIT	3,481	4,019	808	1,490
Assets	29,378	33,420	23,035	20,522
Capital expenditures	1,286	1,424	639	588
Depreciation, amortization and impairments	1,795	1,860	655	834
Liabilities	32,120	28,914	12,298	13,461
Research and development expenses	2,412	2,947	866	1,051
Number of employees (as of Dec. 31)	54,595	55,892	15,819	15,985

2014 figures restated

[Table 4.6]

CropScience		Covestro		Reconciliation					
CropScience		Covestro		All Other Segments		Corporate Center and Consolidation		Group	
2014	2015	2014	2015	2014	2015	2014	2015	2014	2015
€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
9,494	10,367	11,651	11,982	1,112	1,097	7	4	41,339	46,324
+7.7%	+9.2%	+3.7%	+2.8%	−4.9%	−1.3%	–	−42.9%	+5.6%	+12.1%
+11.4%	+2.3%	+4.5%	−5.1%	−4.4%	−0.8%	–	−42.9%	+8.5%	+6.2%
49	34	59	64	2,243	2,249	(2,458)	(2,390)	–	–
9,543	10,401	11,710	12,046	3,355	3,346	(2,451)	(2,386)	41,339	46,324
208	644	81	67	16	69	71	64	710	1,110
1,806	2,103	555	635	(11)	(39)	(425)	(499)	5,395	6,250
1,838	1,881	598	967	21	43	(425)	(472)	5,833	7,069
2,360	2,416	1,187	1,659	200	238	(419)	(466)	8,685	10,266
1,835	1,941	961	1,113	331	147	(318)	(323)	6,707	6,999
11,772	11,854	11,019	11,293	1,197	757	(117)	(217)	60,877	62,520
15.3%	14.8%	6.0%	7.0%	–	–	–	–	11.7%	9.6%
950	761	880	1,452	360	26	(824)	287	5,697	6,847
–	(1)	(14)	(9)	–	–	–	–	(13)	(9)
–	4	215	227	–	–	–	1	223	246
12,676	14,230	9,347	9,360	2,253	2,324	7,194	8,263	70,234	73,917
699	737	647	514	261	311	7	5	2,484	2,556
166	98	–	27	–	–	821	–	13,785	129
552	535	594	733	179	195	6	6	2,920	3,333
100	35	11	69	6	4	–	–	225	229
–	–	(2)	–	–	–	–	–	(2)	(1)
5,214	5,344	3,520	3,740	4,682	4,814	26,446	23,915	50,016	48,472
974	1,089	210	262	29	32	60	64	3,537	4,281
23,060	23,496	14,122	15,770	20,256	19,015	734	709	117,371	116,811

[Table 4.7]

Asia/Pacific		Latin America/Africa/Middle East		Reconciliation		Total	
2014	2015	2014	2015	2014	2015	2014	2015
€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
9,067	10,264	7,007	7,371	–	–	41,339	46,324
+5.7%	+13.2%	+4.4%	+5.2%	–	–	+5.6%	+12.1%
+8.7%	+1.4%	+12.9%	+8.1%	–	–	+8.5%	+6.2%
8,820	10,023	5,733	6,147	–	–	41,339	46,324
+5.1%	+13.6%	+4.5%	+7.2%	–	–	+5.6%	+12.1%
+8.2%	+1.5%	+14.8%	+11.3%	–	–	+8.5%	+6.2%
719	828	545	695	(13,654)	(16,383)	–	–
70	107	170	322	–	–	710	1,110
594	546	937	694	(425)	(499)	5,395	6,250
8,540	9,492	5,479	5,804	3,802	4,679	70,234	73,917
403	402	156	142	–	–	2,484	2,556
381	496	83	137	6	6	2,920	3,333
3,436	3,583	1,473	1,688	689	826	50,016	48,472
198	214	61	69	–	–	3,537	4,281
30,132	28,818	16,825	16,116	–	–	117,371	116,811

2. General information

The consolidated financial statements of the Bayer Group as of December 31, 2015, were prepared by Bayer-Aktiengesellschaft (Bayer AG) according to the International Financial Reporting Standards (IFRS) issued by the International Accounting Standards Board (IASB), London, and the interpretations of the IFRS Interpretations Committee (IFRS IC), both as endorsed by the European Union and in effect at the end of the reporting period. The applicable further requirements of Section 315a of the German Commercial Code were also taken into account.

Bayer AG is a global enterprise based in Germany. Its registered office is at Kaiser-Wilhelm-Allee 1, 51368 Leverkusen. Its material business activities in the fields of health care, agriculture and high-tech polymer materials took place in the reporting period in the HealthCare, CropScience and Covestro subgroups. The activities of the various segments are outlined in NOTE [5].

A declaration concerning the German Corporate Governance Code has been issued pursuant to Section 161 of the German Stock Corporation Act and made available to stockholders.

The Board of Management of Bayer AG prepared the consolidated financial statements of the Bayer Group on February 16, 2016. They were discussed by the Audit Committee of the Supervisory Board of Bayer AG at its meeting on February 23, 2016, and approved by the Supervisory Board at its plenary meeting on February 24, 2016.

In the income statement and statement of comprehensive income, statement of financial position, statement of cash flows and statement of changes in equity, certain items are combined for the sake of clarity. These are explained in the Notes. The income statement is prepared using the cost-of-sales method. Assets and liabilities are classified by maturity. They are regarded as current if they mature within one year or within the normal business cycle of the company or the Group, or are held for sale. The normal business cycle is defined for this purpose as beginning with the procurement of the resources necessary for the production process and ending with the receipt of cash or cash equivalents as consideration for the sale of the goods or services produced in that process. Inventories and trade accounts receivable and payable are always presented as current items. Deferred tax assets and liabilities and pension provisions are always presented as noncurrent items.

The consolidated financial statements of the Bayer Group are drawn up in euros. Amounts are stated in millions of euros (€ million) except where otherwise indicated.

The financial statements of the individual consolidated companies are prepared as of the closing date of the Group financial statements.

3. Effects of new financial reporting standards

FINANCIAL REPORTING STANDARDS APPLIED FOR THE FIRST TIME IN 2015

In December 2013, the IASB published the fifth and sixth sets of "Annual Improvements to IFRSs." The amendments address details of the recognition, measurement and disclosure of business transactions and serve to standardize terminology. They consist mainly of editorial changes to existing standards. The first-time application of these amendments had no material impact on the presentation of Bayer's financial position or results of operations, or on earnings per share.

PUBLISHED FINANCIAL REPORTING STANDARDS THAT HAVE NOT YET BEEN APPLIED

The IASB and the IFRS Interpretations Committee have issued the following standards, amendments to standards, and interpretations whose application was not yet mandatory for the 2015 fiscal year and is conditional upon their endorsement by the European Union.

In November 2009, the IASB issued IFRS 9 (Financial Instruments), containing rules for the classification and measurement of financial assets. In October 2010, it issued new requirements for the classification and measurement of financial liabilities, incorporating them into IFRS 9. The new standard defines two instead of four measurement categories for financial assets, with classification to be based partly on the company's business model and partly on the characteristics of the contractual cash flows from the respective financial asset. In the case of equity investments that are not held for trading, an entity may irrevocably opt at initial recognition to recognize future changes in their fair value outside profit or loss in the statement of comprehensive income. In November 2013, the IASB issued further amendments under the title "Hedge Accounting and amendments to IFRS 9, IFRS 7 and IAS 39." The focus of the amendments is on a thorough revision of hedge accounting rules with the aim of more appropriately reflecting risk management activities in the financial statements. This involves additional disclosures in the notes. In July 2014, the IASB published the new rules for the disclosure of financial instrument impairments. This new impairment model is based on the principle of accounting for expected losses. It also introduces a third measurement category "fair value through other comprehensive income" for certain debt instruments. IFRS 9 is to be applied for annual periods beginning on or after January 1, 2018. The standard has not yet been endorsed by the European Union. Bayer is currently evaluating the impact the standard will have on the presentation of the Group's financial position and results of operations.

In January 2014, the IASB issued IFRS 14 (Regulatory Deferral Accounts). This standard addresses the accounting for regulatory deferral account balances by first-time adopters of the IFRS and therefore does not apply to entities that already prepare their financial statements according to the IFRS. IFRS 14 is to be applied for annual periods beginning on or after January 1, 2016. The standard has not yet been endorsed by the European Union. IFRS 14 will have no impact on the presentation of Bayer's financial position or results of operations.

In May 2014, the IASB published amendments to IAS 16 (Property, Plant and Equipment) and IAS 38 (Intangible Assets) entitled "Clarification of Acceptable Methods of Depreciation and Amortisation." These amendments clarify that revenue-based depreciation of property, plant and equipment or amortization of intangible assets is inappropriate. The amendments are to be applied for annual periods beginning on or after January 1, 2016. They will have no impact on the presentation of Bayer's financial position or results of operations.

In May 2014, the IASB published amendments to IFRS 11 (Joint Arrangements) entitled "Accounting for Acquisitions of Interests in Joint Operations." The amendments clarify the accounting for the acquisition of an interest in a joint operation in which the activity constitutes a business. They are to be applied for annual periods beginning on or after January 1, 2016. The possible impact on the future presentation of Bayer's financial position and results of operations depends on future acquisitions of interests in joint operations. These cannot be reliably predicted.

In May 2014, the IASB issued IFRS 15 (Revenue from Contracts with Customers). IFRS 15 is the new standard for revenue recognition. It clarifies that the expected consideration for goods or services must be recognized as revenue when the goods or intangible assets are transferred or the services are rendered to the customer. This principle is applied in five steps. In step 1, the contract with the customer is identified. In step 2, the distinct performance obligations in the contract are identified. In step 3, the transaction price is determined. In step 4, this transaction price is allocated to the distinct performance obligations. Finally, in step 5, revenue is recognized when the identified distinct performance obligations are satisfied, either over time or at a point in time. IFRS 15 replaces IAS 11 (Construction Contracts), IAS 18 (Revenue), IFRIC 13 (Customer Loyalty Programmes), IFRIC 15 (Agreements for the Construction of Real Estate), IFRIC 18 (Transfers of Assets from Customers) and SIC-31 (Revenue-Barter Transactions Involving Advertising Services). An amendment to IFRS 15 was issued in September 2015, deferring the date of first-time application from January 1, 2017 to January 1, 2018. The new standard is thus to be applied for annual periods beginning on or after January 1, 2018. The standard has not yet been endorsed by the European Union. Bayer is currently evaluating the impact the changes will have on the presentation of its financial position and results of operations.

In June 2014, the IASB issued amendments to IAS 16 (Property, Plant and Equipment) and IAS 41 (Agriculture) entitled "Agriculture: Bearer Plants." The amendments clarify that plants used solely to grow agricultural produce are to be accounted for according to IAS 16 (Property, Plant and Equipment). The amendments are to be applied for annual periods beginning on or after January 1, 2016. The changes are not expected to have a material impact on the presentation of Bayer’s financial position or results of operations.

In September 2014, the IASB published the seventh set of “Annual Improvements to IFRSs.” The amendments address details of the recognition, measurement and disclosure of business transactions and serve to standardize terminology. They consist mainly of editorial changes to existing standards. They are applicable for annual periods beginning on or after July 1, 2016. The changes are not expected to have a material impact on the presentation of Bayer’s financial position or results of operations.

In September 2014, the IASB published amendments to IFRS 10 (Consolidated Financial Statements) and IAS 28 (Investments in Associates and Joint Ventures) entitled "Sale or Contribution of Assets between an Investor and its Associate or Joint Venture." The amendments clarify that in a transaction involving an associate or joint venture the extent of gain or loss recognition depends on whether the assets sold or contributed constitute a business. An amendment issued in December 2015 indefinitely defers the effective date of the September 2014 amendments, which were originally intended to be applied for annual periods beginning on or after January 1, 2016. The IASB is to set a new effective date.

In December 2014, further amendments were issued to IFRS 10 (Consolidated Financial Statements), IFRS 12 (Disclosure of Interests in Other Entities) and IAS 28 (Investments in Associates and Joint Ventures) entitled "Investment Entities: Applying the Consolidation Exception." The amendments largely clarify which subsidiaries an investment entity must consolidate and which must be recognized at fair value through profit or loss. The amendments are to be applied for annual periods beginning on or after January 1, 2016. The amendments have not yet been endorsed by the European Union. The changes are not expected to have a material impact on the presentation of Bayer’s financial position or results of operations.

In December 2014, the IASB published amendments to IAS 1 (Presentation of Financial Statements) under its Disclosure Initiative. The amendments are intended to clarify the disclosure requirements and relate to materiality, line-item aggregation, subtotals, the structure of the notes to the financial statements, the identification of significant accounting policies and the separate disclosure of the other comprehensive income of associates and joint ventures. The amendments are to be applied for annual periods beginning on or after January 1, 2016. The changes are not expected to have a material impact on the presentation of Bayer’s financial position or results of operations.

In January 2016, the IASB issued IFRS 16 (Leases), the new standard for lease accounting. IFRS 16 introduces a uniform lease accounting model for lessees, requiring recognition of assets and liabilities for all leases with a term of more than 12 months unless such leases are immaterial. It will eliminate the current requirement for lessees to classify leases as either operating leases – without recognizing the respective assets or liabilities – or as finance leases. The new standard is to be applied for annual periods beginning on or after January 1, 2019. The standard has not yet been endorsed by the European Union. Bayer is currently evaluating the impact the standard will have on the presentation of its financial position and results of operations.

In January 2016, the IASB published amendments to IAS 12 (Income Taxes) under the title “Recognition of Deferred Tax Assets for Unrealised Losses.” These amendments clarify the accounting for deferred tax assets related to debt instruments measured at fair value. The amendments are to be applied for annual periods beginning on or after January 1, 2017. They have not yet been endorsed by the European Union. Bayer is currently evaluating the impact the changes will have on the presentation of its financial position and results of operations.

In January 2016, the IASB published amendments to IAS 7 (Statement of Cash Flows) under its Disclosure Initiative. The following changes in liabilities arising from financing activities must be disclosed in the future: (i) changes from financing cash flows; (ii) changes arising from obtaining or losing control of subsidiaries or other businesses; (iii) the effect of changes in foreign exchange rates; (iv) changes in fair values; (v) other changes. The amendments are to be applied for annual periods beginning on or after January 1, 2017. They have not yet been endorsed by the European Union. Bayer is currently evaluating the impact the changes will have on the presentation of its financial position and results of operations.

4. Basic principles, methods and critical accounting estimates

The financial statements of the consolidated companies are prepared according to uniform accounting policies and measurement principles.

The consolidated financial statements of the Group are based on the principle of the historical cost of acquisition, construction or production, with the exception of the items reflected at fair value, such as financial assets held for trading or available for sale, and derivatives.

In preparing the consolidated financial statements, the management has to make certain assumptions and estimates that may substantially impact the presentation of the Group's financial position and/or results of operations.

Such estimates, assumptions or the exercise of discretion mainly relate to the useful life of noncurrent assets, the discounted cash flows used for impairment testing and purchase price allocations, and the recognition of provisions, including those for litigation-related expenses, pensions and other benefits, taxes, environmental compliance and remediation costs, sales allowances, product liability and guarantees. Essential estimates and assumptions that may affect reporting in the various item categories of the financial statements are described in the following sections of this note. Estimates are based on historical experience and other assumptions that are considered reasonable under given circumstances. They are continually reviewed but may vary from the actual values.

Changes in accounting policies or measurement principles in light of new or revised standards are applied retrospectively, except as otherwise provided in the respective standard. The income statement for the previous year and the opening statement of financial position for that year are adjusted as if the new accounting policies and/or measurement principles had always been applied.

CONSOLIDATION

The consolidated financial statements include subsidiaries, joint arrangements and associates.

Subsidiaries are companies over which Bayer AG is currently able to exercise power by virtue of existing rights. Power means the ability to direct the activities that significantly influence a company's profitability. Control is therefore only deemed to exist if Bayer AG is exposed, or has rights, to variable returns from its involvement with a company and has the ability to use its power over that company to affect the amount of that company's returns. The ability to control another company generally derives from Bayer AG's direct or indirect ownership of a majority of the voting rights. In the case of structured entities, however, control is based on contractual agreements. Inclusion of an entity's accounts in the consolidated financial statements begins when the Bayer Group is able to exercise control over the entity and ceases when it is no longer able to do so.

Sales revenues, income and expenses, and gains and losses arising from transactions among the consolidated companies, along with receivables and liabilities existing between them, are eliminated. Deferred income tax effects are reflected in consolidation.

Capital consolidation is performed by offsetting the carrying amounts of subsidiaries against their underlying equity. When a majority interest in a company is acquired, its pro-rated equity at the acquisition date is measured using the acquisition method. Identifiable assets and liabilities (including contingent liabilities) are recognized at their fair values along with attributable deferred tax assets and liabilities. Any remaining difference to the purchase price is recognized as goodwill. The purchase prices of acquired companies domiciled outside the eurozone are translated at the exchange rates in effect at the respective dates of acquisition.

The purchase of shares from other owners is presented as an equity transaction. The difference between the equity acquired from other owners and the purchase price is therefore directly offset against equity.

Joint operations and joint ventures are based on joint arrangements. A joint arrangement is deemed to exist if the Bayer Group through a contractual agreement jointly controls activities managed with a third party. Joint control is only deemed to exist if decisions regarding the relevant activities require the unanimous consent of the parties sharing control.

A joint operation is a joint arrangement whereby the parties that have joint control of the arrangement have rights to the assets, and obligations for the liabilities, relating to the arrangement. The Bayer Group recognizes the share of assets, liabilities, revenues and expenses relating to its interest in a joint operation in accordance with its rights and obligations.

A joint venture is a joint arrangement whereby the parties that have joint control of the arrangement have rights to the net assets of the arrangement. Joint ventures are accounted for using the equity method.

Associates over which Bayer AG exerts significant influence, generally through an ownership interest between 20% and 50%, also are accounted for using the equity method.

The carrying amount of a company accounted for using the equity method is adjusted annually by the percentage of any change in its equity corresponding to Bayer's percentage interest in the company. Differences arising upon first-time inclusion using the equity method were accounted for according to full-consolidation principles. Bayer's share of changes in these companies' equities recognized in profit or loss – including impairment losses recognized on goodwill – are reflected in equity-method income/loss.

Companies that do not have a material impact on the Group's financial position or results of operations, either individually or in aggregate, are accounted for at cost of acquisition less any impairment losses.

FOREIGN CURRENCY TRANSLATION

The financial statements of the individual companies for inclusion in the consolidated financial statements are prepared in their respective functional currencies. A company's functional currency is that of the economic environment in which it primarily generates and expends cash. The majority of combined companies carry out their activities autonomously from a financial, economic and organizational point of view, and their functional currencies are therefore the respective local currencies.

In the separate financial statements of the individual consolidated companies, receivables and liabilities in currencies other than the respective functional currency are translated at closing rates. Related exchange differences are recognized in profit or loss as exchange gains or losses under other financial income and expenses.

In the consolidated financial statements, the assets and liabilities of companies outside the eurozone at the start and end of the year are translated into euros at closing rates. All changes occurring during the year and all income and expense items and cash flows are translated into euros at average monthly rates. Equity components are translated at the historical exchange rates prevailing at the respective dates of their first-time recognition in Group equity.

The exchange differences arising between the resulting amounts and those obtained by translating at closing rates are recognized outside profit or loss as “Exchange differences on translation of operations outside the eurozone” (in other comprehensive income) or “Exchange differences” (in the tables in the notes). When a company is deconsolidated, such exchange differences are reclassified from equity to profit or loss.

The exchange rates for major currencies against the euro varied as follows:

Exchange Rates for Major Currencies [Table 4.8]

		Closing rate		Average rate	
€1/		2014	2015	2014	2015
BRL	Brazil	3.22	4.31	3.12	3.64
CAD	Canada	1.41	1.51	1.47	1.42
CHF	Switzerland	1.20	1.08	1.21	1.07
CNY	China	7.54	7.06	8.17	6.97
GBP	United Kingdom	0.78	0.73	0.81	0.73
JPY	Japan	145.23	131.07	140.32	134.28
MXN	Mexico	17.87	18.91	17.65	17.56
RUB	Russia	72.34	80.67	50.25	67.23
USD	United States	1.21	1.09	1.33	1.11

Subsidiaries whose functional currencies have experienced a cumulative inflation rate of more than 100% over the past three years apply the rules of IAS 29 (Financial Reporting in Hyperinflationary Economies). Gains and losses incurred upon adjusting the carrying amounts of nonmonetary assets and liabilities for inflation are recognized in other operating income and expenses.

In 2015, as in prior years, the rules of IAS 29 were relevant for Bayer S.A., Venezuela.

Several widely differing official exchange rates for the Venezuelan bolivar (VEF) against the U.S. dollar were published in 2014. Bayer S.A., Venezuela, was included in the consolidated financial statements for 2014 at the official exchange rate potentially applicable to future capital transfers if permission for conversion into U.S. dollars is granted (SICAD I).

In 2015, a further official exchange rate (SIMADI) was introduced. In view of the low U.S. dollar allocation at the more favorable government-subsidized exchange rates and the continued deterioration in the Venezuelan economy, currency translation was switched to the SIMADI rate. The resulting U.S. dollar amount is translated at the respective dollar/euro rate.

As of December 31, 2015, Bayer S.A., Venezuela, had trade accounts equivalent to €121 million (2014: €150 million) payable to other Group companies in U.S. dollars. Impairment losses of €91 million were recognized on receivables in 2015 because the Venezuelan exchange control authority did not allocate U.S. dollars at the subsidized exchange rate with respect to the full amounts of older receivables. Hyperinflationary exchange gains of €43 million were incurred in 2015 (2014: losses of €59 million), mainly from the net foreign currency position, in connection with the depreciation of the VEF against the U.S. dollar.

NET SALES AND OTHER OPERATING INCOME

All revenues derived from the selling of products or rendering of services or from licensing agreements are recognized as sales. Other operational revenues are recognized as other operating income. Sales are recognized in profit or loss when the significant risks and rewards of ownership of the goods have been transferred to the customer, the company retains neither continuing managerial involvement to the degree usually associated with ownership nor effective control over the goods sold, the amount of revenue and costs incurred or to be incurred can be measured reliably, and it is sufficiently probable that the economic benefits associated with the transaction will flow to the company.

Sales are stated net of sales taxes, other taxes and sales deductions at the fair value of the consideration received or to be received. Sales deductions are estimated amounts for rebates, cash discounts and product returns. They are deducted at the time the sales are recognized, and appropriate provisions are recorded. Sales deductions are estimated primarily on the basis of historical experience, specific contractual terms and future expectations of sales development. It is unlikely that factors other than these could materially affect sales deductions in the Bayer Group. Adjustments to provisions made in prior periods for rebates, cash discounts or product returns were of secondary importance for income before income taxes in the years under report.

Provisions for rebates in 2015 amounted to 3.8% of total net sales (2014: 3.4%). In addition to rebates, Group companies offer cash discounts for prompt payment in some countries. Provisions for cash discounts as of December 31, 2015 and December 31, 2014 were less than 0.1% of total net sales for the respective year.

Sales are reduced by the amount of the provisions for expected returns of defective goods or of saleable products that may be returned under contractual arrangements. The net sales are reduced on the date of sale or on the date when the amount of future returns can be reasonably estimated. Provisions for product returns in 2015 amounted to 0.4% of total net sales (2014: 0.5%). If future product returns cannot be reasonably estimated and are significant to a sales transaction, the revenues and the related cost of sales are deferred until a reasonable estimate can be made or the right to return the goods has expired.

Some of the Bayer Group's revenues are generated on the basis of licensing agreements under which third parties have been granted rights to products and technologies. Payments received, or expected to be received, that relate to the sale or outlicensing of technologies or technological expertise are recognized in profit or loss as of the effective date of the respective agreement if all rights relating to the technologies and all obligations resulting from them have been relinquished under the contract terms. However, if rights to the technologies continue to exist or obligations resulting from them have yet to be fulfilled, the payments received are deferred accordingly. Upfront payments and similar nonrefundable payments received under these agreements are recorded as other liabilities and recognized in profit or loss according to the degree of performance over the estimated performance period stipulated in the agreement.

License agreements and research and development collaboration agreements may be multiple-deliverable arrangements with varying consideration terms, such as upfront payments and milestone or similar payments. Such agreements therefore have to be assessed to determine whether the revenues allocated to individual deliverables must be recognized at different points in time and therefore form separate units of account.

To qualify as a separate unit of account for revenue recognition purposes, a deliverable must have value to the licensee on a standalone basis. If this is not the case, the agreement as a whole or a combination of individual deliverables that has value on a standalone basis forms a unit of account.

If necessary goods have yet to be delivered or necessary services provided for a unit of account and such delivery or provision is probable, nonrefundable (royalty) payments already received are recognized through profit or loss over the periods in which these goods are delivered or these services are provided.

Income may also arise from the exchange of intangible assets. The amount recognized is generally based on the fair value of the assets given up, calculated using the discounted cash flow method. If the assets given up are internally generated, the gain from the exchange generally equals their fair value.

RESEARCH AND DEVELOPMENT EXPENSES

For accounting purposes, research expenses are defined as costs incurred for current or planned investigations undertaken with the prospect of gaining new scientific or technical knowledge and understanding. Development expenses are defined as costs incurred for the application of research findings or specialist knowledge to plans or designs for the production, provision or development of new or substantially improved products, services or processes, respectively, prior to the commencement of commercial production or use.

Research and development expenses are incurred in the Bayer Group for in-house research and development activities as well as numerous research and development collaborations and alliances with third parties.

Research and development expenses mainly comprise the costs for active ingredient discovery, clinical studies, research and development activities in the areas of application technology and engineering, field trials, regulatory approvals and approval extensions.

Research costs cannot be capitalized. The conditions for capitalization of development costs are closely defined: an intangible asset must be recognized if, and only if, there is reasonable certainty of receiving future cash flows that will cover an asset's carrying amount. Since our own development projects are often subject to regulatory approval procedures and other uncertainties, the conditions for the capitalization of costs incurred before receipt of approvals are not normally satisfied.

In the case of research and development collaborations, a distinction is generally made between payments on contract signature, upfront payments, milestone payments and cost reimbursements for work performed. If an intangible asset (such as the right to the use of an active ingredient) is acquired in connection with any of these payment obligations, the respective payment is capitalized even if it is uncertain whether further development work will ultimately lead to the production of a saleable product. Reimbursements of the cost of research or development work are recognized in profit or loss, except where they are required to be capitalized.

INCOME TAXES

Income taxes comprise the taxes levied on taxable income in the individual countries along with changes in deferred tax assets and liabilities that are recognized in profit or loss. The income taxes recognized are reflected at the amounts likely to be payable under the statutory regulations in force, or already enacted in relation to future periods, at the end of the reporting period.

In compliance with IAS 12 (Income Taxes), deferred taxes are recognized for temporary differences between the carrying amounts of assets and liabilities in the statement of financial position prepared according to IFRS and their tax bases. Deferred taxes are also recognized for consolidation measures and for tax loss carryforwards and tax credits that are likely to be usable.

Deferred tax assets relating to deductible temporary differences, tax credits or tax loss carryforwards are recognized where it is sufficiently probable that taxable income will be available in the future to enable them to be used. Deferred tax liabilities are recognized on temporary differences taxable in the future. Deferred taxes are calculated at the rates which – on the basis of the statutory regulations in force, or already enacted in relation to future periods, as of the closing date – are expected to apply in the individual countries at the time of realization. Deferred tax assets and deferred tax liabilities are offset if they relate to income taxes levied by the same taxation authority and Bayer has a legal right to settle on a net basis. Material effects of changes in tax rates or tax law on deferred tax assets and liabilities are generally accounted for in the period in which the changes are enacted. Such effects are recognized in profit or loss except where they relate to deferred taxes that were recognized outside profit or loss, in which case they are recognized in other comprehensive income.

Deferred and current taxes are recognized in profit or loss unless they relate to items recognized outside profit or loss in other comprehensive income, in which case they, too, are recognized in other comprehensive income.

The probability that deferred tax assets resulting from temporary differences or loss carryforwards can be used in the future is the subject of forecasts by the individual consolidated companies regarding their future earnings situation and other parameters.

Deferred tax liabilities are recognized on planned dividend payments by subsidiaries. Where no dividend payment is planned for the foreseeable future, no deferred tax liability is recognized on the difference between the proportionate net assets according to IFRS and the tax base of the investment in the subsidiary.

GOODWILL

In a business combination, goodwill is capitalized at the acquisition date. It is measured at its cost of acquisition, which is the excess of the acquisition price for shares in a company over the acquired net assets. The net assets are the balance of the fair values of the acquired identifiable assets and the assumed liabilities and contingent liabilities.

Goodwill is not amortized, but tested annually for impairment. Details of the annual impairment tests are given under "Procedure used in global impairment testing and its impact." Once an impairment loss has been recognized on goodwill, it is not reversed in subsequent periods.

OTHER INTANGIBLE ASSETS

An "other intangible asset" is an identifiable nonmonetary asset without physical substance, other than goodwill (such as a patent, a trademark or a marketing right). It is capitalized if the future economic benefits attributable to the asset will probably flow to the company and the cost of acquisition or generation of the asset can be reliably measured.

Other intangible assets are recognized at the cost of acquisition or generation. Those with a determinable useful life are amortized accordingly on a straight-line basis over a period of up to 30 years, except where their actual depletion demands a different amortization pattern. Determination of the expected useful lives of such assets and the amortization patterns is based on estimates of the period for which they will generate cash flows. An impairment test is performed if there is an indication of possible impairment.

Other intangible assets with an indefinite life (such as the Bayer Cross trademark) and intangible assets not yet available for use (such as research and development projects) are not amortized, but tested annually for impairment.

Any impairment losses are recognized in profit or loss. If the reasons for a previously recognized impairment loss no longer apply, the impairment loss is reversed provided that the reversal does not cause the carrying amount to exceed the (amortized) cost of acquisition or generation.

PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment is carried at the cost of acquisition or construction and depreciated over its estimated useful life. An impairment loss is recognized in addition if an asset's recoverable amount falls below its carrying amount.

The cost of self-constructed property, plant and equipment comprises the direct cost of materials, direct manufacturing expenses, and appropriate allocations of material and manufacturing overheads. Where an obligation exists to dismantle or remove an asset or restore a site to its former condition at the end of its useful life, the present value of the related future payments is capitalized along with the cost of acquisition or construction upon completion and a corresponding liability is recognized.

If the construction phase of property, plant or equipment extends over a substantial period of time, the interest incurred on borrowed capital up to the date of completion is capitalized as part of the cost of acquisition or construction in accordance with IAS 23 (Borrowing Costs).

Costs for regular, comprehensive maintenance work (such as the major overhaul of a technical facility) are capitalized as a separate component if they satisfy the recognition criteria.

Property, plant and equipment is depreciated by the straight-line method over an asset's useful life, except where depreciation based on actual depletion is more appropriate.

The following depreciation periods are applied throughout the Group:

Useful Life of Property, Plant and Equipment [Table 4.9]

Buildings	20 to 50 years
Outdoor infrastructure	10 to 20 years
Storage tanks and pipelines	10 to 20 years
Plant installations	6 to 20 years
Machinery and equipment	6 to 12 years
Furniture and fixtures	4 to 10 years
Vehicles	5 to 8 years
Computer equipment	3 to 5 years
Laboratory and research facilities	3 to 5 years

Significant asset components with different useful lives are accounted for and depreciated separately.

If there are indications that an individual item of property, plant and equipment may be impaired, the recoverable amount is compared to the carrying amount. If the recoverable amount is less than the carrying amount, an impairment loss is recognized for the difference. If the reasons for a previously recognized impairment loss no longer apply, the impairment loss is reversed provided that the reversal does not cause the carrying amount to exceed the cost of acquisition or construction less depreciation.

When assets are sold, closed down or scrapped, the difference between the net proceeds and the net carrying amount of the assets is recognized as a gain or loss in other operating income or expenses, respectively.

Investment property comprises land and buildings not being used for operational or administrative purposes. It is measured using the cost model. The fair value of the investment property reported in the Notes is determined using the discounted cash flow method, comparisons with the current market values of similar properties, or reports from external experts.

FINANCIAL ASSETS

Financial assets comprise loans and receivables, acquired equity and debt instruments, cash and cash equivalents, and derivatives with positive fair values.

They are recognized and measured in accordance with IAS 39 (Financial Instruments: Recognition and Measurement). Accordingly, financial assets are recognized in the consolidated financial statements if the Bayer Group has a contractual right to receive cash or other financial assets from another entity. Regular-way purchases and sales of financial assets are generally posted on the settlement date. Financial assets are initially recognized at fair value plus transaction costs. The transaction costs incurred for the purchase of financial assets held at fair value through profit or loss are expensed immediately. Interest-free or low-interest receivables are initially reflected at the present value of the expected future cash flows. Upon first-time recognition, each financial asset is assigned to one of the categories prescribed in IAS 39. Subsequent measurement takes place according to the measurement rules for the respective category. The measurement rules for each category are set forth below:

Financial assets held at fair value through profit or loss comprise those financial assets that are held for trading. Receivables from forward commodity contracts and receivables from other derivatives that are included in other financial assets are allocated to this category, except where hedge accounting is used. Changes in the fair value of financial assets in this category are recognized in profit or loss when the increase or decrease in fair value occurs.

Loans and receivables are nonderivative financial assets with fixed or determinable payments that are not quoted in an active market. They are accounted for at amortized cost using the effective interest method. This category comprises trade accounts receivable, the loans and receivables included in other financial assets, the additional financial receivables reflected in other receivables, and cash and cash equivalents. Interest income from items assigned to this category is determined using the effective interest method.

Held-to-maturity financial assets are nonderivative financial assets, with fixed or determinable payments, that the Bayer Group is willing and able to hold until maturity. They are accounted for at amortized cost using the effective interest method. Held-to-maturity financial investments are recognized in other financial assets.

Available-for-sale financial assets are those nonderivative financial assets that are not assigned to any of the above categories. They mainly include equity instruments (such as shares), debt instruments with indefinite maturities, and debt instruments not to be held to maturity that are included in other financial assets. After their first-time recognition, available-for-sale financial assets are measured at fair value and any unrealized gains or losses are recognized outside profit or loss in equity. These are only reclassified to profit or loss if the assets are sold or if there are objective indications of impairment, in which case the accumulated loss is recognized in profit or loss. An objective indication of impairment is a significant or prolonged decrease in the fair value of an equity instrument to below its acquisition cost. Previously recognized impairment losses are reversed if the reasons for them no longer apply. Impairment loss reversals for equity instruments are recognized outside profit or loss, while those for debt instruments are recognized in profit or loss. Where possible, a fair value for equity and debt securities is derived from market data. Financial assets for which no market price is available and whose fair value cannot be reasonably estimated are recognized at cost less any impairment losses.

If there are substantial and objective indications of a decline in the value of loans and receivables, held-to-maturity financial assets or available-for-sale financial assets, an impairment test is performed. Indications of possible impairment include a high probability of insolvency, a significant deterioration in credit standing, a material breach of contract, operating losses reported by a company over several years, a reduction in market value, the financial restructuring of the debtor, or the disappearance of an active market for the asset.

In the case of loans and receivables, and held-to-maturity financial assets, an impairment test is performed in which the carrying amount is compared to the present value of the expected future cash flows, discounted at the original effective interest rate. If the carrying amount exceeds the present value, an impairment loss is recognized for the difference between the two amounts. If the reasons for previously recognized impairment losses no longer apply, the impairment losses are reversed provided that this does not cause the carrying amounts to exceed the amortized cost of acquisition.

Financial assets are derecognized when contractual rights to receive cash flows from the financial assets expire or the financial assets are transferred together with all material risks and benefits.

INVENTORIES

In accordance with IAS 2 (Inventories), inventories encompass assets consumed in production or in the rendering of services (raw materials and supplies), assets in the production process for sale (work in process), goods held for sale in the ordinary course of business (finished goods and goods purchased for resale), and advance payments on inventories. Inventories are recognized at their cost of acquisition or production – calculated by the weighted-average method – or at their net realizable value, whichever is lower. The net realizable value is the estimated selling price in the ordinary course of business less estimated cost to complete and selling expenses.

CASH AND CASH EQUIVALENTS

Cash and cash equivalents comprise cash, checks received, and balances with banks and companies. Cash equivalents are highly liquid short-term financial investments that are subject to an insignificant risk of changes in value, are easily convertible into a known amount of cash and have a maturity of three months or less from the date of acquisition or investment.

ASSETS HELD FOR SALE

Assets held for sale comprise noncurrent assets or disposal groups (together with any liabilities), the carrying amounts of which will be realized principally through a highly probable sale transaction within the next twelve months or an already contractually agreed sale transaction, and not through continued use. At the time of their classification as “held for sale,” such assets are collectively measured at the lower of the carrying amount and fair value less costs of disposal, and depreciation or amortization ceases.

Groups of assets held for sale that represent a standalone business and correspond to at least one strategic business entity are combined in the income statement, statement of comprehensive income, statement of financial position and statement of cash flows and reported under assets held for sale or discontinued operations.

PROVISIONS FOR PENSIONS AND OTHER POST-EMPLOYMENT BENEFITS

Within the Bayer Group, post-employment benefits are provided under defined contribution and/or defined benefit plans. In the case of defined contribution plans, the company pays contributions to publicly or privately administered pension plans on a mandatory, contractual or voluntary basis. Once the contributions have been paid, the company has no further payment obligations. The regular contributions constitute expenses for the year in which they are due and as such are included in the functional cost items, and thus in EBIT. All other post-employment benefit systems are defined benefit plans, which may be either unfunded, i.e. financed by provisions, or funded, i.e. financed through pension funds.

The present value of provisions for defined benefit plans and the resulting expense are calculated in accordance with IAS 19 (Employee Benefits) by the projected unit credit method. The future benefit obligations are valued by actuarial methods and spread over the entire employment period on the basis of specific assumptions regarding beneficiary structure and the economic environment. These relate mainly to the discount rate, future salary and pension increases, variations in health care costs, and mortality rates.

The discount rates used are calculated from the yields of high-quality corporate bond portfolios in specific currencies with cash flows approximately equivalent to the expected disbursements from the pension plans. The uniform discount rate derived from this interest-rate structure is thus based on the yields, at the closing date, of a portfolio of “AA” rated corporate bonds whose weighted residual maturities approximately correspond to the duration necessary to cover the entire benefit obligation.

The fair value of plan assets is deducted from the present value of the defined benefit obligation for pensions and other post-employment benefits to determine the net defined benefit liability. The obligations and plan assets are valued at regular intervals of not more than three years. Comprehensive actuarial valuations for all major plans are performed annually as of December 31. Plan assets in excess of the benefit obligation are reflected in other receivables, subject to the asset ceiling specified in IAS 19 (Employee Benefits).

The balance of all income and expenses relating to defined benefit plans, except the net interest on the net liability, is recognized in EBIT. The net interest is reflected in the financial result under other financial income and expenses.

The effects of remeasurements of the net defined benefit liability are reflected in the statement of comprehensive income as other comprehensive income. They consist of actuarial gains and losses, the return on plan assets and changes in the effects of the asset ceiling, less the respective amounts included in net interest. Deferred taxes relating to the effects of remeasurements are also recognized in other comprehensive income.

OTHER PROVISIONS

Other provisions are recognized for present legal and constructive obligations arising from past events that will probably give rise to a future outflow of resources, provided that a reliable estimate can be made of the amount of the obligations.

Other provisions are measured in accordance with IAS 37 (Provisions, Contingent Liabilities and Contingent Assets) or, where applicable, IAS 19 (Employee Benefits). Where the cash outflow to settle an obligation is expected to occur after one year, the provision is recognized at the present value of the expected cash outflow. Claims for reimbursements from third parties are separately reflected in other receivables if their realization is virtually certain.

If the projected obligation declines as a result of a change in the estimate, the provision is reversed by the corresponding amount and the resulting income recognized in the operating expense item(s) in which the original charge was recognized.

To enhance the information content of the estimates, certain provisions that could have a material effect on the financial position or results of operations of the Group are selected and tested for their sensitivity to changes in the underlying parameters. To reflect uncertainty about the likelihood of the assumed events actually occurring, the impact of a five-percentage-point change in the probability of occurrence is examined in each case. This analysis has not shown other provisions to be materially sensitive.

Complex tax regulations may give rise to uncertainties with respect to their interpretation and the amount and timing of future taxable income. Given the wide range of international business relationships and the long-term nature and complexity of existing contractual agreements, differences arising between the actual results and the assumptions made, or future changes to such assumptions, could necessitate adjustments to tax income and expense in future periods. The Group establishes **provisions for taxes**, based on reasonable estimates, for liabilities to the tax authorities of the respective countries that are uncertain as to their amount and the probability of their occurrence. The amount of such provisions is based on various factors, such as experience with previous tax audits and differing legal interpretations by the taxable entity and the responsible tax authority.

Provisions for environmental protection are recorded if future cash outflows are likely to be necessary to ensure compliance with environmental regulations or to carry out remediation work, such costs can be reliably estimated and no future benefits are expected from such measures.

Estimating the future costs of environmental protection and remediation involves many uncertainties, particularly with regard to the status of laws, regulations and the information available about conditions in the various countries and at the individual sites. Significant factors in estimating the costs include previous experiences in similar cases, the conclusions in expert opinions obtained regarding the Group's environmental programs, current costs and new developments affecting costs, management's interpretation of current environmental laws and regulations, the number and financial position of third parties that may become obligated to participate in any remediation costs on the basis of joint liability, and the remediation methods likely to be deployed. Changes in these assumptions could impact future reported results.

Taking into consideration experience gained to date regarding environmental matters of a similar nature, provisions are believed to be adequate based upon currently available information. Given the difficulties inherent in estimating liabilities in the businesses in which the Group operates, especially those for which the risk of environmental damage is greater in relative terms (CropScience and Covestro), it remains possible that material additional costs will be incurred beyond the amounts accrued. It may transpire during remediation work that additional expenditures are necessary over an extended period and that these exceed existing provisions and cannot be reasonably estimated.

Provisions for restructuring only cover expenses that arise directly from restructuring measures, are necessary for restructuring and are not related to future business operations. Such expenses include severance payments to employees and compensation payments in respect of rented property that can no longer be used.

Restructuring measures may include the sale or termination of business units, site closures, relocations of business activities or fundamental reorganizations of business units.

The respective provisions are established when a detailed restructuring plan has been drawn up, resolved upon by the responsible decision-making level of management and communicated to the employees and/or their representatives. Provisions for restructuring are established at the present value of future disbursements.

Trade-related provisions are recorded mainly for the granting of rebates or discounts, product returns, or obligations in respect of services already received but not yet invoiced.

As a global enterprise with a diverse business portfolio, the Bayer Group is exposed to numerous legal risks for which **provisions for litigations** must be established under certain conditions – particularly in the areas of product liability, competition and antitrust law, patent disputes, tax law and environmental protection.

Litigation and other judicial proceedings often raise complex issues and are subject to many uncertainties and complexities including, but not limited to, the facts and circumstances of each particular case, the jurisdiction in which each suit is brought and differences in applicable law. The outcomes of currently pending and future proceedings generally cannot be predicted. It is particularly difficult to assess the likely outcomes of class actions for damages in the United States, which may give rise to significant financial risks for the Bayer Group. As a result of a judgment in court proceedings, regulatory decisions or the conclusion of a settlement, the Bayer Group may incur charges for which no accounting measures have yet been taken for lack of reasonable estimability or which exceed presently established provisions and the insurance coverage.

The Bayer Group considers the need for accounting measures in respect of pending or future litigations, and the extent of any such measures, on the basis of the information available to its legal department and in close consultation with legal counsel acting for the Bayer Group.

Where it is more likely than not that such a litigation will result in an outflow of resources that is already reasonably estimable, a provision for litigation is recorded in the amount of the present value of the expected cash outflows. Such provisions cover the estimated payments to the plaintiffs, court and procedural costs, attorney costs and the cost of potential settlements.

It is frequently impossible to reliably determine the existence of a present obligation or reasonably estimate the probability that a potential outflow of resources will result from a pending or future litigation. The status of the material "legal risks" is described in NOTE [32]. Due to the special nature of these litigations, provisions generally are not established until initial settlements allow an estimate of potential amounts or judgments have been issued. Provisions for legal defense costs are established if it is probable that material costs will have to be incurred for external legal counsel to defend the company's legal position.

Internal and external legal counsel evaluate the current status of the Bayer Group's material legal risks at the end of each reporting period. The need to establish or adjust a provision and the amount of the provision or adjustment are determined on this basis. Adjusting events are reflected up to the date of preparation of the consolidated financial statements. The measurement of provisions in the case of class actions or mass compensation claims is mainly based on any settlements reached during the past year and on pending or anticipated future claims.

Personnel-related provisions are mainly those recorded for annual bonus payments, variable one-time payments, individual performance awards, long-service awards, severance payments in connection with early retirement arrangements, surpluses on long-term accounts and other personnel costs. Obligations under stock-based compensation programs that provide for awards payable in cash are also included here.

FINANCIAL LIABILITIES

Financial liabilities comprise primary financial liabilities and negative fair values of derivatives.

Primary financial liabilities are initially recognized in the consolidated financial statements at fair value if the Bayer Group has a contractual obligation to transfer cash or other financial assets to another party. In subsequent periods, such liabilities are measured at amortized cost using the effective interest method.

Liabilities for contingent consideration arising from business combinations are measured at fair value. Changes in fair value are recognized through profit or loss as of the respective closing date.

Financial liabilities are derecognized when the contractual obligation is discharged or canceled, or has expired.

OTHER RECEIVABLES AND LIABILITIES

Accrued items and other nonfinancial assets and liabilities are carried at amortized cost. They are amortized to income by the straight-line method or according to performance of the underlying transaction.

Grants and subsidies from third parties that serve to promote investment are reflected in the statement of financial position under other liabilities and amortized to income over the useful lives of the respective investments or in line with the terms of the grant or subsidy.

DERIVATIVES

The Bayer Group uses derivatives – such as forward exchange contracts and interest-rate swaps – to mitigate the risk of changes in exchange rates, interest rates or prices. Derivatives are recognized at the trade date.

Contracts concluded in order to receive or deliver nonfinancial goods for the company's own purposes are not accounted for as derivatives but treated as pending transactions. Where embedded derivatives are identified that are required to be separated from the pending transactions, they are accounted for separately. To take advantage of market opportunities or cover possible peak demand, a nonmaterial volume of transactions may be entered into for which the possibility of immediate resale cannot be excluded. Such transactions are allocated to separate portfolios upon acquisition and accounted for as derivatives according to IAS 39.

Derivatives are carried at fair value. Positive fair values at the end of the reporting period are reflected in financial assets, negative fair values in financial liabilities. Changes in the fair values of these derivatives are recognized directly in profit or loss except where hedge accounting is used. Changes in the fair values of forward exchange contracts and currency options serving as hedges of items in the statement of financial position are reflected in other financial income and expenses as exchange gains or losses, while changes in the values of interest-rate swaps and interest-rate options are recognized in interest income or expense. Changes in the fair values of commodity futures and options, and of forward exchange contracts used to hedge forecasted transactions in foreign currencies, are recognized in other operating income or expenses.

Changes in the fair values of derivatives designated as fair-value hedges and the adjustments in the carrying amounts of the underlying transactions are recognized in profit or loss.

Changes in the fair values of the effective portion of derivatives designated as cash flow hedges are initially recognized outside profit or loss in accumulated other comprehensive income. They are reclassified to profit or loss when the underlying transaction is realized. If such a derivative is sold or ceases to qualify for hedge accounting, the change in its value continues to be recognized in accumulated other comprehensive income until the forecasted transaction is realized. If the forecasted transaction is no longer probable, the amount previously recognized in accumulated other comprehensive income has to be reclassified to profit or loss. The ineffective portion of gains or losses on derivatives designated as cash flow hedges is recognized either in other operating income or expenses or in the financial result, depending on the type of underlying transaction.

The income and expense reflected in the financial result pertaining to the derivatives and the underlying transactions are shown separately. Income and expense are not offset.

LEASES

A lease is an agreement whereby the lessor assigns to the lessee the right to use an asset for an agreed period of time in return for a payment or series of payments. Leases are classified as either finance or operating leases. Lease transactions that transfer substantially all the risks and rewards incidental to ownership of the leased asset to the lessee are treated as finance leases. All other lease agreements are classified as operating leases. Whether an agreement constitutes a lease or contains a lease is determined upon inception of the lease.

Where the Bayer Group is the lessee in a finance lease, the leased asset is capitalized at the lower of the fair value of the asset and the present value of the minimum lease payments at the beginning of the lease term and simultaneously recognized under financial liabilities. The minimum lease payments are divided into the principal portion of the remaining obligation and the financing costs, which are determined using the effective-interest method. The leased asset is depreciated by the straight-line method over the shorter of its estimated useful life or the lease term.

Where the Bayer Group is the lessee in an operating lease, the lease payments are expensed. Where it is the lessor, the lease payments received are recognized in profit or loss. The leased asset continues to be recognized under property, plant and equipment in the Bayer Group’s statement of financial position.

ACQUISITION ACCOUNTING

Acquired businesses are accounted for using the acquisition method, which requires that the assets acquired and liabilities assumed be recorded at their respective fair values on the date Bayer obtains control. Ancillary acquisition costs are recognized as expenses in the periods in which they occur.

The application of the acquisition method requires certain estimates and assumptions to be made, especially concerning the fair values of the acquired intangible assets, property, plant and equipment and the liabilities assumed at the acquisition date, and the useful lives of the acquired intangible assets, property, plant and equipment.

Measurement is based to a large extent on anticipated cash flows. If actual cash flows vary from those used in calculating fair values, this may materially affect the Group's future results of operations. In particular, the estimation of discounted cash flows from intangible assets under development, patented and nonpatented technologies and brands is based on assumptions concerning, for example:

- the outcomes of research and development activities regarding compound efficacy, results of clinical trials, etc.,
- the probability of obtaining regulatory approvals in individual countries,
- long-term sales trends,
- possible selling price erosion due to generic competition in the market following patent expirations,
- the behavior of competitors (launch of competing products, marketing initiatives, etc.).

For significant acquisitions, the purchase price allocation is carried out with assistance from independent third-party valuation specialists. The valuations are based on the information available at the acquisition date.

In step acquisitions, the fair values of the acquired entity's assets and liabilities are measured in accordance with IFRS 3 (Business Combinations) at the date on which control is obtained. Any resulting adjustments to the fair value of the existing interest are recognized in profit or loss. The carrying amount of the assets and liabilities already recognized in the statement of financial position is then adjusted accordingly.

PROCEDURE USED IN GLOBAL IMPAIRMENT TESTING AND ITS IMPACT

Impairment tests are performed not only on individual items of intangible assets, property, plant and equipment, but also at the level of cash-generating units or groups of cash-generating units. A cash-generating unit is the smallest identifiable group of assets that generates cash inflows that are largely independent of the cash inflows from other assets or groups of assets. The Bayer Group regards its strategic business entities or groups of strategic business entities, as well as certain product families, as cash-generating units and subjects them to global impairment testing. The strategic business entities constitute the second financial reporting level below the segments.

Cash-generating units and unit groups are globally tested if there is an indication of possible impairment. Those to which goodwill is allocated are tested at least annually.

Impairment testing involves comparing the carrying amount of each cash-generating unit, unit group or item of intangible assets, property, plant or equipment to the recoverable amount, which is the higher of its fair value less costs of disposal or value in use. If the carrying amount exceeds the recoverable amount, an impairment loss must be recognized for the difference. If a strategic business entity or entity group is found to be impaired, an impairment loss is first recognized on any goodwill allocated to it. Any remaining part of the impairment loss is then allocated among the other noncurrent nonfinancial assets of the strategic business entity or entity group in proportion to their carrying amounts. The resulting expense is reflected in the functional item of the income statement in which the depreciation or amortization of the respective assets is recognized. The same applies to income from impairment loss reversals.

The recoverable amount is generally determined on the basis of the fair value less costs of disposal, taking into account the present value of the future net cash flows as market prices for the individual units are not normally available. These are forecasted on the basis of the Bayer Group's current planning, the planning horizon normally being three to five years. Forecasting involves making assumptions, especially regarding future selling prices, sales volumes, costs, market growth rates, economic cycles and exchange rates. These assumptions are based on internal estimates along with external market studies. Where the recoverable amount is the fair value less costs of disposal, the cash-generating unit or unit group is measured from the viewpoint of an independent market participant. Where the recoverable amount is the value in use, the cash-generating unit, unit group or individual asset is measured as currently used. In either case, net cash flows beyond the planning period are determined on the basis of long-term business expectations using the respective individual growth rates derived from market information. The fair value less costs of disposal is determined on the basis of unobservable inputs (Level 3).

The net cash inflows are discounted at a rate equivalent to the weighted average cost of equity and debt capital. To allow for the different risk and return profiles of the Bayer Group's principal businesses, the after-tax cost of capital is calculated separately for each subgroup and a subgroup-specific capital structure is defined by benchmarking against comparable companies in the same industry sector. The cost of equity corresponds to the return expected by stockholders, while the cost of debt is based on the conditions on which comparable companies can obtain long-term financing. Both components are derived from capital market information.

The growth rates applied for impairment testing in 2015 and 2014 and the capital cost factors used to discount the expected cash flows are shown in the following table:

Impairment Testing Parameters [Table 4.10]

	Growth rate		After-tax cost of capital	
	2014	2015	2014	2015
	%	%	%	%
Pharmaceuticals	0.0	0.0	6.5	6.2
Consumer Care	0.0	0.0	6.5	6.2
Radiology	0.0	0.0	6.5	6.2
Animal Health	0.0	0.0	6.5	6.2
Crop Protection	2.0	2.3	6.7	6.3
Seeds	2.8	1.9	6.7	6.3
Environmental Science	1.3	1.8	6.7	6.3
Diphenylmethane Diisocyanate (MDI)	1.5	2.0	6.0	6.1
Toluene Diisocyanate (TDI)	–	2.0	–	6.1
Polyether (PET)	0.0	0.0	6.0	6.1
Polycarbonates (PCS)	1.5	2.0	6.0	6.1
Base & Modified Isocyanates (BMI)	2.0	2.0	6.0	6.1
Resins (RES)	2.0	2.0	6.0	6.1
Specialty Films (SF)	1.0	2.0	6.0	6.1

No impairment losses were recognized on goodwill on the basis of the global annual impairment testing of the cash-generating units and unit groups in 2015 or 2014. In 2014, a €6 million impairment loss was recognized on a goodwill item following an impairment test performed in connection with a divestiture. Impairment losses on goodwill, other intangible assets, property, plant and equipment – net of €1 million (2014: €2 million) in impairment loss reversals – totaled €229 million (2014: €223 million). Details are provided in NOTES [17] and [18].

Although the estimates of the useful lives of certain assets, assumptions concerning the macroeconomic environment and developments in the industries in which the Bayer Group operates, and estimates of the discounted future cash flows are believed to be appropriate, changes in assumptions or circumstances could require changes in the analysis. This could lead to additional impairment losses in the future or – except in the case of goodwill – to reversals of previously recognized impairment losses if developments are contrary to expectations.

The sensitivity analysis for cash-generating units and unit groups to which goodwill is allocated was based on a 10% reduction in future cash flows, a 10% increase in the weighted average cost of capital or a one-percentage-point reduction in the long-term growth rate. Bayer concluded that no impairment loss would need to be recognized on goodwill in any cash-generating unit or unit group under these conditions.

5. Segment reporting

At Bayer the Board of Management, as the chief operating decision maker, allocates resources to the operating segments and assesses their performance. The reportable segments and regions are identified, and the disclosures selected, in line with the internal financial reporting system (management approach) and based on the Group accounting policies outlined in NOTE [4].

As of December 31, 2015, the Bayer Group comprised three subgroups, with operations subdivided into strategic business entities known as divisions (HealthCare), business groups (CropScience) or business units (Covestro; formerly MaterialScience). Their activities were aggregated into four reportable segments according to economic characteristics, products, production processes, customer relationships, methods of distribution and regulatory environment.

The segments' activities were as follows:

Activities of the Segments [Table 4.11]

Subgroup/Segment	Activities
HealthCare	
Pharmaceuticals	Development, production and marketing of prescription pharmaceuticals, such as anticoagulants, treatments for hemophilia, multiple sclerosis, cancer, eye diseases, pulmonary hypertension, high blood pressure and infectious diseases; and contraceptives
Consumer Health[1]	Development, production and marketing of over-the-counter medications, dermatology products, nutritional supplements, veterinary medicines and animal grooming products; medical products such as injection systems and contrast agents for diagnostic procedures
CropScience	
CropScience	Development, production and marketing of a comprehensive product portfolio in the areas of seeds and plant traits, crop protection, home and garden, the green industry and nonagricultural pest control
Covestro	
Covestro	Development, production and marketing of raw materials for polyurethanes; polycarbonate resins and sheets; raw materials for coatings, adhesives and sealants; and selected chemical intermediates

[1] The Diabetes Care business unit (diagnostic systems, such as blood glucose meters) was no longer reported under continuing operations in 2015 following the signing of the agreement to sell it to Panasonic Healthcare Holdings, Ltd., Tokyo, Japan.

Business activities that cannot be allocated to any other segment are reported under “All other segments.” These primarily include the services provided by the service areas: Business Services, Technology Services and Currenta.

The items in “Corporate Center and Consolidation” comprise the activities of the Bayer holding companies, the increase or decrease in expenses for Group-wide long-term stock-based compensation arising from fluctuations in the performance of Bayer stock, and the consolidation of intersegment sales (2015: €2.4 billion; 2014: €2.5 billion).

The reconciliation in the table “Key Data by Region” eliminates interregional items and transactions and reflects income, expenses, assets and liabilities not allocable to geographical areas, particularly those relating to the Corporate Center.

The segment data are calculated as follows:

- The intersegment sales reflect intra-Group transactions effected at transfer prices fixed on an arm’s-length basis.
- EBIT – income after income taxes, plus income taxes, plus financial result – which is not defined in the International Financial Reporting Standards, is influenced by one-time special effects and by the amortization of intangible assets and depreciation of property, plant and equipment, along with impairment losses and impairment loss reversals. To elucidate the effects of these parameters on the operational business and facilitate the comparability of operational earning power over time, we determine additional indicators: EBITDA, EBIT before special items, EBITDA before special items and the EBITDA margin before special items. These indicators also are not defined in the International Financial Reporting Standards. EBITDA (EBIT plus the amortization of intangible assets and the depreciation of property, plant and equipment, plus impairment losses, minus impairment loss reversals, recognized in profit or loss in the reporting period) serves to characterize the operational business irrespective of the effects of amortization, depreciation or impairment losses/impairment loss reversals. EBIT before special items and EBITDA before special items show the development of the operational business irrespective of the effects of special items – those that are nonrecurring or do not regularly recur or attain similar magnitudes. EBIT before special items and EBITDA before special items are determined by adding special charges and subtracting special gains. They constitute relevant key data for Bayer. The EBITDA margin before special items, which is calculated by dividing EBITDA before special items by sales, serves as an indicator of relative operational earning power for purposes of internal and external comparison.
- The gross cash flow comprises income after income taxes, plus income taxes, plus financial result, minus income taxes paid or accrued, plus depreciation, amortization and impairment losses, minus impairment loss reversals, plus/minus changes in pension provisions, minus gains/plus losses on retirements of noncurrent assets, minus gains from the remeasurement of already held assets in step acquisitions. The change in pension provisions includes the elimination of noncash components of EBIT. It also contains benefit payments during the year. Gross cash flow is not defined in the International Financial Reporting Standards.
- The net cash flow is the cash flow from operating activities as defined in IAS 7 (Statement of Cash Flows).
- The capital invested and the segment assets include all assets serving the respective segment that are required to yield a return on their cost of acquisition. Segment assets include, in addition, assets held for sale where the return is covered by the sale proceeds. Similarly, the segment liabilities include the liabilities directly related to assets held for sale. Also included in the capital invested and in segment assets are material participating interests of direct relevance to business operations. Intangible assets and property, plant and equipment are included in the capital invested at cost of acquisition, generation or construction throughout their useful lives. Interest-free liabilities are deducted from the capital invested, which is stated as of December 31.
- The CFROI – a measure of the return on the capital employed – is the difference between the gross cash flow and the cost of reproducing depletable assets, divided by the average capital invested for the year.
- The equity items reflect the earnings and carrying amounts of companies accounted for using the equity method.
- Since the financial management of Group companies is carried out centrally by Bayer AG, financial liabilities are not directly allocated among the segments. Consequently, the liabilities shown for the individual segments do not include financial liabilities. These are included in the reconciliation.
- The number of employees on either permanent or temporary contracts is stated in full-time equivalents (FTE), with part-time employees included on a pro-rated basis in line with their contractual working hours. The figures do not include apprentices.

RECONCILIATIONS

The reconciliations of EBITDA before special items, EBIT before special items and EBIT to Group income before income taxes and of the assets and liabilities of the segments to the assets and liabilities, respectively, of the Group are given in the following tables:

Reconciliation of Segments' EBITDA Before Special Items to Group Income Before Income Taxes [Table 4.12]

	2014	2015
	€ million	€ million
EBITDA before special items of segments	9,104	10,732
EBITDA before special items of Corporate Center and Consolidation	(419)	(466)
EBITDA before special items	**8,685**	**10,266**
Depreciation, amortization and impairment losses/loss reversals before special items of segments	(2,846)	(3,191)
Depreciation, amortization and impairment losses/loss reversals before special items of Corporate Center and Consolidation	(6)	(6)
Depreciation, amortization and impairment losses/loss reversals before special items	**(2,852)**	**(3,197)**
EBIT before special items of segments	6,258	7,541
EBIT before special items of Corporate Center and Consolidation	(425)	(472)
EBIT before special items	**5,833**	**7,069**
Special items of segments	(438)	(792)
Special items of Corporate Center and Consolidation	–	(27)
Special items	**(438)**	**(819)**
EBIT of segments	5,820	6,749
EBIT of Corporate Center and Consolidation	(425)	(499)
EBIT	**5,395**	**6,250**
Financial result	(981)	(1,005)
Income before income taxes	**4,414**	**5,245**

2014 figures restated

Reconciliation of Segments' Assets to Group Assets [Table 4.13]

	2014	2015
	€ million	€ million
Assets of the operating segments	**63,040**	**65,654**
Corporate Center and Consolidation assets	195	181
Nonallocated assets	6,999	7,899
Assets of discontinued operations	–	183
Group assets	**70,234**	**73,917**

2014 figures restated

Reconciliation of Segments' Liabilities to Group Liabilities [Table 4.14]

	2014	2015
	€ million	€ million
Liabilities of the operating segments	**23,570**	**24,557**
Corporate Center and Consolidation liabilities	3,409	2,645
Nonallocated liabilities	23,037	21,158
Liabilities directly related to discontinued operations	–	112
Group liabilities	**50,016**	**48,472**

The reconciliation of segment sales to Group sales is apparent from the table of key data by segment in NOTE [1].

INFORMATION ON GEOGRAPHICAL AREAS

The following table provides a regional breakdown of external sales by market and of intangible assets, property, plant and equipment:

Information on Geographical Areas [Table 4.15]

	Net sales (external) – by market		Intangible assets and property, plant and equipment	
	2014	2015	2014	2015
	€ million	€ million	€ million	€ million
Germany	4,804	4,946	12,403	12,385
United States	8,715	11,286	17,486	14,420
China	3,597	4,213	3,102	3,260
Switzerland	625	691	905	5,298
Other	23,598	25,188	8,532	8,286
Total	**41,339**	**46,324**	**42,428**	**43,649**

2014 figures restated

INFORMATION ON MAJOR CUSTOMERS

Revenues from transactions with a single customer in no case exceeded 10% of Bayer Group sales in 2015 or 2014.

SEGMENT REPORTING EFFECTIVE 2016

In September 2015, it was decided to introduce a new organizational structure effective January 1, 2016, in line with Bayer's focus on the Life Science businesses. The former Bayer HealthCare subgroup has now been dissolved and the Radiology business assigned to the Pharmaceuticals Division. The Consumer Health Division now consists entirely of the Consumer Care business. Animal Health has become a reportable segment. The Bayer CropScience subgroup is now the Crop Science Division.

The segments' activities are as follows:

Activities of the Segments [Table 4.16]

Division/Segment	Activities
Pharmaceuticals	Development, production and marketing of prescription pharmaceuticals, such as anticoagulants, treatments for hemophilia, multiple sclerosis, cancer, eye diseases, pulmonary hypertension, high blood pressure and infectious diseases; contraceptives; and medical products such as injection systems and contrast agents for diagnostic procedures
Consumer Health	Development, production and marketing of over-the-counter medications, dermatology products and nutritional supplements
Crop Science	Development, production and marketing of a comprehensive product portfolio in the areas of seeds and plant traits, crop protection, home and garden, the green industry and nonagricultural pest control
Animal Health	Development, production and marketing of veterinary medicines and animal grooming products
Covestro	Development, production and marketing of raw materials for polyurethanes; polycarbonate resins and sheets; raw materials for coatings, adhesives and sealants; and selected chemical intermediates

If the new organizational structure had already been in place as of December 31, 2015, selected segment reporting items would appear as follows:

Selected Key Data by Segment

	Pharmaceuticals		Consumer Health		Crop Science		Animal Health	
	2014	2015	2014	2015	2014	2015	2014	2015
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Net sales (external)	13,512	15,308	4,245	6,076	9,494	10,367	1,318	1,490
Change	+6.3%	+13.3%	+8.7%	+43.1%	+7.7%	+9.2%	+0.9%	+13.1%
Currency-adjusted change	+10.0%	+8.7%	+13.6%	+40.4%	+11.4%	+2.3%	+4.0%	+4.5%
Intersegment sales	102	38	2	2	49	34	22	20
Net sales (total)	13,614	15,345	4,247	6,079	9,543	10,401	1,340	1,510
EBIT	2,627	3,027	609	769	1,806	2,103	234	254
EBIT before special items	2,836	3,327	731	1,005	1,838	1,881	234	318
EBITDA before special items	4,081	4,615	991	1,456	2,360	2,416	285	348
Gross cash flow	2,996	3,009	685	886	1,835	1,941	217	226
Net cash flow	3,533	3,157	564	816	950	761	234	348

* Including Currenta

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6. Scope of consolidation; subsidiaries and affiliates

6.1 Changes in the scope of consolidation

Changes in the scope of consolidation in 2015 were as follows:

Change in Number of Consolidated Companies [Table 4.18]

	Germany	Other countries	Total
Bayer AG and consolidated companies			
December 31, 2014	67	235	302
Changes in scope of consolidation	2	8	10
Additions	2	6	8
Retirements	(3)	(10)	(13)
December 31, 2015	**68**	**239**	**307**

The increase in the total number of consolidated companies in 2015 was primarily due to changes in the scope of consolidation and to acquisitions. Derecognitions were primarily due to mergers among Group companies.

Bayer Pearl Polyurethane Systems LLC, United Arab Emirates, is fully consolidated because the Bayer Group holds a majority of the voting rights.

[Table 4.17]

	Reconciliation									
	All Other Segments		Corporate Center and Consolidation		Life Sciences*		Covestro		Group	
	2014	2015	2014	2015	2014	2015	2014	2015	2014	2015
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
	1,112	1,097	7	4	29,688	34,342	11,651	11,982	41,339	46,324
	–4.9%	–1.3%	–	–42.9%	+6.4%	+15.7%	+3.7%	+2.8%	+5.6%	+12.1%
	–4.4%	–0.8%	–	–42.9%	+10.1%	+10.6%	+4.5%	–5.1%	+8.5%	+6.2%
	2,243	2,249	(2,477)	(2,407)	–	–	59	64	–	–
	3,355	3,346	(2,470)	(2,403)	29,688	34,342	11,710	12,046	41,339	46,324
	(11)	(39)	(425)	(499)	4,840	5,615	555	635	5,395	6,250
	21	43	(425)	(472)	5,235	6,102	598	967	5,833	7,069
	200	238	(419)	(466)	7,498	8,607	1,187	1,659	8,685	10,266
	331	147	(318)	(323)	5,746	5,886	961	1,113	6,707	6,999
	360	26	(824)	287	4,817	5,395	880	1,452	5,697	6,847

Pure Salt Baytown LLC, United States, is fully consolidated as a structured entity. The Bayer Group guarantees the liabilities of Pure Salt Baytown LLC to banks. These liabilities, which are reflected in full in the consolidated statement of financial position, amounted to €17 million as of December 31, 2015 (2014: €20 million).

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The above table includes one joint operation, LyondellBasell Covestro Manufacturing Maasvlakte V.O.F., Netherlands, as of December 31, 2015, and December 31, 2014. Pursuant to IFRS 11, Bayer's share of this company's assets, liabilities, revenues and expenses are included in the consolidated financial statements in accordance with Bayer's rights and obligations. The main purpose of LyondellBasell Covestro Manufacturing Maasvlakte V.O.F. is the joint production of propylene oxide (PO) for Bayer and its partner Lyondell.

In conjunction with the acquisition of the consumer care business of Merck & Co., Inc., United States, Bayer entered into a strategic collaboration with that company. This collaboration is included in the consolidated financial statements as a joint operation. Bayer and Merck & Co., Inc., have mutually agreed to collaborate on the development, production, life-cycle management and marketing of active ingredients and products in the field of soluble guanylate cyclase (sGC) modulation.

Four (2014: three) associates and three (2014: three) joint ventures were accounted for in the consolidated financial statements using the equity method. Details of these companies are given in NOTE [19].

Flagship Ventures V Agricultural Fund, L.P., United States, was included in the consolidated financial statements for the first time in 2015 and classified as an associate. Bayer has no control over this associate despite owning 99.9% of the capital, but is able to significantly influence its financial and operating policy decisions.

Nanjing Baijingyu Pharmaceutical Co., Ltd., China, was classified as an associate in view of Bayer's representation on its executive committee and supervisory board. This enables Bayer to significantly influence its financial and operating policy decisions despite owning only 15% of its voting rights and capital.

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A total of 71 (2014: 78) subsidiaries, including one (2014: one) structured entity and 12 (2014: 12) associates or joint ventures that in aggregate are immaterial to the Bayer Group's financial position and results of operations are not consolidated but recognized at cost. The immaterial subsidiaries accounted for less than 0.2% of Group sales, less than 0.3% of equity and less than 0.2% of total assets.

Details of subsidiary and affiliated companies pursuant to Section 313 of the German Commercial Code can be accessed at WWW.ANNUALREPORT2015.BAYER.COM/COMPANYLIST.PDF.

The following domestic subsidiaries availed themselves in 2015 of certain exemptions granted under Section 264, Paragraph 3, and Section 264B of the German Commercial Code regarding the publication of legal-entity financial statements:

German Exempt Subsidiaries [Table 4.19]

Company Name	Place of Business	Bayer's interest
		%
Adverio Pharma GmbH	Schönefeld	100.0
AgrEvo Verwaltungsgesellschaft mbH	Frankfurt am Main	100.0
Alcafleu Management GmbH & Co. KG	Schönefeld	99.9
Bayer 04 Immobilien GmbH	Leverkusen	100.0
Bayer 04 Leverkusen Fußball GmbH	Leverkusen	100.0
Bayer Altersversorgung GmbH	Leverkusen	100.0
Bayer Animal Health GmbH	Leverkusen	100.0
Bayer Beteiligungsverwaltung Goslar GmbH	Leverkusen	100.0
Bayer Business Services GmbH	Leverkusen	100.0
Bayer Chemicals Aktiengesellschaft	Leverkusen	100.0
Bayer Consumer Care Deutschland GmbH	Berlin	100.0
Bayer CropScience Aktiengesellschaft	Monheim	100.0
Bayer CropScience Biologics GmbH	Wismar	100.0
Bayer CropScience Deutschland GmbH	Langenfeld	100.0
Bayer Direct Services GmbH	Leverkusen	100.0
Bayer Gastronomie GmbH	Leverkusen	100.0
Bayer Gesellschaft für Beteiligungen mbH	Leverkusen	100.0
Bayer HealthCare Aktiengesellschaft	Leverkusen	100.0
Bayer Innovation GmbH	Leverkusen	100.0
Bayer Intellectual Property GmbH	Monheim	100.0
Bayer Real Estate GmbH	Leverkusen	100.0
Bayer Schering Pharma AG	Berlin	100.0
Bayer Technology Services GmbH	Leverkusen	100.0
Bayer Vital GmbH	Leverkusen	100.0
Bayer Weimar GmbH und Co. KG	Weimar	100.0
Bayer-Handelsgesellschaft mit beschränkter Haftung	Leverkusen	100.0
BGI Deutschland GmbH	Leverkusen	100.0
Chemion Logistik GmbH	Leverkusen	100.0
Dritte Bayer Real Estate VV GmbH & Co. KG	Schönefeld	100.0
Erste Bayer Real Estate VV GmbH & Co. KG	Schönefeld	100.0
Erste K-W-A Beteiligungsgesellschaft mbH	Leverkusen	100.0
Euroservices Bayer GmbH	Leverkusen	100.0
Fünfte Bayer Real Estate VV GmbH & Co. KG	Schönefeld	100.0
Generics Holding GmbH	Leverkusen	100.0
GP Grenzach Produktions GmbH	Grenzach-Wyhlen	100.0

German Exempt Subsidiaries [Table 4.19] continued

Company Name	Place of Business	Bayer's interest
		%
Hild Samen GmbH	Marbach am Neckar	100.0
Intendis GmbH	Berlin	100.0
Intraserv GmbH & Co. KG	Schönefeld	100.0
Jenapharm GmbH & Co. KG	Jena	100.0
KOSINUS Grundstücks-Verwaltungsgesellschaft mbH & Co. Gamma OHG	Schönefeld	100.0
KVP Pharma+Veterinär Produkte GmbH	Kiel	100.0
MENADIER Heilmittel GmbH	Berlin	100.0
Schering-Kahlbaum Gesellschaft mit beschränkter Haftung	Berlin	100.0
Sechste Bayer Real Estate VV GmbH & Co. KG	Schönefeld	100.0
Siebte Bayer VV GmbH	Leverkusen	100.0
Steigerwald Arzneimittelwerk GmbH	Darmstadt	100.0
TECTRION GmbH	Leverkusen	100.0
TravelBoard GmbH	Leverkusen	100.0
Vierte Bayer Real Estate VV GmbH & Co. KG	Schönefeld	100.0
Zweite Bayer Real Estate VV GmbH & Co. KG	Schönefeld	100.0
Zweite K-W-A Beteiligungsgesellschaft mbH	Leverkusen	100.0

6.2 Business combinations and other acquisitions

ACQUISITIONS IN 2015

The purchase prices for the acquisitions made in 2015, along with adjustments to purchase prices and purchase price allocations effected in 2015 relating to previous years' transactions, totaled €8 million (2014: €13,741 million). The purchase prices of the acquired companies or businesses were settled mainly in cash. Adjustments to purchase price allocations and other adjustments reduced the total carrying amount of goodwill by €5 million (2014: €5,169 million increase). The changes in goodwill mainly resulted from the following transactions:

On March 2, 2015, Covestro successfully completed the acquisition of all the shares of Thermoplast Composite GmbH, Germany, a technology leader specializing in the production of thermoplastic fiber composites. The aim of the acquisition is to expand the range of polycarbonate materials for major industries to include composites made from continuous fiber-reinforced thermoplastics. A purchase price of €18 million was agreed. This includes a variable component of €4 million. The purchase price mainly pertained to patents and goodwill.

On July 1, 2015, CropScience completed the acquisition of all the shares of SeedWorks India Pvt. Ltd., based in Hyderabad, India. The company is specialized in the breeding, production and marketing of hybrid seeds of tomato, hot pepper, okra and gourds. It has research and seed processing locations in Bangalore and Hyderabad, respectively. The purchase of SeedWorks India is intended to further strengthen CropScience's vegetable seed business in India. A purchase price of €80 million was agreed, subject to the usual purchase price adjustments. The purchase price mainly pertained to patents, research and development projects and goodwill.

As part of the acquisition of the consumer care business of Merck & Co., Inc., Whitehouse Station, New Jersey, United States, the production facilities at the Pointe-Claire site in Canada were acquired on July 1, 2015. A purchase price of €67 million was agreed.

The global purchase price allocation for the consumer care business acquired from Merck & Co., Inc. in 2014 was completed in September 2015.

This resulted in an adjustment to deferred tax assets due to temporary differences between the carrying amounts of intangible assets in the IFRS financial statements and those reported for tax purposes, along with a corresponding decline in goodwill in the statement of financial position. These deferred tax assets were retroactively restated to the date of acquisition pursuant to IFRS 3.45ff.

Change in Purchase Price Allocation [Table 4.20]

	Dec. 31, 2014		
	Before change in purchase price allocation	Change in purchase price allocation	After change in purchase price allocation
	€ million	€ million	€ million
Goodwill	16,168	(821)	15,347
Deferred taxes	2,981	821	3,802

In addition, the purchase price was reduced by €8 million in 2015 on the basis of agreed purchase price adjustment mechanisms.

The court proceedings initiated by former minority stockholders of Bayer Pharma AG (formerly Bayer Schering Pharma AG), Berlin, Germany, were settled in August 2015. The additional payment made as a result represents a subsequent purchase price adjustment according to the March 31, 2004, version of IFRS 3 in effect at the acquisition date. The goodwill was increased by €261 million in 2013 based on the status of the proceedings at that time. The settlements made it possible to finally determine the goodwill arising from the acquisition. It was therefore necessary to reduce the goodwill amount by €115 million in 2015 as a result of the proceedings. Both the increase and the reduction were recognized outside profit or loss against the liability resulting from the minority stockholders' compensation claim.

The global purchase price allocation for Dihon Pharmaceutical Group Co. Ltd., Kunming, Yunnan, China, acquired in 2014, was completed in October 2015. The purchase price was reduced by €43 million in 2015 due to adjustment mechanisms.

The purchase price allocations for SeedWorks India Pvt. Ltd. and the production facilities at the Pointe-Claire site in Canada acquired from Merck & Co., Inc. currently remain incomplete pending compilation and review of the relevant financial information. It is therefore possible that changes will be made in the allocation of the purchase prices to the individual assets and liabilities.

The businesses of the above-mentioned acquired companies Thermoplast Composite GmbH and SeedWorks India Pvt. Ltd. contributed a total of €5 million to Bayer Group sales in 2015. EBIT of these businesses in 2015 totaled minus €5 million. Their total income after taxes since the respective dates of their first-time consolidation was minus €5 million. This includes the financing costs incurred since the respective acquisition dates.

If the above acquisitions had already been made as of January 1, 2015, the Bayer Group would have had total sales of €46,334 million in 2015. Group income after taxes and earnings per share would not have been materially affected.

The effects of these transactions and other, smaller transactions made in 2015 – along with adjustments to purchase prices and purchase price allocations made in 2015 relating to previous years' transactions – on the Group's assets and liabilities as of the respective acquisition or adjustment dates are shown in the table. Net of acquired cash and cash equivalents, the transactions resulted in the following cash outflow:

Acquired Assets and Assumed Liabilities (Fair Values at the Respective Acquisition Dates) [Table 4.21]

	2014	Of which Merck CC	Of which Dihon	2015	Of which Merck CC	Of which Merck Canada	Of which Dihon
	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Goodwill	5,169	4,316	96	(5)	49	3	1
Patents and technologies	1,762	–	–	39	–	–	–
Trademarks	5,672	5,362	295	53	35	–	18
Production rights	71	–	–	–	–	–	–
R&D projects	16	–	–	26	–	–	–
Other rights	30	–	6	(20)	(20)	–	–
Property, plant and equipment	235	146	66	36	(23)	61	(2)
Other noncurrent assets	9	–	9	–	–	–	–
Deferred tax assets	1,264	1,222	3	(5)	(5)	–	–
Inventories	331	295	18	(44)	(46)	4	(8)
Receivables	222	106	70	57	43	3	(4)
Other current assets	–	–	–	–	–	–	–
Cash and cash equivalents	105	3	12	2	–	–	–
Provisions for pensions and other post-employment benefits	–	–	–	–	–	–	–
Other provisions	(105)	(101)	(3)	(85)	(50)	(3)	(19)
Financial liabilities	(213)	(20)	(65)	–	–	–	–
Other liabilities	(292)	(150)	(60)	(25)	7	(1)	(27)
Deferred tax liabilities	(535)	(2)	(46)	(21)	2	–	(2)
Net assets	**13,741**	**11,177**	**401**	**8**	**(8)**	**67**	**(43)**
Changes in noncontrolling interest	–	–	–	–	–	–	–
Purchase price	**13,741**	**11,177**	**401**	**8**	**(8)**	**67**	**(43)**
Acquired cash and cash equivalents	(105)	(3)	(12)	(2)	–	–	–
Advance purchase price payments made in prior years	–	–	–	(11)	–	(11)	–
Settlement gain from pre-existing relationship	(35)	–	–	111	–	–	–
Liabilities for future payments	(92)	(65)	–	–	–	–	–
Payments for previous years' acquisitions	4	–	–	65	63	–	–
Purchase price adjustment	33	–	33	5	–	–	5
Net cash outflow for acquisitions	**13,546**	**11,109**	**422**	**176**	**55**	**56**	**(38)**

2014 figures restated

On December 19, 2015, Bayer entered into an agreement to create a joint venture with CRISPR Therapeutics AG, Basel, Switzerland. The joint venture is to be established in the first quarter of 2016. Its purpose is the development and commercialization of new methods to treat blood disorders, blindness and heart diseases. As of December 31, 2015, Bayer had capital contribution commitments of US$370 million to CRISPR Therapeutics AG and the joint venture yet to be established. These commitments mature on December 31, 2020, at the latest.

ACQUISITIONS IN 2014

In 2014, the following acquisitions were accounted for in accordance with IFRS 3:

On March 6, 2014, CropScience completed the acquisition of all the shares of Biagro Group, a producer and distributor of biological seed treatment solutions headquartered in General Las Heras in the province of Buenos Aires, Argentina. The company operates production facilities in Argentina and Brazil. Its portfolio of established brands includes seed-applied inoculants, plant-growth-promoting microorganisms and other products for integrated pest management based on bacterial and fungal strains. The acquisition helps CropScience to build on the success of its soybean seed business in Latin America. A one-time payment and purchase price adjustment totaling €10 million were agreed upon along with potential milestone payments reflected at €6 million in the purchase price allocation. The milestone payments are mainly dependent on the achievement of certain sales targets and product approvals. The purchase price mainly pertained to the technology platform and goodwill.

In March 2014, HealthCare successfully completed the takeover offer for the shares of Algeta ASA, Oslo, Norway, and acquired 100% of the outstanding shares. Bayer issued a takeover offer for all the shares of Algeta at a price of NOK 362 per share in cash on January 20, 2014. On expiration of the offer deadline, Bayer had received acceptances from Algeta shareholders representing about 98% of the share capital. On March 14, 2014, a compulsory acquisition process was carried out to obtain the remaining 2% of the shares, also at a price of NOK 362 per share.

Algeta creates novel cancer therapies based on its world-leading, patented technologies. The company develops alpha-pharmaceuticals designed to target cancers using the unique properties of alpha particle radiation. HealthCare and Algeta began collaborating in 2009 to develop and commercialize radium-223 dichloride, which was approved in the United States in May 2013 under the tradename Xofigo™. The acquisition strengthened the oncology business of Pharmaceuticals. The purchase price was €1,974 million, including €35 million for the settlement of the pre-existing relationship between Algeta and Bayer. The latter amount represented the value of the advantage enjoyed by the acquirer from the contractual relationship that existed prior to the acquisition compared to market conditions for similar collaborations. The settlement amount was reflected in other operating income and at the same time increased the consideration transferred.

The purchase price mainly pertained to an intangible asset for the product-specific radium-223 technology along with goodwill. The goodwill is mainly attributable to synergies in administration processes and infrastructure, including cost savings in the selling, research and development, and general administration functions.

On September 30, 2014, CropScience completed the acquisition of the seeds business of Granar S.A., headquartered in Encarnación, Paraguay. Granar specializes in the breeding, production and marketing of improved seed, especially soybean seed, that is adapted to the growing conditions in subtropical regions. It has a strong presence in Paraguay and Uruguay and an increasing presence in Brazil. Granar continued to sell the seed for its own account for the 2014/15 sowing season. Bayer took over marketing in 2015. Part of the agreed one-time payment of €15 million to acquire the business has been retained for disbursement over the next six years and is reflected at €2 million in the purchase price allocation.

On October 1, 2014, HealthCare completed the acquisition of the consumer care business of U.S. company Merck & Co., Inc., Whitehouse Station, New Jersey. The acquired business is primarily comprised of products in the cold, allergy, sinus & flu, dermatology (including sun care), foot health and gastrointestinal categories. The most important brands are Claritin™ (allergy), Coppertone™ (sun care), Mira™ (gastrointestinal) and Afrin™ (cold), and – in North America and Latin America – Dr. Scholl’s™ (foot health). These products complement Bayer’s existing range of nonprescription medicines.

In those countries where the consumer care business was acquired via an asset deal, Merck & Co., Inc. continued the sales activities in its own name for a transitional period until the marketing authorizations had been transferred to Bayer or Bayer was able to take over the business as distributor. During this period, the economic rewards and risks already accrued to Bayer, and Bayer received the operating profit on the business from Merck. The transitional period has ended.

Where the business was acquired via a share deal, Bayer purchased 100% of the respective company's shares.

In 2014, Bayer paid a provisional purchase price of €11,177 million, less specific amounts that were retained pending the receipt of antitrust approvals in the Republic of Korea and the transfer of further assets. The provisional purchase price allocation mainly comprised goodwill of €5,137 million and acquired trademarks valued at €5,362 million. The goodwill amount was retroactively adjusted to €4,316 million as of the acquisition date. It is largely based on cost synergies, especially in marketing and manufacturing, as well as on sales synergies resulting from the increased distribution capability and use of the global infrastructure. As expected, a goodwill amount of €2,084 million is tax-deductible.

Upon closure of this acquisition, the strategic pharmaceutical collaboration agreed between Bayer and Merck & Co., Inc. in the field of soluble guanylate cyclase (sGC) modulation also came into effect. Bayer's aim in entering into the global co-development and co-commercialization agreement, which has already received antitrust clearance, is to strengthen its development potential in the cardiovascular therapeutic area. In this connection, Merck & Co., Inc. is to make payments to Bayer of up to US$2.1 billion, comprising an up-front payment of US$1.0 billion (€793 million) made in 2014 and sales milestone payments of up to US$1.1 billion related to future joint activities with certain compounds, including Adempas™ (riociguat) to treat pulmonary hypertension. The one-time payment of €793 million is to be recognized in sales and earnings over a period of 13.5 years as the obligations are satisfied.

On November 1, 2014, Consumer Health acquired all the shares of Dihon Pharmaceutical Group Co. Ltd., Kunming, Yunnan, China. Dihon is a pharmaceutical company specializing in the manufacture and marketing of over-the-counter (OTC) and herbal traditional Chinese medicine products. A provisional purchase price of €401 million was accounted for in 2014. This was based on a purchase price adjustment mechanism. The purchase price mainly pertained to acquired trademarks and goodwill.

On December 1, 2014, CropScience completed the acquisition of land management assets in the United States, Canada, Mexico, Australia and New Zealand from E. I. DuPont de Nemours and Company, United States. The acquisition provides CropScience with access to the growing forestry and range & pasture business segments in North America. Bayer paid a provisional purchase price of €120 million in 2014. A potential milestone payment for a successful registration was agreed upon in addition. This payment was included at €18 million in the purchase price allocation. The purchase price mainly pertained to intangible assets for product-related technologies and goodwill.

6.3 Divestitures, material sale transactions and discontinued operation

DIVESTITURES AND MATERIAL SALE TRANSACTIONS IN 2015

The effects of divestitures and material sale transactions made in 2015 and previous years on the consolidated financial statements were as follows:

On March 2, 2015, Consumer Health completed the sale of two equine products, Legend/Hyonate and Marquis, to Merial, Inc., Duluth, Georgia, United States. A purchase price of €120 million was agreed. The one-time payment is accounted for as deferred income. The purchase prices for Legend/Hyonate and Marquis will be reflected in sales and earnings over a four-year and a three-year period, respectively, as Bayer has entered into further significant obligations.

No assets or liabilities were derecognized in 2015 as a result of this divestiture.

Divested Assets and Liabilities [Table 4.22]

	2014	2015
	€ million	€ million
Goodwill	286	–
Patents and technologies	62	–
Other intangible assets	17	–
Property, plant and equipment	18	–
Other noncurrent assets	2	–
Inventories	10	–
Other current assets	–	–
Other provisions	–	–
Other liabilities	–	–
Divested net assets	**395**	**–**

DIVESTITURES AND MATERIAL SALE TRANSACTIONS IN 2014

On August 29, 2014, Consumer Health completed the sale of the Interventional device business to Boston Scientific Corporation, Natick, Massachusetts, United States. The sale comprised the AngioJet™ thrombectomy system and the Jetstream™ atherectomy system, as well as the Fetch™2 aspiration catheter used in cardiology, radiology and peripheral vascular procedures. The total transaction price, including fees for transitional services to Boston Scientific and before working capital adjustments, was €315 million. Disregarding the transitional services, a special gain of €80 million was recognized in other operating income, and deferred income of €2 million was recognized in liabilities.

On October 1, 2014, the strategic pharmaceutical collaboration agreed between Bayer and Merck & Co., Inc., United States, in the area of soluble guanylate cyclase (sGC) modulation came into effect. Pharmaceuticals and Merck & Co., Inc. assumed joint control of the sGC modulators business. The collaboration agreement provides for future net cash flows to be equally shared between Bayer and Merck & Co., Inc. Of the goodwill allocated to the Pharmaceuticals segment, €173 million was derecognized through profit or loss as of the date the collaboration came into effect.

DISCONTINUED OPERATION

On June 8, 2015, an agreement was signed to sell the Diabetes Care business to Panasonic Healthcare Holdings Co., Ltd., Tokyo, Japan, for approximately €1 billion. The sale includes the leading Contour™ portfolio of blood glucose monitoring meters and strips, as well as other products such as Breeze™2, Elite™ and Microlet™ lancing devices. Implementation of the agreement began on January 4, 2016. Bayer has entered into further significant obligations, which are to be met over the next two years.

The Diabetes Care activities are reported as a discontinued operation. The respective information is provided from the standpoint of the Bayer Group and is not intended to present these activities as a separate entity.

The income statements for the discontinued operation are given below:

Income Statements for Discontinued Operations [Table 4.23]

	2014	2015
	€ million	€ million
Net sales	**900**	**947**
Cost of goods sold	(357)	(380)
Gross profit	**543**	**567**
Selling expenses	(349)	(386)
Research and development expenses	(37)	(48)
General administration expenses	(38)	(36)
Other operating income/expenses	(8)	(20)
EBIT[1]	**111**	**77**
Financial result	**–**	**–**
Income before income taxes	**111**	**77**
Income taxes	(11)	3
Income after income taxes	**100**	**80**

[1] EBIT = earnings before financial result and taxes

The assets and liabilities of the discontinued operation are shown in the following table:

Assets and Liabilities of Discontinued Operations [Table 4.24]

	Dec. 31, 2015
	€ million
Noncurrent assets	
Goodwill	36
Other intangible assets	4
Property, plant and equipment	8
	48
Current assets	
Inventories	135
	135
Total assets	**183**
Noncurrent liabilities	
Provisions for pensions and other post-employment benefits	23
	23
Current liabilities	
Other provisions	89
	89
Total liabilities	**112**

In addition to the assets of the discontinued Diabetes Care business amounting to €183 million, the statement of financial position as of December 31, 2015, reflects a further €14 million in assets held for sale.

The discontinued operation affected the Bayer Group statement of cash flows as follows:

Cash Flows of Discontinued Operations [Table 4.25]

	2014	2015
	€ million	€ million
Net cash provided by (used in) operating activities (net cash flow)	113	43
Net cash provided by (used in) investing activities	(6)	(4)
Net cash provided by (used in) financing activities	(107)	(39)
Change in cash and cash equivalents	**–**	**–**

Notes to the Income Statements

7. Net sales

Net sales are derived primarily from product deliveries. Total reported net sales for 2015 amounted to €46,324 million, rising by €4,985 million, or 12.1%, compared to 2014. The increase resulted from the following factors:

Factors in Sales Development [Table 4.26]

	2015	
	€ million	%
Volume	1,817	+4.4
Price	(713)	–1.7
Currency	2,420	+5.9
Portfolio	1,461	+3.5
Total	**4,985**	**+12.1**

Breakdowns of net sales by segment and by region are given in the table in NOTE [1].

8. Selling expenses

Selling expenses comprise all expenses incurred in the reporting period for the sale, storage and transportation of saleable products, advertising, the provision of advice to customers, and market research. Selling expenses were comprised as follows:

Selling Expenses [Table 4.27]

	2014	2015
	€ million	€ million
Internal and external sales force	4,452	4,808
Advertising and customer advice	2,491	3,006
Physical distribution and warehousing of finished products	1,139	1,273
Commission and licensing expenses	1,082	1,401
Other selling expenses	1,505	1,879
Total	**10,669**	**12,367**

2014 figures restated

9. Research and development expenses

Research and development expenses and their accounting treatment are defined in NOTE [4]. Breakdowns of research and development expenses by segment and region are given in NOTE [1].

10. Other operating income

Other operating income was comprised as follows:

Other Operating Income [Table 4.28]

	2014	2015
	€ million	€ million
Gains on retirements of noncurrent assets	133	137
Reversal of impairment losses on receivables	23	32
Reversals of unutilized provisions	44	25
Gains from derivatives	149	272
Miscellaneous operating income	361	644
Total	**710**	**1,110**
of which special items	118	336

2014 figures restated

Gains from the retirements of noncurrent assets included a €53 million gain from the sale of trademark rights for the Biovital™, Benerva™, Bactine™ and ProPlus™ brands (Consumer Health segment). In addition, a €29 million gain was realized on the sale of transfer rights by Bayer 04 Leverkusen Fußball GmbH. In the CropScience segment, a gain of €19 million was received from the sale of a parcel of land in Tolichowki, India. In the Covestro segment, the sale of the polyurethanes production site in Anyer, Indonesia, yielded a gain of €13 million, and a €6 million gain resulted from the sale of a parcel of land in Nanjing, China.

Miscellaneous operating income included €314 million in claims against Dow AgroSciences LLC, United States, for damages and royalty payments resulting from the infringement of Bayer's rights to the Liberty Link™ weed control system (CropScience segment). Also reflected here is a €16 million compensation payment for a production shortfall in Toulouse, France. A €12 million gain was realized by Bayer 04 Leverkusen Fußball GmbH from the sale of noncapitalized transfer rights.

In 2014, gains from the retirements of noncurrent assets included a gain of €80 million in the Consumer Health segment from the divestiture of the Interventional device business to Boston Scientific Corporation, Natick, Massachusetts, United States. A gain of €9 million was also incurred from the sale of transfer rights by Bayer 04 Leverkusen Fußball GmbH. The Consumer Health segment recorded a gain of €10 million from the termination of the licensing and distribution agreement for the pain reliever Flector™. The sale of the Monroe production site in Argentina and the Xochimilco site in Mexico resulted in gains of €9 million and €6 million, respectively, in the Pharmaceuticals segment.

The miscellaneous operating income in 2014 included a gain of €35 million in the Pharmaceuticals segment resulting from the pre-existing partnership between Algeta ASA, Norway, and Bayer to develop and commercialize radium-223 dichloride. A gain of €21 million was recorded from the divestiture of the Consumer Health products Bronkaid™ and Neo-Synephrine™. A gain of €18 million resulted from the divestiture of the pharmaceutical product Betapace™. Also reflected in this item was income of €64 million from insurance reimbursements.

11. Other operating expenses

Other operating expenses were comprised as follows:

Other Operating Expenses [Table 4.29]

	2014	2015
	€ million	€ million
Losses on retirements of noncurrent assets	(198)	(32)
Impairment losses on receivables	(87)	(183)
Expenses related to significant legal risks	(168)	(151)
Losses from derivatives	(74)	(628)
Miscellaneous operating expenses	(309)	(286)
Total	**(836)**	**(1,280)**
of which special items	(356)	(247)

2014 figures restated

The losses on retirements of noncurrent assets included €6 million in expenses for the termination of rice breeding activities in Brazil.

Impairment losses of €91 million were recognized in 2015 on receivables from the Venezuelan exchange control authority. Of this amount, the Pharmaceuticals segment accounted for €67 million, Consumer Health for €7 million, CropScience for €13 million, Covestro for €3 million and the Corporate Center for €1 million. Details are provided in NOTE [4].

The €151 million in expenses for significant legal risks mainly included accounting measures taken in connection with legal proceedings relating to the products Luna™, LL Rice™ and Xarelto™.

The miscellaneous operating expenses included €38 million in restructuring charges related to the legal carve-out of the Covestro Group, of which the Corporate Center segment accounted for €30 million and Covestro for €8 million. Consumer Health incurred expenses of €41 million for the integration of the business acquired from Merck & Co., Inc., United States.

As in the previous year, the remaining amount of miscellaneous operating expenses comprised a large number of individually immaterial items at the subsidiaries.

In 2014, the losses on retirements of noncurrent assets included €173 million from the derecognition of the goodwill allocated to the Pharmaceuticals segment in connection with the pharmaceutical collaboration between Bayer and Merck & Co., Inc., United States.

The miscellaneous operating expenses in 2014 included €10 million in restructuring charges, which were incurred entirely by Covestro. Pharmaceuticals and Consumer Health incurred expenses of €12 million and €71 million, respectively, for the integration of acquired businesses.

12. Personnel expenses and employee numbers

Personnel expenses for continuing operations rose in 2015 by €1,510 million to €11,203 million (2014: €9,693 million), mainly as a result of currency effects, the increase in the average number of employees, and higher employee bonuses based on the company's financial success.

Personnel Expenses [Table 4.30]

	2014	2015
	€ million	€ million
Salaries	7,875	9,012
Social expenses and expenses for pensions and other benefits	1,818	2,191
of which for defined contribution pension plans	483	559
of which for defined benefit and other pension plans	351	502
Total	**9,693**	**11,203**

2014 figures restated

The personnel expenses shown here do not contain the interest portion of the allocation to personnel-related provisions – mainly for pensions and other post-employment benefits – which is included in the financial result under other financial expenses (NOTE [13.3]).

The average numbers of employees, classified by corporate function, were as shown in the table below:

Employees [Table 4.31]

	2014	2015
Production	46,351	48,630
Marketing and distribution	44,150	45,078
Research and development	13,609	14,466
General administration	9,006	9,377
Total	**113,116**	**117,551**
Apprentices	2,349	2,332

2014 figures restated

The number of employees on either permanent or temporary contracts is stated in full-time equivalents, with part-time employees included on a pro-rated basis in line with their contractual working hours. The figures do not include apprentices.

13. Financial result

The financial result for 2015 was minus €1,005 million (2014: minus €981 million), comprising an equity-method loss of €9 million (2014: €13 million), financial expenses of €1,367 million (2014: €1,311 million) and financial income of €371 million (2014: €343 million). Details of the components of the financial result are provided below.

13.1 Income (loss) from investments in affiliated companies

The net income (loss) from investments in affiliated companies was comprised as follows:

Income (Loss) from Investments in Affiliated Companies [Table 4.32]

	2014	2015
	€ million	€ million
Net loss from investments accounted for using the equity method (equity-method loss)	(13)	(9)
Expenses		
Impairment losses on investments in affiliated companies	–	(1)
Gains		
Impairment loss reversals on investments in affiliated companies	2	–
Gains/losses from investments in affiliated companies and from profit and loss transfer agreements (net)	1	3
Gains from the sale of investments in affiliated companies	–	31
Total	**(10)**	**24**

The main components of the income from investments in affiliated companies were a €29 million gain from the sale of the interest in Kythera Biopharmaceuticals, Inc., United States, and the €23 million (2014: €18 million) equity-method loss from the associate PO JV, LP, United States. The €14 million (2014: €5 million) aggregate of the equity-method gains and losses of the remaining joint ventures and associates accounted for using the equity method included a €10 million gain from the sale of the interest in Bayer IMSA, S.A. de C.V., Mexico.

Further details of the companies accounted for using the equity method are given in NOTE [19].

13.2 Net interest expense

The net interest expense was comprised as follows:

Net Interest Expense [Table 4.33]

	2014	2015
	€ million	€ million
Expenses		
Interest and similar expenses	(618)	(752)
Interest expenses for derivatives (held for trading)	(75)	(25)
Income		
Interest and similar income	283	297
Interest income from derivatives (held for trading)	54	25
Total	**(356)**	**(455)**

Interest and similar expenses included interest expense of €49 million (2014: €55 million) relating to nonfinancial liabilities. Interest and similar income included interest income of €133 million (2014: €48 million) from nonfinancial assets. Interest income of €109 million resulted from claims against Dow AgroSciences LLC, United States, for damages and royalty payments resulting from the infringement of Bayer's rights to the Liberty Link™ weed control system.

Settlements were reached in August 2015 in the court proceedings initiated by former minority stockholders of Bayer Pharma AG (formerly Bayer Schering Pharma AG). Further details are given in NOTE [6.2]. The interest expense was reduced in 2015 by an aggregate of €24 million in connection with the additional payment agreed upon (2014: increased by €10 million).

The change in the liability for redeemable noncontrolling interest is reflected in interest income or expense. In 2015 a €5 million (2014: €46 million) decrease in this liability was recognized as interest income.

13.3 Other financial income and expenses

Other financial income and expenses were comprised as follows:

Other Financial Income and Expenses [Table 4.34]

	2014	2015
	€ million	€ million
Expenses		
Interest portion of interest-bearing provisions	(322)	(287)
Exchange loss	(248)	(254)
Miscellaneous financial expenses	(48)	(48)
Income		
Miscellaneous financial income	3	15
Total	**(615)**	**(574)**

The interest portion of noncurrent provisions comprised €276 million (2014: €275 million) in interest expense for pension and other post-employment benefit provisions plus €11 million (2014: €47 million) in effects of interest expense and interest-rate fluctuations for other provisions and corresponding overfunding. The interest expense for pension and other post-employment benefit provisions included €712 million (2014: €828 million) for the unwinding of discount on the present value of the defined benefit obligation and €436 million (2014: €553 million) in interest income from plan assets.

14. Taxes

The breakdown of tax expenses by origin was as follows:

Tax Expense by Origin [Table 4.35]

	2014		2015	
		Of which income taxes		Of which income taxes
	€ million	€ million	€ million	€ million
Taxes paid or accrued				
Income taxes				
Germany	(566)		(1,140)	
other countries	(739)		(1,118)	
Other taxes				
Germany	(48)		(44)	
other countries	(189)		(220)	
	(1,542)	**(1,305)**	**(2,522)**	**(2,258)**
Deferred taxes				
from temporary differences	164		1,056	
from tax loss carryforwards and tax credits	70		(25)	
	234	**234**	**1,031**	**1,031**
Total	**(1,308)**	**(1,071)**	**(1,491)**	**(1,227)**

2014 figures restated

The other taxes mainly include land, vehicle and other indirect taxes. They are reflected in the respective functional cost items.

The deferred tax assets and liabilities were allocable to the following items in the statement of financial position:

Deferred Tax Assets and Liabilities [Table 4.36]

	Dec. 31, 2014		Dec. 31, 2015	
	Deferred tax assets	Deferred tax liabilities	Deferred tax assets	Deferred tax liabilities
	€ million	€ million	€ million	€ million
Intangible assets	1,586	2,520	1,411	1,910
Property, plant and equipment	86	672	253	678
Financial assets	57	207	18	183
Inventories	652	50	943	63
Receivables	286	627	98	580
Other assets	24	13	28	14
Provisions for pensions and other post-employment benefits	3,508	1,037	3,601	1,213
Other provisions	976	129	1,025	90
Liabilities	674	71	714	91
Tax loss carryforwards	446	–	393	–
Tax credits	144	–	191	–
	8,439	**5,326**	**8,675**	**4,822**
of which noncurrent	7,182	4,912	7,398	4,750
Set-off	(4,637)	(4,637)	(3,996)	(3,996)
Total	**3,802**	**689**	**4,679**	**826**

2014 figures restated

Deferred taxes on remeasurements, recognized outside profit or loss, of the net liability for defined benefit pension and other post-employment benefits diminished equity by €430 million (2014: increased equity by €1,621 million). Deferred taxes on changes, recognized outside profit or loss, in fair values of available-for-sale financial assets and derivatives designated as cash flow hedges diminished equity by €27 million (2014: increased equity by €55 million). These effects on equity are reported in the statement of comprehensive income.

The use of tax loss carryforwards reduced the income taxes paid or accrued in 2015 by €136 million (2014: €24 million). The use of tax credits reduced income taxes paid or accrued by €21 million (2014: €10 million).

Of the total tax loss carryforwards of €5,497 million in 2015 (2014: €4,535 million), an amount of €1,812 million (2014: €1,737 million) is expected to be usable within a reasonable period. The increase in loss carryforwards was mainly due to losses that newly arose in 2015 and tax reassessments for prior years. Deferred tax assets of €393 million (2014: €446 million) were recognized for the amount of loss carryforwards expected to be usable. The deferred tax assets included an amount of €0 million (2014: €39 million) that resulted from purchase price allocations and was recognized outside profit or loss.

The use of €3,685 million (2014: €2,798 million) of tax loss carryforwards was subject to legal or economic restrictions. Consequently, no deferred tax assets were recognized for this amount. If these tax loss carryforwards had been fully usable, deferred tax assets of €322 million (2014: €138 million) would have been recognized.

Tax credits of €191 million were recognized in 2015 (2014: €144 million) as deferred tax assets, including €0 million (2014: €0 million) outside profit or loss. The use of €41 million (2014: €45 million) of tax credits was subject to legal or economic restrictions. Consequently, no deferred tax assets were recognized for this amount.

Unusable tax credits and tax loss carryforwards will expire as follows:

Expiration of Unusable Tax Credits and Tax Loss Carryforwards [Table 4.37]

	Tax credits		Tax loss carryforwards	
	Dec. 31, 2014	Dec. 31, 2015	Dec. 31, 2014	Dec. 31, 2015
	€ million	€ million	€ million	€ million
Within one year	4	4	14	17
Within two years	–	–	9	70
Within three years	3	4	3	25
Within four years	–	–	24	32
Within five years	23	26	82	234
Thereafter	15	6	2,666	3,307
Total	**45**	**40**	**2,798**	**3,685**

In 2015, subsidiaries that reported losses for 2015 or 2014 recognized net deferred tax assets totaling €2,455 million (2014: €2,117 million) from temporary differences and tax loss carryforwards. These assets were considered to be unimpaired because the companies concerned were expected to generate taxable income in the future.

Deferred tax liabilities of €35 million were recognized in 2015 (2014: €6 million) for planned dividend payments by subsidiaries. Deferred tax liabilities were not recognized for temporary differences on €12,087 million (2014: €8,648 million) of retained earnings of subsidiaries because these earnings are to be reinvested for an indefinite period.

The reported tax expense of €1,227 million for 2015 (2014: €1,071 million) differed by €119 million (2014: €58 million) from the expected tax expense of €1,346 million (2014: €1,129 million) that would have resulted from applying an expected weighted average tax rate to the pre-tax income of the Group. This average rate, derived from the expected tax rates of the individual Group companies, was 25.7% in 2015 (2014: 25.6%). The effective tax rate was 23.4% (2014: 24.3%).

The reconciliation of expected to reported income tax expense and of the expected to the effective tax rate for the Group was as follows:

Reconciliation of Expected to Actual Income Tax Expense [Table 4.38]

	2014		2015	
	€ million	%	€ million	%
Expected income tax expense and expected tax rate	**1,129**	**25.6**	**1,346**	**25.7**
Reduction in taxes due to tax-free income				
Income related to the operating business	(92)	(2.1)	(155)	(3.0)
Income from affiliated companies and divestiture proceeds	(2)	–	(10)	(0.2)
First-time recognition of previously unrecognized deferred tax assets on tax loss carryforwards	(15)	(0.3)	(30)	(0.6)
Use of tax loss carryforwards on which deferred tax assets were not previously recognized	(1)	–	(6)	(0.1)
Increase in taxes due to non-tax-deductible expenses				
Expenses related to the operating business	149	3.4	148	2.8
Impairment losses on investments in affiliated companies	2	–	7	0.1
New tax loss carryforwards unlikely to be usable	57	1.3	81	1.5
Existing tax loss carryforwards on which deferred tax assets were previously recognized but which are unlikely to be usable	7	0.2	16	0.3
Tax income (–) and expenses (+) relating to other periods	(119)	(2.7)	(95)	(1.8)
Tax effects of changes in tax rates	(10)	(0.2)	(25)	(0.5)
Other tax effects	(34)	(0.9)	(50)	(0.8)
Actual income tax expense and effective tax rate	**1,071**	**24.3**	**1,227**	**23.4**

2014 figures restated

15. Income/losses attributable to noncontrolling interest

Income attributable to noncontrolling interest amounted to €115 million (2014: €19 million). Losses attributable to noncontrolling interest amounted to €127 million (2014: €2 million).

16. Earnings per share

Earnings per share are determined according to IAS 33 (Earnings per Share) by dividing net income by the weighted average number of ordinary shares in issue during the year.

Earnings per Share [Table 4.39]

	2014	2015
	€ million	€ million
Income from continuing operations after income taxes	3,343	4,018
Income from discontinued operations after income taxes	100	80
Income after income taxes	3,443	4,098
of which attributable to noncontrolling interest	17	(12)
of which attributable to Bayer AG stockholders (net income)	3,426	4,110
	Shares	Shares
Weighted average number of issued ordinary shares	826,947,808	826,947,808
	€	€
Earnings per share		
From continuing operations		
Basic	4.02	4.87
Diluted	4.02	4.87
From discontinued operations		
Basic	0.12	0.10
Diluted	0.12	0.10
From continuing and discontinued operations		
Basic	4.14	4.97
Diluted	4.14	4.97

2014 figures restated

Notes to the Statements of Financial Position

17. Goodwill and other intangible assets

Changes in intangible assets in 2015 were as follows:

Changes in Intangible Assets [Table 4.40]

	Acquired goodwill	Patents and technologies	Trade-marks	Marketing and distribution rights	Production rights	R&D projects	Other rights and advance payments	Total
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Cost of acquisition or generation, December 31, 2014	**15,347**	**12,827**	**10,242**	**1,808**	**2,168**	**882**	**3,189**	**46,463**
Changes in scope of consolidation	–	4	–	–	–	–	1	5
Acquisitions	(5)	39	53	–	–	26	(20)	93
Capital expenditures	–	77	–	52	–	107	152	388
Retirements	–	(33)	(35)	(55)	–	(7)	(966)	(1,096)
Transfers	–	40	–	75	(2)	(113)	–	–
Transfers (IFRS 5)	(34)	(2)	(14)	(33)	–	–	(20)	(103)
Inflation adjustment (IAS 29)	7	–	–	–	–	–	–	7
Exchange differences	781	117	706	97	6	51	264	2,022
December 31, 2015	**16,096**	**13,069**	**10,952**	**1,944**	**2,172**	**946**	**2,600**	**47,779**
Accumulated amortization and impairment losses, December 31, 2014	**–**	**7,428**	**2,588**	**1,039**	**1,911**	**153**	**2,344**	**15,463**
Changes in scope of consolidation	–	4	–	–	–	–	–	4
Retirements	–	(17)	(31)	(55)	–	(7)	(949)	(1,059)
Amortization and impairment losses in 2015	–	801	447	148	106	66	183	1,751
Amortization	–	801	422	147	106	–	161	1,637
Impairment losses	–	–	25	1	–	66	22	114
Impairment loss reversals	–	–	–	–	–	–	–	–
Transfers	–	–	1	1	(2)	–	–	–
Transfers (IFRS 5)	–	(1)	–	(25)	–	–	(19)	(45)
Exchange differences	–	62	78	26	6	13	206	391
December 31, 2015	**–**	**8,277**	**3,083**	**1,134**	**2,021**	**225**	**1,765**	**16,505**
Carrying amounts, December 31, 2015	**16,096**	**4,792**	**7,869**	**810**	**151**	**721**	**835**	**31,274**
Carrying amounts, December 31, 2014	**15,347**	**5,399**	**7,654**	**769**	**257**	**729**	**845**	**31,000**

2014 figures restated

The capitalized patents and technologies include an amount pertaining to the active ingredient alemtuzumab (product name: Lemtrada) for the treatment of multiple sclerosis. Bayer gave back the worldwide distribution rights for alemtuzumab to Genzyme Corp., United States, in 2009 and in return received global co-promotion rights and an entitlement to royalties and revenue-based milestone payments. Genzyme Corp. received marketing approval for alemtuzumab in Europe in 2013 and in the United States in 2014. Bayer has decided not to exercise its co-promotion rights.

Impairment losses of €114 million were recognized on intangible assets. In the Pharmaceuticals segment, development activities for an intangible asset in the oncology area were discontinued. A €42 million impairment loss was recognized as a result. In the CropScience segment, impairment losses totaling €20 million were recognized on two research and development projects in the crop protection area due to a delayed market introduction and new research findings. In the Consumer Health reporting segment, impairment losses totaling €17 million were recognized on trademarks based on a portfolio review associated with the closure of a production site.

Impairment losses were also recognized on further intangible assets in the Consumer Health segment (€23 million), the CropScience segment (€9 million) and the Pharmaceuticals segment (€3 million).

Details of acquisitions and divestitures are provided in NOTES [6.2] and [6.3]. The impairment testing procedure for goodwill and other intangible assets is explained in NOTE [4].

Changes in intangible assets in 2014 were as follows:

Changes in Intangible Assets (Previous Year) [Table 4.41]

	Acquired goodwill	Patents and technologies	Trade-marks	Marketing and distribution rights	Production rights	R&D projects	Other rights and advance payments	Total
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Cost of acquisition or generation, December 31, 2013	**9,862**	**11,021**	**4,282**	**1,598**	**2,062**	**775**	**2,994**	**32,594**
Changes in scope of consolidation	–	–	–	–	–	–	2	2
Acquisitions	5,169	1,762	5,672	–	71	16	30	12,720
Capital expenditures	–	39	18	124	–	115	127	423
Retirements	(38)	(33)	(21)	(21)	(6)	(61)	(143)	(323)
Transfers	–	9	–	18	34	(17)	(44)	–
Transfers (IFRS 5)	(254)	(126)	(27)	–	–	–	–	(407)
Inflation adjustment (IAS 29)	6	–	–	–	–	–	–	6
Exchange differences	602	155	318	89	7	54	223	1,448
December 31, 2014	**15,347**	**12,827**	**10,242**	**1,808**	**2,168**	**882**	**3,189**	**46,463**
Accumulated amortization and impairment losses, December 31, 2013	**–**	**6,653**	**2,262**	**834**	**1,773**	**131**	**2,165**	**13,818**
Changes in scope of consolidation	–	–	–	–	–	–	2	2
Retirements	(6)	(22)	(2)	(20)	(6)	(4)	(135)	(195)
Amortization and impairment losses in 2014	6	803	269	188	104	15	182	1,567
Amortization	–	800	228	135	104	–	171	1,438
Impairment losses	6	3	41	53	–	15	11	129
Impairment loss reversals	–	(2)	–	–	–	–	–	(2)
Transfers	–	–	–	1	34	–	(35)	–
Transfers (IFRS 5)	–	(67)	(11)	–	–	–	–	(78)
Exchange differences	–	63	70	36	6	11	165	351
December 31, 2014	**–**	**7,428**	**2,588**	**1,039**	**1,911**	**153**	**2,344**	**15,463**
Carrying amounts, December 31, 2014	**15,347**	**5,399**	**7,654**	**769**	**257**	**729**	**845**	**31,000**
Carrying amounts, December 31, 2013	**9,862**	**4,368**	**2,020**	**764**	**289**	**644**	**829**	**18,776**

2014 figures restated

Changes in the carrying amounts of goodwill for the reporting segments in 2015 and 2014 were as follows:

Goodwill by Reporting Segment [Table 4.42]

	Pharma-ceuticals	Consumer Health	HealthCare	CropScience	Covestro	Bayer Group
	€ million	€ million	€ million	€ million	€ million	€ million
Carrying amounts, January 1, 2014	**5,238**	**2,435**	**7,673**	**1,951**	**238**	**9,862**
Change in scope of consolidation	–	–	–	–	–	–
Acquisitions	751	4,349	5,100	69	–	5,169
Retirements	(30)	(2)	(32)	–	–	(32)
Impairment losses in 2014	–	–	–	–	(6)	(6)
Transfers	–	–	–	–	–	–
Transfers (IFRS 5)	(143)	(111)	(254)	–	–	(254)
Inflation adjustment (IAS 29)	–	6	6	–	–	6
Exchange differences	185	289	474	117	11	602
Carrying amounts, December 31, 2014	**6,001**	**6,966**	**12,967**	**2,137**	**243**	**15,347**
Change in scope of consolidation	–	–	–	–	–	–
Acquisitions	(111)	49	(62)	50	7	(5)
Retirements	–	–	–	–	–	–
Impairment losses in 2015	–	–	–	–	–	–
Transfers	–	–	–	–	–	–
Transfers (IFRS 5)	–	(34)	(34)	–	–	(34)
Inflation adjustment (IAS 29)	1	7	8	–	–	8
Exchange differences	165	514	679	90	11	780
Carrying amounts, December 31, 2015	**6,056**	**7,502**	**13,558**	**2,277**	**261**	**16,096**

2014 figures restated

Goodwill and other intangible assets with an indefinite useful life that are of material significance for the Bayer Group are allocated to the following cash-generating units or unit groups as of the end of the reporting period:

Intangible Assets with an Indefinite Useful Life [Table 4.43]

Reporting segment	Cash-generating unit/unit group	Goodwill	Material intangible assets with an indefinite useful life
		€ million	€ million
Pharmaceuticals	Pharmaceuticals	6,056	485
Consumer Health	Consumer Care	6,187	22
CropScience	Crop Protection	1,287	74
CropScience	Seeds	507	149

In the case of research and development projects, the point in time from which a capitalized asset can be expected to generate an economic benefit for the company cannot be determined. Such assets are therefore classified as having an indefinite useful life. Development projects were capitalized at a total amount of €721 million as of the end of 2015 (2014: €729 million).

Another intangible asset classified as having an indefinite useful life is the Bayer Cross, which was reacquired for the North America region in 1994, having been awarded to the United States and Canada under the reparations agreements at the end of the First World War. The period for which the Bayer Group will derive an economic benefit from this name cannot be determined as Bayer intends to make continuous use of it. The Bayer Cross is capitalized at €107 million.

PATENTS

The Bayer Group endeavors to obtain patent protection for its products and technologies in the major markets.

The following table sets forth the expiration dates in our major markets of the most important patents covering Adempas™, Avalox™/Avelox™, Betaferon™/Betaseron™, Eylea™, Kogenate™, Levitra™, Mirena™, Nexavar™, Stivarga™, Xarelto™, Xofigo™, YAZ™, Yasmin™ and Yasminelle™:

Patent Expiration Dates [Table 4.44]

	Market								
	Germany	France	U.K.	Italy	Spain	Japan	China	U.S.A.	Canada
Products									
Adempas™									
Active ingredient	2023[a]	2028[i]	2023[a]	2028[i]	2028[i]	2027[i]	2023	2023[a]	2023
Production process/ intermediate	2030	2030	2030	2030	2030	2030[b]	2030	2030	2030[b]
Avalox™/Avelox™									
Active ingredient	–	–	–	–	–	–	–	–	2015
Active ingredient monohydrate	2016	2016	2016	2016	2016	2016	2016	2016	2016
Tablets	2019	2019	2019	2019	2019	2019	2019	2019	2019
Betaferon™/Betaseron™									
Active ingredient	–	–	–	–	–	–	–	–	2016
Eylea™									
Active ingredient	2020[a]	2025	2020[a]	2025	2025	2021[a/f]	2020	–	2020
Kogenate™									
Active ingredient	–	–	–	–	–	–	–	–	2021
Formulation	2017	2017	2017	2017	2017	2020	2017	2016	2017
Levitra™									
Active ingredient	2018	2018	2018	2018	2018	2020	2018	2018	2018
Mirena™									
Inserter	2015	2015	2015	2015	2015	–	2015	2015	2015
Inserter (improved)	2029[d]	2029[d]	2029[d]	2029[d]	2029[d]	2029	2029	2029[b]	2029[b]
Nexavar™									
Active ingredient	2021	2021	2021	2021	2021	2021[g]	2020	2020	2020
Polymorph	2025	2025	2025	2025	2025	2025[h]	2025	2027	2025
Formulation	2026	2026	2026	2026	2026	2026[h]	2026	2026[k]	2026
Stivarga™									
Active ingredient	2028[i]	2028	2024[a]	2028	2028	2026[j]	2024	2031[c]	2024
Formulation	2025	2025	2025	2025	2025	2026[j]	2025	2025[b]	2025
Production process	2031	2031	2031	2031	2031	2031	2031	2031	2031
Xarelto™									
Active ingredient	2023	2023	2023	2023	2023	2024	2020	2020[l]	2020
Formulation	2024	2024	2024	2024	2024	2025	2024	2024[b]	2024
Xofigo™									
Use	2024[i]	2024[i]	2024[i]	2024[i]	2024[i]	2019	2019	2020[a]	2019
Production process	2031[k]	2031[k]	2031[k]	2031[k]	2031[k]	2031[b]	2031[b]	2031	2031[b]
YAZ™									
Formulation	–	–	–	–	–	2021	2020	–	2020
Production process	2025	2025	2025	2025	2025	2026	2026	2026[c]	2026
Yasmin™									
Formulation	–	–	–	–	–	2020	2020	–	2020
Production process	2025	2025	2025	2025	2025	2026	2026	2026[c]	2026
Yasminelle™									
Formulation	–	–	–	–	–	2020	2020	–	2020
Production process	2025	2025	2025	2025	2025	2026	2026	2026[c]	2026

a Current expiration date; patent term extension applied for
b Patent application pending
c Patent term revised
d Opposition to EP patent terminated; appeal possible
e Additional patent term adjustment being calculated
f Indication-specific term extensions until 2021 for AMD, until 2022 for CRVO and until 2023 for mCNV and DME
g Patent term extension granted for kidney cancer until 2021, liver cancer until 2022, and thyroid cancer until 2025
h Patent term extension granted for thyroid cancer until 2026 (polymorph) and 2027 (tablet)
i Patent term extension granted
j Patent term extension granted for colorectal cancer and GIST until 2026
k Notice of allowance received
l Patent term revised due to a terminal disclaimer; extension applied for

18. Property, plant and equipment

Changes in property, plant and equipment in 2015 were as follows:

Changes in Property, Plant and Equipment [Table 4.45]

	Land and buildings	Plant installations and machinery	Furniture, fixtures and other equipment	Construction in progress and advance payments	Total
	€ million	€ million	€ million	€ million	€ million
Cost of acquisition or construction, December 31, 2014	**9,088**	**18,144**	**2,009**	**2,078**	**31,319**
Changes in scope of consolidation	–	3	1	–	4
Acquisitions	33	2	1	–	36
Capital expenditures	230	390	239	1,309	2,168
Retirements	(167)	(429)	(185)	(58)	(839)
Transfers	273	797	56	(1,126)	–
Transfers (IFRS 5)	1	(64)	(4)	–	(67)
Inflation adjustment (IAS 29)	7	2	1	–	10
Exchange differences	220	573	24	92	909
December 31, 2015	**9,685**	**19,418**	**2,142**	**2,295**	**33,540**
Accumulated depreciation and impairment losses, December 31, 2014	**4,940**	**13,426**	**1,482**	**43**	**19,891**
Changes in scope of consolidation	0	1	1	–	2
Retirements	(101)	(397)	(156)	(72)	(726)
Depreciation and impairment losses in 2015	317	945	232	38	1,532
Depreciation	294	892	230	–	1,416
Impairment losses	23	53	2	38	116
Impairment loss reversals	–	(1)	–	–	(1)
Transfers	–	(1)	1	–	–
Transfers (IFRS 5)	1	(57)	(3)	–	(59)
Exchange differences	98	387	21	20	526
December 31, 2015	**5,255**	**14,303**	**1,578**	**29**	**21,165**
Carrying amounts, December 31, 2015	**4,430**	**5,115**	**564**	**2,266**	**12,375**
Carrying amounts, December 31, 2014	**4,148**	**4,718**	**527**	**2,035**	**11,428**

Impairment losses of €115 million, net of a €1 million impairment loss reversal, were recognized on property, plant and equipment in the Covestro segment (€69 million), the Consumer Health segment (€33 million), the CropScience segment (€6 million), the Pharmaceuticals segment (€3 million), and Other Segments (€4 million).

In 2015, borrowing costs of €33 million (2014: €32 million) were capitalized as components of the cost of acquisition or construction of qualifying assets, applying an average interest rate of 2.5% (2014: 3.1%).

Capitalized property, plant and equipment included assets with a total net value of €533 million (2014: €504 million) held under finance leases. The cost of acquisition or construction of these assets as of the closing date totaled €915 million (2014: €827 million). They comprised plant installations and machinery with a carrying amount of €220 million (2014: €233 million), buildings with a carrying amount of €168 million (2014: €132 million) and other property, plant and equipment with a carrying amount of €145 million (2014: €139 million). For information on the liabilities arising from finance leases, see NOTE [27].

In 2015, rental payments of €263 million (2014: €219 million) were made for assets leased under operating leases as defined in IAS 17 (Leases).

Lease payments of €2 million are expected to be received in 2016 from operating leases – as defined in IAS 17 (Leases) – pertaining to property, plant and equipment, excluding the investment property stated below. Lease payments totaling €7 million are expected to be received in 2017-2020 and lease payments totaling €1 million after 2020.

INVESTMENT PROPERTY

The fair values of investment property are mainly determined using the income approach based on internal valuations for buildings and developed sites, and using the market comparison approach for undeveloped sites.

The total carrying amount of investment property as of December 31, 2015, was €164 million (December 31, 2014: €175 million). The fair value of this property was €484 million (2014: €501 million). The rental income from investment property was €13 million (2014: €14 million), and the operating expenses directly allocable to this property amounted to €8 million (2014: €9 million). A further amount of €1 million (2014: €2 million) in operating expenses was directly allocable to investment property from which no rental income was derived.

Changes in property, plant and equipment in 2014 were as follows:

Changes in Property, Plant and Equipment (Previous Year) [Table 4.46]

	Land and buildings	Plant installations and machinery	Furniture, fixtures and other equipment	Construction in progress and advance payments	Total
	€ million	€ million	€ million	€ million	€ million
Cost of acquisition or construction, December 31, 2013	**8,375**	**16,556**	**1,853**	**1,671**	**28,455**
Changes in scope of consolidation	5	3	–	–	8
Acquisitions	74	85	27	49	235
Capital expenditures	248	468	216	1,135	2,067
Retirements	(165)	(351)	(176)	(6)	(698)
Transfers	233	611	34	(878)	–
Transfers (IFRS 5)	(11)	(6)	(5)	(1)	(23)
Inflation adjustment (IAS 29)	5	1	–	2	8
Exchange differences	324	777	60	106	1,267
December 31, 2014	**9,088**	**18,144**	**2,009**	**2,078**	**31,319**
Accumulated depreciation and impairment losses, December 31, 2013	**4,630**	**12,414**	**1,390**	**6**	**18,440**
Changes in scope of consolidation	4	3	–	–	7
Retirements	(122)	(329)	(156)	(3)	(610)
Depreciation and impairment losses in 2014	282	819	205	39	1,345
Depreciation	258	786	205	–	1,249
Impairment losses	24	33	–	39	96
Impairment loss reversals	–	–	–	–	–
Transfers	1	–	(1)	–	–
Transfers (IFRS 5)	(1)	(3)	(2)	–	(6)
Exchange differences	146	522	46	1	715
December 31, 2014	**4,940**	**13,426**	**1,482**	**43**	**19,891**
Carrying amounts, December 31, 2014	**4,148**	**4,718**	**527**	**2,035**	**11,428**
Carrying amounts, December 31, 2013	**3,745**	**4,142**	**463**	**1,665**	**10,015**

19. Investments accounted for using the equity method

Four (2014: three) associates and three (2014: three) joint ventures were accounted for in the consolidated financial statements using the equity method.

Associates and Joint Ventures Accounted for Using the Equity Method [Table 4.47]

Company Name	Place of Business	Bayer's interest
		%
Associates		
Flagship Ventures V Agricultural Fund, LP[1]	Cambridge, U.S.A.	99.9
Nanjing Baijingyu Pharmaceutical Co., Ltd.	Nanjing, China	15
Paltough Industries (1998) Ltd.	Kibbutz Ramat Yochanan, Israel	25
PO JV, LP	Wilmington, U.S.A.	39.4
Joint ventures		
Bayer Zydus Pharma Private Limited	Mumbai, India	50
DCSO Deutsche Cyber-Sicherheitsorganisation GmbH	Berlin, Germany	25
DIC Covestro Polymer Ltd.	Tokyo, Japan	50

[1] For information concerning the interest in this company see Note [6.1]

In 2000, Bayer acquired the polyols business and parts of the propylene oxide (PO) production operations of Lyondell Chemicals with the objective of ensuring access to patented technologies and safeguarding the long-term supply of PO, a starting product for polyurethane. As part of this strategy, a company was established to produce PO (PO JV, LP, United States, in which Covestro holds a 39.4% interest). Covestro benefits from fixed long-term supply quotas/volumes of PO from this company's production. The two following tables contain summarized data from the income statements and statements of financial position of the associated company PO JV, LP, United States, which is accounted for using the equity method, and show the respective amounts recognized in the consolidated financial statements of the Bayer Group.

Income Statement Data of PO JV, LP, Accounted for Using the Equity Method [Table 4.48]

	2014	2015
	€ million	€ million
Net sales	2,414	1,695
Net loss after taxes	(44)	(56)
Share of net loss after taxes	(17)	(23)
Share of total comprehensive income after taxes	**(17)**	**(23)**
Gain (loss) after taxes from impairments/derecognition of other interests	(1)	–
Recognized loss after taxes of PO JV, LP, accounted for using the equity method	**(18)**	**(23)**

Data from the Statements of Financial Position of PO JV, LP, Accounted for Using the Equity Method [Table 4.49]

	Dec. 31, 2014	Dec. 31, 2015
	€ million	€ million
Noncurrent assets	462	475
Equity	462	475
Share of equity	**182**	**201**
Other	2	(3)
Carrying amount of PO JV, LP, accounted for using the equity method	**184**	**198**

The item "Other" mainly comprised differences arising from adjustments of data to Bayer's uniform accounting policies, along with purchase price allocations and their amortization in profit or loss.

The following table contains a summary of the aggregated income statement data and aggregated carrying amounts of the individually nonmaterial associates that are accounted for using the equity method.

Income Statement Data and Carrying Amount of Associates Accounted for Using the Equity Method [Table 4.50]

	2014	2015
	€ million	€ million
Income after taxes	4	12
Share of income after taxes	1	1
Share of total comprehensive income after taxes	**1**	**1**
Carrying amount of associates accounted for using the equity method	**27**	**37**

The following table contains a summary of the aggregated income statement data and aggregated carrying amounts of the individually nonmaterial joint ventures that are accounted for using the equity method.

Income Statement Data and Carrying Amount of Joint Ventures Accounted for Using the Equity Method [Table 4.51]

	2014	2015
	€ million	€ million
Income after taxes	8	6
Share of income after taxes	4	3
Share of total comprehensive income after taxes	**4**	**3**
Gain (loss) after taxes from impairments/derecognition of other interests	–	–
Recognized income after taxes of joint ventures accounted for using the equity method	**4**	**3**
Carrying amount of joint ventures accounted for using the equity method	**12**	**11**

20. Other financial assets

The other financial assets were comprised as follows:

Other Financial Assets [Table 4.52]

	Dec. 31, 2014		Dec. 31, 2015	
	Total	Of which current	Total	Of which current
	€ million	€ million	€ million	€ million
Loans and receivables	170	127	65	21
Available-for-sale financial assets	1,099	193	1,177	266
of which debt instruments	1,006	186	1,092	262
of which equity instruments	93	7	85	4
Held-to-maturity financial investments	69	11	73	6
Receivables from derivatives	484	392	526	463
Receivables under lease agreements	8	–	7	–
Total	**1,830**	**723**	**1,848**	**756**

2014 figures restated

The debt instruments reported as available-for-sale financial assets included capital of €610 million (2014: €595 million) provided to Bayer-Pensionskasse VVaG (Bayer-Pensionskasse) for its effective initial fund, and jouissance right capital (Genussrechtskapital) of €153 million (2014: €150 million), also provided to Bayer-Pensionskasse. Also reported in this category were investments of €119 million (2014: €10 million) in money market funds along with German treasury bills in the amount of €125 million (2014: €125 million). These treasury bills, which were lent to a bank, continue to be recognized as available-for-sale financial assets because the related risks and rewards remain with Bayer. Upon maturity or redemption of the treasury bills, Bayer is obligated until June 2016 to replace them with German government securities.

The equity instruments reported as available-for-sale financial assets included €40 million (2014: €29 million) in instruments whose fair value could not be determined from a stock exchange or other market price or by discounting reliably determinable future cash flows. These equity instruments were recognized at cost.

In 2015, impairment losses totaling €1 million (2014: impairment loss reversals totaling €2 million) on available-for-sale financial assets were recognized in profit or loss.

Unimpaired other financial assets of €5 million (2014: €8 million) were past due on the closing date.

Further information on the accounting for receivables from derivatives is given in NOTE [30].

Receivables under lease agreements relate to finance leases where Bayer is the lessor and the economic owner of the leased assets is the lessee. These receivables comprised expected lease payments of €38 million (2014: €46 million), including €31 million (2014: €37 million) in interest. Of the expected lease payments, €1 million (2014: €1 million) is due within one year, €2 million (2014: €2 million) within the following four years and €35 million (2014: €43 million) in subsequent years.

21. Inventories

Inventories were comprised as follows:

Inventories [Table 4.53]

	Dec. 31, 2014	Dec. 31, 2015
	€ million	€ million
Raw materials and supplies	1,603	2,296
Work in process, finished goods and goods purchased for resale	6,781	6,241
Advance payments	94	13
Total	**8,478**	**8,550**

Impairment losses recognized on inventories were reflected in the cost of goods sold. They were comprised as follows:

Impairments of Inventories [Table 4.54]

	2014	2015
	€ million	€ million
Accumulated impairment losses, January 1	**(423)**	**(477)**
Changes in scope of consolidation	–	(5)
Impairment losses in the reporting period	(214)	(216)
Impairment loss reversals or utilization	176	246
Exchange differences	(16)	21
Transfers (IFRS 5)	–	4
Accumulated impairment losses, December 31	**(477)**	**(427)**

22. Trade accounts receivable

Trade accounts receivable less impairment losses amounted to €9,933 million (2014: €9,097 million) on the closing date and were comprised as follows:

Trade Accounts Receivable [Table 4.55]

	2014	2015
	€ million	€ million
Trade accounts receivable (before impairments)	9,330	10,181
Accumulated impairment losses	(233)	(248)
Carrying amount, December 31	**9,097**	**9,933**
of which noncurrent	32	46

Changes in impairment losses on trade accounts receivable were as follows:

Impairments of Trade Accounts Receivable [Table 4.56]

	2014	2015
	€ million	€ million
Accumulated impairment losses, January 1	**(200)**	**(233)**
Impairment losses in the reporting period	(73)	(84)
Impairment loss reversals or utilization	39	46
Exchange differences	1	23
Accumulated impairment losses, December 31	**(233)**	**(248)**

Trade accounts receivable amounting to €9,858 million (2014: €9,029 million) were not individually impaired. Of this amount, €1,251 million (2014: €1,105 million) was past due or due immediately on the closing date.

The amounts of impaired and past-due trade accounts receivable are summarized in the following table:

Impaired and Past-Due Trade Accounts Receivable [Table 4.57]

		Of which neither impaired nor past due at the closing date	Of which unimpaired but past due at the closing date				Of which impaired at the closing date
	Carrying amount		up to 3 months	3 – 6 months	6 – 12 months	more than 12 months	
	€ million	€ million	€ million	€ million	€ million	€ million	€ million
December 31, 2015	9,933	8,607	823	202	109	117	75
December 31, 2014	9,097	7,924	738	165	85	117	68

The gross carrying amount of individually impaired trade accounts receivable was €245 million (2014: €217 million). The impairment losses recognized on these assets totaled €170 million (2014: €149 million), resulting in a net carrying amount of €75 million (2014: €68 million).

The unimpaired receivables were deemed to be collectible on the basis of established credit management processes and individual assessments of customer risks. Recognized impairment losses included an appropriate allowance for the default risk as of the end of the reporting period.

Receivables from government health service institutions, especially in Greece, Italy, Portugal and Spain, are under special observation in view of the government debt crisis. Although there were no material defaults on such receivables in 2015 or 2014, it is possible that future developments in these countries could result in payment delays and/or defaults. This could necessitate the recognition of impairment losses due to new occurrences. Trade accounts receivable from government health service institutions in the above countries at the end of 2015 totaled €168 million (2014: €183 million).

An excess-of-loss policy exists for the HealthCare subgroup as part of a global credit insurance program. More than 80% of the receivables of the HealthCare subgroup are insured up to a maximum total annual compensation payment of €100 million (2014: €100 million).

A further €559 million (2014: €459 million) of receivables was secured by advance payments, letters of credit or guarantees or by liens on land, buildings or harvest yields.

23. Other receivables

Other receivables, after impairment losses of €55 million (2014: €3 million), were comprised as follows:

Other Receivables [Table 4.58]

	Dec. 31, 2014		Dec. 31, 2015	
	Total	Of which current	Total	Of which current
	€ million	€ million	€ million	€ million
Other tax receivables	612	528	746	658
Deferred charges	297	273	384	348
Reimbursement claims	127	113	97	81
Net defined benefit asset	41	–	30	–
Receivables from employees	48	44	39	36
Miscellaneous receivables	810	530	1,151	894
Total	**1,935**	**1,488**	**2,447**	**2,017**

The reimbursement claims of €97 million (2014: €127 million) mainly consisted of receivables from insurance companies in connection with product liability claims.

Miscellaneous receivables included a €423 million receivable from Dow AgroSciences LLC, United States, for damages and royalty payments resulting from the infringement of Bayer's rights to the Liberty Link™ weed control system. In addition, there was a €62 million receivable from the Venezuelan exchange control authority reflecting the right to receive U.S. dollars at a preferential rate. A €52 million impairment loss was recognized on this receivable.

Of the €565 million (2014: €678 million) in financial receivables included in other receivables, €564 million (2014: €675 million) was unimpaired. Of this amount, €104 million (2014: €313 million) was past due or due immediately on the closing date. The gross carrying amount of individually impaired other receivables was €4 million (2014: €6 million). The impairment losses recognized on these assets totaled €3 million (2014: €3 million), resulting in a net carrying amount of €1 million (2014: €3 million).

The amounts of impaired and past-due financial receivables included in other receivables are summarized in the following table:

Impaired and Past-Due Other Financial Receivables [Table 4.59]

	Carrying amount	Of which neither impaired nor past due at the closing date	Of which unimpaired but past due at the closing date: up to 3 months	3 – 6 months	6 – 12 months	more than 12 months	Of which impaired at the closing date
	€ million	€ million	€ million	€ million	€ million	€ million	€ million
December 31, 2015	565	460	65	13	15	11	1
December 31, 2014	678	362	259	17	9	28	3

24. Equity

The foremost objectives of our financial management are to help bring about a sustained increase in Bayer's value for the benefit of all stakeholders, and to ensure the Group's creditworthiness and liquidity. The pursuit of these goals means reducing our cost of capital, optimizing our capital structure, improving our financing cash flow and effectively managing risk.

The rating agencies commissioned by Bayer assess Bayer's creditworthiness as follows:

Rating [Table 4.60]

	Long-term rating	Outlook	Short-term rating
Standard & Poor's	A-	stable	A-2
Moody's	A3	stable	P-2

These investment-grade ratings reflect the company's good creditworthiness and ensure access to a broad investor base. Bayer's financial management is partly based on the debt ratios published by rating agencies, which – by somewhat differing methods – take into account the cash flows for a given period in relation to debt, for example. Bayer's financial strategy focuses on an "A" category rating and on preserving our financial flexibility. Apart from utilizing cash inflows from our operating business to reduce net financial debt, we are implementing our financial strategy by way of vehicles such as the subordinated hybrid bonds issued in July 2014 and April 2015, the authorized and conditional capital amounts created by resolutions of the Annual Stockholders' Meeting, and a potential share buyback program. Bayer's Articles of Incorporation do not stipulate capital ratios.

The changes in the various components of equity during 2014 and 2015 are shown in the consolidated statements of changes in equity.

CAPITAL STOCK

The capital stock of Bayer AG on December 31, 2015 amounted to €2,117 million (2014: €2,117 million), divided into 826,947,808 (2013: 826,947,808) registered shares, and was fully paid in. Each share confers one voting right.

AUTHORIZED CAPITAL

Authorized capital of €530 million was approved by the Annual Stockholders' Meeting on April 29, 2014. It expires on April 28, 2019. It can be used to increase the capital stock by issuing new no-par registered shares against cash contributions and/or contributions in kind, but capital increases against contributions in kind may not exceed a total of €423 million (Authorized Capital I). Stockholders must normally be granted subscription rights. However, the Board of Management is authorized, with the consent of the Supervisory Board, to exclude stockholders' subscription rights where the subscription ratio gives rise to fractions in the case of capital increases against cash and/or contributions in kind, and also to the extent necessary to grant the holders of bonds with warrants or conversion rights or obligations issued by the Company or its group companies a right to subscribe for new shares to the extent to which they would be entitled after exercise of their warrants or conversion rights, or performance of their exercise or conversion obligations. The Board of Management is also authorized, with the consent of the Supervisory Board, to exclude stockholders' subscription rights if the shares are issued in connection with the admission of shares to a foreign stock exchange and the total interest in the capital stock attributable to the new shares for which subscription rights are excluded does not exceed 10% of the existing capital stock on the date of entry of the authorization in the commercial register or, in the event that this amount is lower, 10% of the existing capital stock on the date of issuance of the new shares. The Board of Management is further authorized, with the consent of the Supervisory Board, to exclude stockholders' subscription rights if the capital is increased against contributions in kind to issue shares either for the purpose of acquiring companies, parts of companies, interests in companies, or other assets, or for the purpose of implementing a scrip dividend, where stockholders are given the option of contributing their dividend entitlements to the Company (either in whole or in part) as a contribution in kind against the issuance of new shares out of the Authorized Capital I. The amount of capital stock represented by shares issued against cash contributions and/or contributions in kind without granting subscription rights to the stockholders must not exceed a total of 20% of the capital stock that existed on the date the authorized capital was approved by the Annual Stockholders' Meeting.

Further authorized capital of €212 million was approved by the Annual Stockholders' Meeting on April 29, 2014. It expires on April 28, 2019. The Board of Management is authorized, with the consent of the Supervisory Board, to increase the capital stock by up to a total of €212 million by issuing new no-par registered shares against cash contributions (Authorized Capital II). Stockholders must normally be granted subscription rights. However, the Board of Management is authorized, with the consent of the Supervisory Board, to exclude stockholders' subscription rights where the subscription ratio gives rise to fractions and also if the shares are issued against cash contributions and the total interest in the capital stock attributable to the new shares for which subscription rights are excluded does not exceed 10% of the existing capital stock on the date of entry of the authorization in the commercial register or, in the event that this amount is lower, 10% of the existing capital stock on the date of issuance of the new shares, and the issue price of the new shares is not significantly below the market price of the already listed shares of the company of the same class at the time when the issue price is finalized by the Board of Management within the meaning of Section 203, Paragraphs 1 and 2, in conjunction with Section 186, Paragraph 3, sentence 4, of the German Stock Corporation Act. Any own shares that are sold on or after April 29, 2014, while excluding stockholders' subscription rights pursuant to Section 71, Paragraph 1, No. 8, Sentence 5, in conjunction with Section 186, Paragraph 3, Sentence 4, of the German Stock Corporation Act count toward the above 10% limit. Shares that have been or may be issued to service bonds with warrants or conversion rights or obligations, where such bonds are issued on or after April 29, 2014, while excluding stockholders' subscription rights in analogous application of Section 186, Paragraph 3, Sentence 4, of the German Stock Corporation Act also count toward this limit.

Neither of these authorized capital amounts has been utilized so far.

CONDITIONAL CAPITAL

The Annual Stockholders' Meeting on April 29, 2014 approved the creation of Conditional Capital 2014, again authorizing a conditional increase of up to €212 million in the capital stock through the issuance of up to 82,694,750 new no-par registered shares. The conditional capital increase serves to grant registered no-par value shares to the holders of bonds with warrants or convertible bonds, profit participation certificates, or income bonds (or combinations of these instruments) (collectively referred to as "debt instruments"), each with options or conversion rights or obligations, that may be issued up to April 28, 2019, on the basis of the authorization resolved by the Annual Stockholders' Meeting on April 29, 2014, by Bayer AG or a group company of Bayer AG within the meaning of Section 18 of the German Stock Corporation Act in which Bayer AG has a direct or indirect interest in at least 90 % of the votes and capital. Such new shares are to be issued at the option premium or conversion price to be determined in accordance with the authorizing resolution referred to above. The authorization to issue such instruments is limited to a total nominal amount of €6 billion. In principle, stockholders have a statutory right to be granted subscription rights to such instruments. However, the Board of Management is authorized, with the consent of the Supervisory Board, to exclude stockholders' subscription rights where the subscription ratio gives rise to fractions and also to the extent necessary to grant the holders of bonds with warrants or conversion rights or obligations a right to subscribe for new shares to the extent to which they would be entitled after exercise of their warrants or conversion rights, or performance of their exercise or conversion obligations. Furthermore, the Board of Management is authorized, with the consent of the Supervisory Board, to fully exclude stockholders' subscription rights to debt instruments with options or conversion rights or obligations issued against cash contributions if the Board of Management, after due consideration, is of the opinion that the issue price of the debt instruments is not significantly below their hypothetical fair value determined in accordance with accepted methods, and in particular, valuation techniques. This authorization to exclude subscription rights applies to bonds with warrants or conversion rights or exercise or conversion obligations for shares with a proportionate interest in the capital stock not exceeding 10% of the total capital stock either at the date when the resolution is adopted or, in the event that this amount is lower, at the date on which this authorization is exercised. New shares that are issued on or after April 29, 2014, while excluding stockholders' subscription rights in accordance with Sections 203, Paragraphs 1 and 2, in conjunction with Section 186, Paragraph 3, Sentence 4, of the German Stock Corporation Act as well as own shares that are sold on or after April 29, 2014, while excluding stockholders' subscription rights pursuant to Section 71, Paragraph 1, Number 8, Sentence 5, in conjunction with Section 186, Paragraph 3, Sentence 4, of the German Stock Corporation Act also count toward this 10% limit.

Absent a further resolution of the Annual Stockholders' Meeting on the exclusion of stockholders' subscription rights, the Board of Management will only use the existing authorizations to increase the capital stock out of the Authorized Capital or the Conditional Capital – while excluding stockholders' subscription rights – up to a total amount of 20% of the capital stock that existed when the respective resolutions were adopted by the Annual Stockholders' Meeting on April 29, 2014. All issuances or sales of shares or of bonds with warrants or conversion rights or obligations that are effected while excluding stockholders' subscription rights also count toward this 20% limit.

ACCUMULATED COMPREHENSIVE INCOME

Accumulated comprehensive income comprises retained earnings and accumulated other comprehensive income. The retained earnings include prior years' undistributed income of consolidated companies and all remeasurements of the net liability for defined benefit pension and other post-employment benefit plans that are recognized outside profit or loss. The accumulated other comprehensive income comprises exchange differences, the changes in fair values of cash flow hedges and available-for-sale financial assets, and the revaluation surplus. In 2015, an amount of €5 million (2014: €5 million) corresponding to the annual amortization/depreciation of the respective assets was transferred from the revaluation surplus to retained earnings. The exchange differences included an amount of minus €45 million (2014: minus €28 million) attributable to associates and joint ventures accounted for using the equity method.

DIVIDEND

Under the German Stock Corporation Act (AktG), the dividend payment is determined by the distributable profit reported in the annual financial statements of Bayer AG, which are prepared according to the German Commercial Code. Retained earnings were diminished by payment of the dividend of €2.25 per share for 2014. The proposed dividend for the 2015 fiscal year is €2.50 per share, which would result in a total dividend payment of €2,067 million. Payment of the proposed dividend is contingent upon approval by the stockholders at the Annual Stockholders' Meeting and therefore is not recognized as a liability in the consolidated financial statements.

NONCONTROLLING INTEREST

The former MaterialScience subgroup became a separate economic and legal entity on September 1, 2015, operating under the name Covestro. Following the stock exchange listing of Covestro AG on October 6, 2015, 30.9% of the shares in the equity of Covestro AG and its subsidiaries are reflected in noncontrolling interest.

The changes in noncontrolling interest in equity during 2014 and 2015 are shown in the following table:

Components of Noncontrolling Interest in Equity [Table 4.61]

	2014	2015
	€ million	€ million
January 1	**86**	**112**
Changes in equity not recognized in profit or loss		
Remeasurements of the net pension liability	–	10
Changes in fair value of cash flow hedges	–	–
Changes in fair value of securities	–	–
Exchange differences on translation of operations outside the eurozone	11	23
Other changes in equity	–	1,055
Dividend payments	(2)	(8)
Changes in equity recognized in profit or loss	**17**	**(12)**
December 31	**112**	**1,180**

The exchange differences included an amount of minus €20 million (2014: €0 million) attributable to associates and joint ventures accounted for using the equity method.

Noncontrolling interest mainly pertained to the following companies:

Material Noncontrolling Interests [Table 4.62]

		Covestro AG *)		Bayer CropScience Limited, India	
		2014	2015	2014	2015
Interest held	%	–	30.9	31.4	31.4
Voting rights	%	–	30.9	31.4	31.4
Equity attributable to noncontrolling interest	€ million	–	1,092	85	73
Dividends paid to noncontrolling interest	€ million	–	–	1	3
Noncurrent assets	€ million	–	4,237	48	52
Current assets	€ million	–	6,294	317	304
Noncurrent liabilities	€ million	–	4,564	10	11
Current liabilities	€ million	–	2,355	85	92
Sales	€ million	–	12,082	410	465
Income (loss) after income taxes	€ million	–	352	45	6
Total comprehensive income	€ million	–	558	25	15
Net cash provided by (used in) operating activities	€ million	–	1,473	21	44
Net cash provided by (used in) investing activities	€ million	–	(380)	(1)	53
Net cash provided by (used in) financing activities	€ million	–	(645)	(5)	(79)

* including direct and indirect subsidiaries

25. Provisions for pensions and other post-employment benefits

Provisions were established for defined benefit obligations pertaining to pensions and other post-employment benefits. The net liability was accounted for as follows:

Net Defined Benefit Liability Reflected in the Statement of Financial Position [Table 4.63]

	Pensions		Other post-employment benefits		Total	
	Dec. 31, 2014	Dec. 31, 2015	Dec. 31, 2014	Dec. 31, 2015	Dec. 31, 2014	Dec. 31, 2015
	€ million	€ million	€ million	€ million	€ million	€ million
Provisions for pensions and other post-employment benefits (net liability)	**11,796**	**10,454**	**440**	**419**	**12,236**	**10,873**
of which Germany	10,336	8,972	–	–	10,336	8,972
of which other countries	1,460	1,482	440	419	1,900	1,901
Net defined benefit asset	**38**	**29**	**3**	**1**	**41**	**30**
of which Germany	22	23	–	–	22	23
of which other countries	16	6	3	1	19	7
Net defined benefit liability	**11,758**	**10,425**	**437**	**418**	**12,195**	**10,843**
of which Germany	10,314	8,949	–	–	10,314	8,949
of which other countries	1,444	1,476	437	418	1,881	1,894

The expenses for defined benefit plans for pensions and other post-employment benefits comprised the following components:

Expenses for Defined Benefit Plans [Table 4.64]

	Pension plans						Other post-employment benefit plans	
	Germany		Other countries		Total		Other countries	
	2014	2015	2014	2015	2014	2015	2014	2015
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Current service cost	236	362	66	99	302	461	28	17
Past service cost	23	27	(25)	(3)	(2)	24	2	–
of which plan curtailments	–	–	*(15)*	*(2)*	*(15)*	*(2)*	–	–
Plan settlements	–	–	21	–	21	–	–	–
Net interest	223	204	34	52	257	256	18	20
Total	**482**	**593**	**96**	**148**	**578**	**741**	**48**	**37**

In addition, a total of €1,216 million in effects of remeasurements of the net defined benefit liability was recognized in 2015 outside profit or loss (2014: minus €5,159 million). Of this amount, €1,185 million (2014: minus €5,098 million) related to pension obligations, €53 million (2014: minus €61 million) to other post-employment benefit obligations, and minus €22 million (2014: €0 million) to the effects of the asset ceiling.

The net defined benefit liability developed as follows:

Changes in Net Defined Benefit Liability

	Defined benefit obligation		Fair value of plan assets	
	2014	2015	2014	2015
	€ million	€ million	€ million	€ million
Germany				
January 1	**14,870**	**20,339**	**8,735**	**10,025**
Acquisitions	–	–	–	–
Divestitures/changes in the scope of consolidation	–	21	–	17
Current service cost	236	362		
Past service cost	23	27		
Gains/losses from plan settlements	–	–		
Net interest	553	425	330	221
Net actuarial (gain) loss	5,254	(1,393)		
of which due to changes in financial assumptions	*5,208*	*(1,371)*		
of which due to changes in demographic assumptions	*–*	*–*		
of which due to experience adjustments	*46*	*(22)*		
Return on plan assets excluding amounts recognized as interest income			802	(262)
Remeasurement of asset ceiling				
Employer contributions			331	387
Employee contributions	38	37	38	37
Payments due to plan settlements	–	–	–	–
Benefits paid out of plan assets	(211)	(215)	(211)	(215)
Benefits paid by the company	(424)	(433)		
Reclassification to current assets/liabilities held for sale	–	(22)	–	(11)
December 31	**20,339**	**19,148**	**10,025**	**10,199**
Other countries				
January 1	**5,812**	**7,432**	**4,705**	**5,560**
Acquisitions	–	4	–	–
Divestitures/changes in the scope of consolidation	–	–	–	–
Current service cost	94	116		
Past service cost	(23)	(3)		
Gains/losses from plan settlements	21	–		
Net interest	275	287	223	215
Net actuarial (gain) loss	1,094	(318)		
of which due to changes in financial assumptions	*815*	*(310)*		
of which due to changes in demographic assumptions	*264*	*(79)*		
of which due to experience adjustments	*15*	*71*		
Return on plan assets excluding amounts recognized as interest income			387	(211)
Remeasurement of asset ceiling				
Employer contributions			130	148
Employee contributions	9	11	9	11
Payments due to plan settlements	(64)	–	(64)	–
Benefits paid out of plan assets	(254)	(289)	(254)	(289)
Benefits paid by the company	(53)	(60)		
Plan administration costs paid out of plan assets			(1)	(1)
Reclassification to current assets/liabilities held for sale	–	(20)	–	(8)
Exchange differences	521	501	425	374
December 31	**7,432**	**7,661**	**5,560**	**5,799**
of which other post-employment benefits	*918*	*836*	*481*	*418*
Total, December 31	**27,771**	**26,809**	**15,585**	**15,998**

[Table 4.65]

	Effects of the asset ceiling		Net defined benefit liability	
	2014	2015	2014	2015
	€ million	€ million	€ million	€ million
	–	**–**	**(6,135)**	**(10,314)**
	–	–	–	–
	–	–	–	(4)
			(236)	(362)
			(23)	(27)
			–	–
	–	–	(223)	(204)
			(5,254)	1,393
			(5,208)	*1,371*
			–	–
			(46)	*22*
			802	(262)
	–	–	–	–
			331	387
			–	–
			–	–
			–	–
			424	433
	–	–	–	11
	–	**–**	**(10,314)**	**(8,949)**
	(9)	**(9)**	**(1,116)**	**(1,881)**
	–	–	–	(4)
	–	–	–	–
			(94)	(116)
			23	3
			(21)	–
	–	–	(52)	(72)
			(1,094)	318
			(815)	*310*
			(264)	*79*
			(15)	*(71)*
			387	(211)
	–	(22)	–	(22)
			130	148
			–	–
			–	–
			–	–
			53	60
			(1)	(1)
	–	–	–	12
	–	(1)	(96)	(128)
	(9)	**(32)**	**(1,881)**	**(1,894)**
	–	–	*(437)*	*(418)*
	(9)	**(32)**	**(12,195)**	**(10,843)**

The benefit obligations pertained mainly to Germany (71%; 2014: 73%), the United States (15%; 2014: 14%) and the United Kingdom (7%; 2014: 6%). In Germany, current employees accounted for about 44% (2014: 45%), retirees or their surviving dependents for about 49% (2014: 47%) and former employees with vested pension rights for about 7% (2014: 8%) of entitlements under defined benefit plans. In the United States, current employees accounted for about 26% (2014: 26%), retirees or their surviving dependents for about 61% (2014: 61%) and former employees with vested pension rights for about 13% (2014: 13%) of entitlements under defined benefit plans.

The changes in the net defined benefit liability in Germany reported as due to changes in the scope of consolidation mainly resulted from employee transfers outside the consolidated group of companies.

The actual return on the assets of defined benefit plans for pensions or other post-employment benefits amounted to minus €34 million (2014: €1,691 million) and minus €3 million (2014: €51 million), respectively.

The following table shows the defined benefit obligations for pensions and other post-employment benefits along with the funded status of the funded obligations.

Defined Benefit Obligation and Funded Status [Table 4.66]

	Pension obligation		Other post-employment benefit obligation		Total	
	2014	2015	2014	2015	2014	2015
	€ million	€ million	€ million	€ million	€ million	€ million
Defined benefit obligation	**26,853**	**25,973**	**918**	**836**	**27,771**	**26,809**
of which unfunded	1,117	1,126	104	101	1,221	1,227
of which funded	25,736	24,847	814	735	26,550	25,582
Funded status of funded obligations						
Overfunding	47	61	3	1	50	62
Underfunding	10,679	9,328	336	318	11,015	9,646

PENSION AND OTHER POST-EMPLOYMENT BENEFIT OBLIGATIONS

Group companies provide retirement benefits for most of their employees, either directly or by contributing to privately or publicly administered funds. The way these benefits are provided varies according to the legal, fiscal and economic conditions of each country, the benefits generally being based on employee compensation and years of service. The obligations relate both to existing retirees' pensions and to pension entitlements of future retirees.

Bayer has set up funded pension plans for its employees in various countries. The most appropriate investment strategy is determined for each defined benefit pension plan based on the risk structure of the obligations (especially demographics, the current funded status, the structure of the expected future cash flows, interest sensitivity, biometric risks etc.), the regulatory environment and the existing level of risk tolerance or risk capacity. A strategic target investment portfolio is then developed in line with the plan's risk structure, taking capital market factors into consideration. Further determinants are risk diversification, portfolio efficiency and the need for both a country-specific and a global risk/return profile centered on ensuring the payment of all future benefits. As the capital investment strategy for each pension plan is developed individually in light of the plan-specific conditions listed above, the investment strategies for different pension plans may vary considerably. For example, the proportion of plan assets invested in equities is greater with the non-German pension plans than with the plans domiciled in Germany. The investment strategies are generally aligned less toward maximizing absolute returns and more toward the reasonable assurance of financing pension commitments over the long term. For plan assets, stress scenarios are simulated and other risk analyses (such as value at risk) undertaken with the aid of risk management systems.

Bayer-Pensionskasse VVaG (Bayer-Pensionskasse), Leverkusen, Germany, is by far the most significant of the pension plans. It was closed to new members effective January 1, 2005. This legally independent fund is regarded as a life insurance company and therefore is subject to the German Insurance Supervision Act. The benefit obligations covered by Bayer-Pensionskasse comprise retirement, surviving dependents' and disability pensions. It constitutes a multi-employer plan, to which the active members and their employers contribute. The company contribution is a certain percentage of the employee contribution. This percentage is the same for all participating employers, including those outside the Bayer Group, and is set by agreement between the plan's executive committee and its supervisory board, acting on a proposal from the responsible actuary. It takes into account the differences between the actuarial estimates and the actual values for the factors used to determine liabilities and contributions. Bayer may also adjust the company contribution in agreement with the plan's executive committee and its supervisory board, acting on a proposal from the responsible actuary. The plan's liability is governed by Section 1, Paragraph 1, Sentence 3 of the German Law on the Improvement of Occupational Pensions. This means that if the pension plan exercises its right under the articles of association to reduce benefits, each participating employer has to make up the resulting difference. Bayer is not liable for the obligations of participating employers outside the Bayer Group, even if they cease to participate in the plan.

Pension entitlements for people who joined Bayer in Germany on or after January 1, 2005, are granted via Rheinische Pensionskasse VVaG, Leverkusen. Future pension payments from this plan are based on contributions and the return on plan assets; a guaranteed interest rate applies.

Another important pension provision vehicle is Bayer Pension Trust e.V. (BPT). This covers further retirement provision arrangements of the Bayer Group, such as deferred compensation, pension obligations previously administered by Schering Altersversorgung Treuhand e.V., and components of other direct commitments. In October 2015, a total of €293 million in investments, representing the equivalent of the Covestro group's obligations, was transferred from Bayer Pension Trust to another trust fund, which now (partially) covers the respective obligations of Covestro.

The defined benefit pension plans in the United States have been frozen for some years, and no significant new entitlements can be earned under these plans. The assets of all the U.S. pension plans are held by a master trust for reasons of efficiency. The applicable regulatory framework is based on the Employee Retirement Income Security Act (ERISA), which includes a statutory 80% minimum funding requirement to avoid benefit reductions. The actuarial risks, such as investment risk, interest-rate risk and longevity risk, remain with the company.

The defined benefit pension plans in the United Kingdom are closed to new members. Plan assets in the U.K. are administered by independent trustees, who are legally obligated to act solely in the interests of the beneficiaries. A technical assessment is performed every three years in line with U.K. regulations. This serves as the basis for developing a plan to cover any potential financing requirements. Here, too, the actuarial risks remain with the company.

The other post-employment benefit obligations outside Germany mainly comprised health care benefit payments for retirees in the United States.

The fair value of the plan assets to cover pension and other post-employment benefit obligations was as follows:

Fair Value of Plan Assets as of December 31 [Table 4.67]

	Pension obligations				Other post-employment obligations	
	Germany		Other countries		Other countries	
	2014	2015	2014	2015	2014	2015
	€ million	€ million	€ million	€ million	€ million	€ million
Plan assets based on quoted prices in active markets						
Real estate and special real estate funds	–	–	205	199	18	19
Equities and equity funds	1,941	2,105	1,669	1,855	125	130
Callable debt instruments	–	–	162	182	–	–
Noncallable debt instruments	–	112	690	752	110	121
Bond funds	3,345	3,543	1,509	1,744	90	90
Derivatives	28	18	86	(5)	–	–
Cash and cash equivalents	409	158	98	84	14	8
Other	–	–	236	4	–	–
	5,723	**5,936**	**4,655**	**4,815**	**357**	**368**
Plan assets for which quoted prices in active markets are not available						
Real estate and special real estate funds	544	517	41	83	–	–
Equities and equity funds	70	90	59	59	–	–
Callable debt instruments	1,493	1,555	6	2	–	–
Noncallable debt instruments	1,931	1,832	–	–	–	–
Bond funds	–	–	60	60	–	–
Derivatives	(4)	(2)	–	–	–	–
Other	268	271	258	362	124	50
	4,302	**4,263**	**424**	**566**	**124**	**50**
Total plan assets	**10,025**	**10,199**	**5,079**	**5,381**	**481**	**418**

The fair value of plan assets in Germany included real estate leased by Group companies, recognized at a fair value of €61 million (2014: €65 million), and Bayer AG shares and bonds held through investment funds, recognized at their fair value of €48 million (2014: €58 million) and €3 million (2014: €6 million), respectively. The other plan assets comprised mortgage loans granted, other receivables and qualified insurance policies.

RISKS

The risks from defined benefit plans arise partly from the defined benefit obligations and partly from the investment in plan assets. The risks lie in the possibility that higher direct pension payments will have to be made to the beneficiaries and/or that additional contributions will have to be made to plan assets in order to meet current and future pension obligations.

Demographic/biometric risks

Since a large proportion of the defined benefit obligations comprises lifelong pension payments to retirees or surviving dependents' pensions, longer claim periods or earlier claims may result in higher benefit obligations, higher benefit expense and/or higher pension payments than previously anticipated.

Investment risks

If the actual return on plan assets were below the return anticipated on the basis of the discount rate, the net defined benefit liability would increase, assuming there were no changes in other parameters. This could happen as a result of a drop in share prices, increases in market rates of interest, default of individual debtors or the purchase of low-risk but low-interest bonds, for example.

Interest-rate risk

A decline in capital market interest rates, especially for high-quality corporate bonds, would increase the defined benefit obligation. This effect would be at least partially offset by the ensuing increase in the market values of the debt instruments held.

MEASUREMENT PARAMETERS AND THEIR SENSITIVITIES

The following weighted parameters were used to measure the obligations for pensions and other post-employment benefits as of December 31 of the respective year:

Parameters for Benefit Obligations [Table 4.68]

	Germany		Other countries		Total	
	2014	2015	2014	2015	2014	2015
	%	%	%	%	%	%
Pension obligations						
Discount rate	2.00	2.40	3.70	3.85	2.40	2.75
of which U.S.A.			3.70	4.00	3.70	4.00
of which U.K.			3.60	3.80	3.60	3.80
Projected future salary increases	3.00	3.00	3.65	3.35	3.15	3.10
Projected future benefit increases	1.75	1.75	3.30	3.20	2.10	2.15
Other post-employment benefit obligations						
Discount rate	–	–	3.95	4.45	3.95	4.45

The data selection criteria used to determine the discount rate in the eurozone were modified at the beginning of 2015. The modification of the data selection criteria diminished provisions by €1.0 billion. The discount rate obtained by applying the previous data selection criteria would have been lower by 30 basis points as of December 31, 2015. The change in the way the discount rate is determined reduced the net pension expense for the 2015 fiscal year by €17 million. As before, the underlying bond portfolio consists entirely of high-quality corporate bonds with a minimum AA or AAA rating. It no longer includes government-guaranteed or covered bonds.

In Germany the Heubeck 2005 G mortality tables were used, in the United States the RP-2014 Combined Healthy Mortality Tables, and in the United Kingdom 95% of S1NXA. In the United States, adjustments contained in the MP-2015 mortality improvement scale were taken into account in 2015. This led to an actuarial gain of approximately €66 million.

The following weighted parameters were used to measure the expense for pension and other post-employment benefits in the respective year:

Parameters for Benefit Expense [Table 4.69]

	Germany		Other countries		Total	
	2014	2015	2014	2015	2014	2015
	%	%	%	%	%	%
Pension obligations						
Discount rate	3.80	2.20	4.70	3.70	4.05	2.55
Projected future salary increases	3.00	3.00	3.95	3.65	3.95	3.15
Projected future benefit increases	1.75	1.75	3.60	3.30	3.60	2.10
Other post-employment benefit obligations						
Discount rate	–	–	4.90	3.95	4.90	3.95

The parameter sensitivities were computed by expert actuaries based on a detailed evaluation similar to that performed to obtain the data presented in Table 4.65. Altering individual parameters by 0.5 percentage points (mortality by 10% per beneficiary) while leaving the other parameters unchanged would have impacted pension and other post-employment benefit obligations as of year end 2015 as follows:

Sensitivity of Benefit Obligations [Table 4.70]

	Germany		Other countries		Total	
	Increase	Decrease	Increase	Decrease	Increase	Decrease
	€ million	€ million	€ million	€ million	€ million	€ million
Pension obligations						
0.5%-pt. change in discount rate	(1,544)	1,767	(450)	504	(1,994)	2,271
0.5%-pt. change in projected future salary increases	121	(113)	47	(44)	168	(157)
0.5%-pt. change in projected future benefit increases	1,006	(919)	127	(96)	1,133	(1,015)
10% change in mortality	(597)	669	(173)	185	(770)	854
Other post-employment benefit obligations						
0.5%-pt. change in discount rate	–	–	(46)	51	(46)	51
10% change in mortality	–	–	(21)	24	(21)	24

Sensitivity of Benefit Obligations (prior year) [Table 4.71]

	Germany		Other countries		Total	
	Increase	Decrease	Increase	Decrease	Increase	Decrease
	€ million	€ million	€ million	€ million	€ million	€ million
Pension obligations						
0.5%-pt. change in discount rate	(1,712)	1,969	(441)	494	(2,153)	2,463
0.5%-pt. change in projected future salary increases	145	(135)	44	(41)	189	(176)
0.5%-pt. change in projected future benefit increases	1,119	(1,020)	106	(76)	1,225	(1,096)
10% change in mortality	(657)	737	(168)	179	(825)	916
Other post-employment benefit obligations						
0.5%-pt. change in discount rate	–	–	(51)	56	(51)	56
10% change in mortality	–	–	(22)	24	(22)	24

Provisions are also set up for the obligations, mainly of U.S. subsidiaries, to provide post-employment benefits in the form of health care cost payments for retirees. The valuation of health care costs was based on the assumption that they will increase at a rate of 7.0%, which should gradually decline to 5.0% by 2023 (assumption in 2014: 7.0%, which should gradually decline to 5.0% by 2018). The following table shows the impact on other post-employment benefit obligations and total benefit expense of a one-percentage-point change in the assumed cost increase rates:

Sensitivity to Health Care Cost Increases [Table 4.72]

	Increase of one percentage point		Decrease of one percentage point	
	2014	2015	2014	2015
	€ million	€ million	€ million	€ million
Impact on other post-employment benefit obligations	86	79	(72)	(68)
Impact on benefit expense	4	5	(4)	(4)

PAYMENTS MADE AND EXPECTED FUTURE PAYMENTS

The following payments correspond to the employer contributions made or expected to be made to funded benefit plans:

Employer Contributions Paid or Expected [Table 4.73]

	Germany			Other countries		
	2014	2015	2016 expected	2014	2015	2016 expected
	€ million	€ million	€ million	€ million	€ million	€ million
Pension obligations	331	387	74	112	148	133
Other post-employment benefit obligations	–	–	–	18	–	1
Total	**331**	**387**	**74**	**130**	**148**	**134**

Bayer has currently committed to make deficit contributions for its U.K. pension plans of GBP 21 million in 2016 and of approximately GBP 16 million annually thereafter through 2019 and expects to make payments of US$50 million in 2016 for its U.S. pension plans, the latter amount being subject to change depending on future circumstances.

Pensions and other post-employment benefits payable in the future from funded and unfunded plans are estimated as follows:

Future Benefit Payments [Table 4.74]

	Payments out of plan assets				Payments by the company			
	Pensions		Other post-employment benefits		Pensions		Other post-employment benefits	
	Germany	Other countries	Other countries	Total	Germany	Other countries	Other countries	Total
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
2016	219	303	9	531	447	66	35	548
2017	221	311	9	541	451	68	37	556
2018	224	322	10	556	458	71	39	568
2019	229	328	9	566	470	71	42	583
2020	234	340	9	583	476	75	43	594
2021-2025	1,260	1,763	46	3,069	2,471	436	241	3,148

The weighted average term of the pension obligations is 17.3 years (2014: 17.6 years) in Germany and 13.4 years (2014: 13.9 years) in other countries. The weighted average term of the obligations for other post-employment benefits in other countries is 11.5 years (2014: 12.1 years).

26. Other provisions

Changes in the various provision categories in 2015 were as follows:

Changes in Other Provisions [Table 4.75]

	Other Taxes	Environmental protection	Restructuring	Trade-related commitments	Litigations	Personnel commitments	Miscellaneous	Total
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
December 31, 2014	**65**	**283**	**173**	**1,851**	**770**	**2,751**	**230**	**6,123**
Acquisitions/divestments	–	–	–	48	26	–	2	76
Additions	37	51	290	4,297	97	2,836	292	7,900
Utilization	(21)	(64)	(131)	(3,569)	(269)	(2,283)	(175)	(6,512)
Reversal	(5)	(4)	(20)	(509)	(19)	(281)	(71)	(909)
Reclassification to current liabilities	–	–	–	(76)	–	–	(5)	(81)
Interest cost	–	(1)	–	–	–	11	1	11
Exchange differences	(11)	7	(6)	71	58	65	(7)	177
December 31, 2015	**65**	**272**	**306**	**2,113**	**663**	**3,099**	**267**	**6,785**

2014 figures restated

The provisions recognized in the statement of financial position as of December 31, 2015 were expected to be utilized as follows:

Expected Utilization of Other Provisions [Table 4.76]

	Other Taxes	Environmental protection	Restructuring	Trade-related commitments	Litigations	Personnel commitments	Miscellaneous	Total
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
2016	28	31	102	2,006	539	2,123	216	5,045
2017	1	29	73	46	50	230	5	434
2018	–	27	78	33	5	152	1	296
2019	–	16	6	7	1	146	1	177
2020	1	4	5	6	3	55	1	75
2021 or later	35	165	42	15	65	393	43	758
Total	**65**	**272**	**306**	**2,113**	**663**	**3,099**	**267**	**6,785**

The provisions were partly offset by claims for refunds in the amount of €97 million (2014: €124 million), which were recognized as receivables. These claims mainly related to product liability.

26.1 Other taxes

Provisions for other taxes mainly related to sales tax back-payments and to local taxes in Brazil.

26.2 Environmental protection

Provisions for environmental protection mainly related to the rehabilitation of contaminated land, recultivation of landfills, and redevelopment and water protection measures.

26.3 Restructuring

Provisions for restructuring included €180 million (2014: €126 million) for severance payments and €126 million (2014: €47 million) for other restructuring expenses, which mainly comprised other costs related to the closure of production facilities.

At HealthCare – as part of the Continuous Efficiency Program – restructuring was carried out mainly in the areas of marketing and supply network optimization. A further focus was on the continuing integration of the businesses acquired the previous year in the Consumer Health segment. Provisions for the above and other restructuring measures at HealthCare as of December 31, 2015, amounted to €94 million. Of this amount, severance payments accounted for €83 million and other restructuring expenses for €11 million.

In CropScience, the restructuring initiated in the United States in prior years, involving the closure of several carbamate production facilities and a formulation plant, continued in 2015. At the same time, the provisions were increased in view of expected future requirements. Provisions for the above and other restructuring measures at CropScience as of December 31, 2015, amounted to €99 million, comprising €34 million for severance payments and €65 million for other restructuring expenses.

Restructuring measures at Covestro mainly comprised the closure of the production facilities at Belford Roxo, Brazil, and an MDI facility at the site in Tarragona, Spain. Both of these plant closures mainly related to the Polyurethanes business unit. Provisions for restructuring at Covestro as of December 31, 2015, amounted to €105 million, consisting of €55 million for severance payments and €50 million for other restructuring expenses.

Restructuring was carried out in the central functions to increase efficiency. The restructuring provisions associated with these measures as of December 31, 2015, amounted to €8 million and pertained entirely to severance payments.

26.4 Trade-related commitments

Provisions for trade-related commitments comprised provisions for rebates, discounts and other price adjustments, product returns, outstanding invoices, pending losses and onerous contracts.

26.5 Litigations

The legal risks currently considered to be material, and their development, are described in NOTE [32].

26.6 Personnel commitments

Provisions for personnel commitments mainly include those for variable one-time payments under short-term incentive programs and for stock-based compensation. Also reflected here are commitments for service awards, early retirements and pre-retirement part-time working arrangements. Provisions for severance payments resulting from restructuring are reflected in provisions for restructuring.

STOCK-BASED COMPENSATION PROGRAMS

Bayer offers stock-based compensation programs collectively to different groups of employees. As required by IFRS 2 (Share-based Payment) for compensation systems involving cash settlement, awards to be made under the stock-based programs are covered by provisions in the amount of the fair value of the obligations existing as of the date of the financial statements vis-à-vis the respective employee group. All resulting valuation adjustments are recognized in profit or loss.

The following table shows the changes in provisions for the various programs:

Changes in Provisions for Stock-Based Compensation Programs [Table 4.77]

	Aspire I Four-Year Program	Aspire II Four-Year Program	Aspire I Four-Year Program Covestro	Aspire II Four-Year Program Covestro	Total
	€ million	€ million	€ million	€ million	€ million
December 31, 2014	**142**	**311**	**0**	**0**	**453**
Additions	81	229	2	5	317
Utilization	(57)	(106)	–	–	(163)
Reversal	(24)	(59)	–	–	(83)
Reallocation	(20)	(54)	20	54	–
Exchange differences	3	18	–	–	21
December 31, 2015	**125**	**339**	**22**	**59**	**545**

The value of the Aspire tranches that were fully earned at the end of 2015, resulting in payments at the beginning of 2016, was €230 million (2014: €151 million).

The net expense for all stock-based compensation programs in 2015 was €248 million (2014: €212 million), including €6 million (2014: €5 million) for the BayShare stock participation program and €8 million (2014: €10 million) for grants of virtual Bayer shares.

The fair value of obligations under the standard stock-based compensation programs was calculated using the Monte Carlo simulation method based on the following key parameters:

Parameters for Monte Carlo Simulation [Table 4.78]

	2014	2015
Dividend yield	1.89%	1.96%
Risk-free interest rate for the four-year program	(0.079)%	(0.159)%
Volatility of Bayer stock	23.39%	25.61%
Volatility of the EURO STOXX 50	18.11%	19.08%
Correlation between Bayer stock price and the EURO STOXX 50	0.76	0.83

LONG-TERM INCENTIVE PROGRAM FOR MEMBERS OF THE BOARD OF MANAGEMENT AND OTHER SENIOR EXECUTIVES (ASPIRE I)

Since 2005, members of the Board of Management and other senior executives have been entitled to participate in Aspire I on the condition that they purchase a certain number of Bayer shares – determined for each individual according to specific guidelines – and retain them for the full term of the program. A percentage of the executive's annual base salary – according to his/her position – is defined as a target for variable payments (Aspire target opportunity). Depending on the performance of Bayer stock, both in absolute terms and relative to the EURO STOXX 50 benchmark index during a four-year performance period, participants are granted an award of up to 300% of their individual Aspire target opportunity. The start and end prices used to determine the amount of the award are the averages of the official closing prices of Bayer shares over the last 30 stock-exchange trading days of the respective year. The four-year tranche issued in 2011 expired at the end of 2014, and payment of the maximum resulting amount (300%) was made at the beginning of 2015.

LONG-TERM INCENTIVE PROGRAM FOR MIDDLE MANAGEMENT (ASPIRE II)

Also since 2005, other senior managers and middle managers have been offered Aspire II, which is similar to Aspire I but does not require a personal investment in Bayer shares. This program was extended to further managerial employees in 2012. The amount of the award is based entirely on the absolute performance of Bayer stock over a four-year period. The maximum award is 250% of each manager's Aspire target opportunity. The start and end prices used to determine the amount of the award are the averages of the official closing prices of Bayer shares over the last 30 stock-exchange trading days of the respective year. The four-year tranche issued in 2011 expired at the end of 2014, and payment of the maximum resulting amount (250%) was made at the beginning of 2015.

BAYSHARE 2015

All management levels and nonmanagerial employees are offered an annual stock participation program known as BayShare, under which Bayer subsidizes their personal investments in the company's stock. The discount under this program is set separately each year. In 2015 it was 20% (2014: 20%) of the subscription amount. Employees stated a fixed amount that they wished to invest in shares. The maximum subscription amount in Germany was set at €2,500 (2014: €2,500) or €5,000 (2014: €5,000), depending on the employee's position. The shares thus acquired must be retained until December 31 of the year following the year of purchase, irrespective of continued employment with the Bayer Group.

In 2015, employees purchased a total of about 208,000 shares (2014: 225,000 shares) under the BayShare program.

SPECIAL ARRANGEMENT FOR COVESTRO EMPLOYEES CONCERNING THE ASPIRE PROGRAMS

The compensation programs described above were modified for Covestro employees in December 2015 in light of the legal carve-out of the Covestro companies and the subsequent stock exchange listing of Covestro AG.

The arrangement for the 2012 tranches of both Aspire programs was the same as for Bayer employees. Based on the development of Bayer's share price, the maximum award amounts were reached for both programs (Aspire I and Aspire II). Payments of 300% and 250%, respectively, were therefore made at the beginning of 2016.

Valuation for the other three current Aspire tranches issued in 2013, 2014 and 2015, respectively, was based on the average price of Bayer shares on the last 30 trading days of 2015 (€119.17). This price was fixed in advance as the end price. Thus the amounts of the payments from the three remaining tranches – where these were fully vested – were already finally determined at the end of 2015. A payment of at least 100% is guaranteed. This plan amendment gave rise to additional expenses of €7 million in 2015.

26.7 Miscellaneous provisions

Miscellaneous provisions included those for other liabilities, contingent liabilities from business combinations, and asset retirement obligations (other than those included in provisions for environmental protection).

27. Financial liabilities

Financial liabilities were comprised as follows:

Financial Liabilities [Table 4.79]

	Dec. 31, 2014		Dec. 31, 2015	
	Total	Of which current	Total	Of which current
	€ million	€ million	€ million	€ million
Bonds and notes/promissory notes	14,964	169	15,547	1,235
Liabilities to banks	3,835	1,221	2,779	1,174
Liabilities under finance leases	441	53	474	59
Liabilities from derivatives	644	296	765	598
Other financial liabilities	1,976	1,637	369	355
Total	**21,860**	**3,376**	**19,934**	**3,421**

A breakdown of financial liabilities by contractual maturity is given below:

Maturities of Financial Liabilities [Table 4.80]

Maturity	Dec. 31, 2014	Maturity	Dec. 31, 2015
	€ million		€ million
2015	3,376	2016	3,421
2016	2,191	2017	2,245
2017	2,075	2018	2,828
2018	3,359	2019	2,066
2019	1,857	2020	45
2020 or later	9,002	2021 or later	9,329
Total	**21,860**	**Total**	**19,934**

The Bayer Group's financial liabilities are mostly unsecured and – with the exception of the three subordinated hybrid bonds with nominal volumes of €1,500 million, €1,750 million and €1,300 million – are of equal priority.

In addition to promissory notes in the amount of €120 million (2014: €120 million), the Bayer Group has issued the following bonds and notes:

Bonds and Notes [Table 4.81]

Effective interest rate	Stated rate		Nominal volume	Dec. 31, 2014	Dec. 31, 2015
				€ million	€ million
		Bayer AG, Germany			
Floating[1]	Floating[1]	EMTN bond 2014/2016	EUR 500 million	500	500
1.253%	1.125%	EMTN bond 2014/2018	EUR 750 million	747	748
5.774%	5.625%	EMTN bond 2006/2018	GBP 250 million	319	339
5.541%	5.625%	EMTN bond 2006/2018 (increase)	GBP 100 million	129	137
2.086%	1.875%	EMTN bond 2014/2021	EUR 750 million	753	753
3.811%	3.750%	Hybrid bond 2014/2024[6]/2074	EUR 1,500 million	1,493	1,493
2.517%	2.375%	Hybrid bond 2015/2022[6]/2075	EUR 1,300 million	–	1,289
3.093%	3.000%	Hybrid bond 2014/2020[6]/2075	EUR 1,750 million	1,742	1,743
5.155%	5.000%	Hybrid bond 2005/2015[6]/2105	EUR 1,300 million	1,317	–
		Bayer Capital Corporation B.V., Netherlands			
1.333%	1.250%	EMTN bond 2014/2023	EUR 500 million	497	497
		Bayer Corporation, U.S.A.			
7.180%	7.125%	Notes 1995/2015	US$ 200 million	169	–
6.670%	6.650%	Notes 1998/2028	US$ 350 million	308	342
		Bayer Holding Ltd., Japan			
0.858%	0.816%	EMTN bond 2012/2017	JPY 30 billion	206	229
1.493%	1.459%	EMTN bond 2010/2017	JPY 10 billion	69	76
3.654%	3.575%	EMTN bond 2008/2018	JPY 15 billion	103	115
0.629%	0.594%	EMTN bond 2013/2019	JPY 10 billion	69	76
		Bayer Nordic SE, Finland			
Floating[2]	Floating[2]	EMTN bond 2013/2016	EUR 200 million	200	200
Floating[3]	Floating[3]	EMTN bond 2014/2017	EUR 500 million	499	500
		Bayer U.S. Finance LLC, U.S.A.			
Floating[4]	Floating[4]	Notes 2014/2016	US$ 500 million	411	459
Floating[5]	Floating[5]	Notes 2014/2017	US$ 400 million	329	367
1.615%	1.500%	Notes 2014/2017	US$ 850 million	698	779
2.564%	2.375%	Notes 2014/2019	US$ 2,000 million	1,635	1,826
3.096%	3.000%	Notes 2014/2021	US$ 1,500 million	1,230	1,372
3.579%	3.375%	Notes 2014/2024	US$ 1,750 million	1,421	1,587
		Total		**14,844**	**15,427**

1 Floating-rate coupon comprising three-month EURIBOR plus 22 basis points
2 Floating-rate coupon comprising three-month EURIBOR plus 35 basis points
3 Floating-rate coupon comprising three-month EURIBOR plus 22 basis points
4 Floating-rate coupon comprising three-month USD-LIBOR plus 25 basis points
5 Floating-rate coupon comprising three-month USD-LIBOR plus 28 basis points
6 Date of first option to early redeem the bond at par

MULTI-CURRENCY EUROPEAN MEDIUM TERM NOTES PROGRAM

An important means of external financing are the bonds issued under the multi-currency European Medium Term Notes (EMTN) program. The following transactions took place in 2015 and 2014:

In January 2014, Bayer AG issued three tranches of EMTN bonds with a total nominal volume of €2 billion. One of these tranches had a nominal volume of €500 million, and the other two had a nominal volume of €750 million each. In March 2014, Bayer Nordic SE issued an EMTN bond with a nominal volume of €500 million. In November 2014, Bayer Capital Corporation B.V. issued an EMTN bond with a nominal volume of €500 million.

OTHER BONDS

In October 2014, Bayer U.S. Finance LLC issued six tranches of bonds in 144a/Reg S format with a total volume of US$7,000 million. The six tranches had nominal volumes of US$500 million, US$400 million, US$850 million, US$2,000 million, US$1,500 million and US$1,750 million.

In October 2015, Bayer Corporation redeemed at maturity the notes with a nominal volume of US$200 million issued in September 1995.

SUBORDINATED BONDS

In April 2015, Bayer AG issued a subordinated hybrid bond with a volume of €1,300 million, a final maturity of 60 years and a coupon of 2.375%, to be reset every five years starting in 2022 based on the five-year swap rate. Bayer has the option to redeem the bond for the first time in October 2022. The issue is structured to receive equity credit of 50% from Moody's and Standard & Poor's.

In July 2014, Bayer AG issued two subordinated hybrid bonds with a total nominal volume of €3,250 million. The first tranche of €1,750 million has a maturity of 61 years and a coupon of 3.0%. Bayer has an early redemption option at par for the first time in 2020. The second tranche of €1,500 million has a maturity of 60 years and a coupon of 3.75%. On this tranche, Bayer has an early redemption option at par for the first time in 2024. From 2020 and 2024, respectively, the coupons will be reset every five years based on the five-year swap rate. Moody's and Standard & Poor's treat 50% of these two bonds as equity. They therefore have a more limited effect on the Group's rating-relevant debt indicators than conventional borrowings.

In July 2015, Bayer AG utilized its right to early redeem the 100-year subordinated hybrid bond with a nominal volume of €1,300 million issued in July 2005.

Bayer AG guarantees all the bonds issued by subsidiaries.

LEASE LIABILITIES

Lease payments totaling €646 million (2014: €603 million), including €172 million (2014: €162 million) in interest, are to be made under finance leases to the respective lessors in future years.

The liabilities under finance leases mature as follows:

Lease Liabilities [Table 4.82]

	Dec. 31, 2014				Dec. 31, 2015		
Maturity	Lease payments	Interest component	Liabilities under finance leases	Maturity	Lease payments	Interest component	Liabilities under finance leases
	€ million	€ million	€ million		€ million	€ million	€ million
2015	76	23	53	2016	86	27	59
2016	70	21	49	2017	76	23	53
2017	63	19	44	2018	68	20	48
2018	53	16	37	2019	60	18	42
2019	47	14	33	2020	60	15	45
2020 or later	294	69	225	2021 or later	296	69	227
Total	**603**	**162**	**441**	**Total**	**646**	**172**	**474**

OTHER FINANCIAL LIABILITIES

The other financial liabilities as of December 31, 2015, included commercial paper of €308 million (2014: €1,433 million).

OTHER INFORMATION

As of December 31, 2015, the Group had credit facilities at its disposal totaling €9.0 billion (2014: €7.3 billion), of which €2.8 billion (2014: €3.8 billion) was used and €6.2 billion (2014: €3.5 billion) was unused and thus available for borrowing on an unsecured basis. Of the unused credit facilities, an amount of €2.7 billion pertains to Covestro.

Further information on the accounting for liabilities from derivatives is given in NOTE [30].

28. Trade accounts payable

Trade accounts payable comprised €5,937 million (2014: €5,357 million) due within one year and €8 million (2014: €6 million) due after one year.

29. Other liabilities

Other liabilities comprised:

Other Liabilities [Table 4.83]

	Dec. 31, 2014		Dec. 31, 2015	
	Total	Of which current	Total	Of which current
	€ million	€ million	€ million	€ million
Other tax liabilities	477	433	435	428
Deferred income	1,136	207	1,148	204
Liabilities to employees	196	185	217	210
Liabilities for social expenses	154	140	174	165
Accrued interest on liabilities	201	192	189	180
Miscellaneous liabilities	713	632	436	347
Total	**2,877**	**1,789**	**2,599**	**1,534**

Deferred income included an upfront payment, originally amounting to US$1 billion, in connection with the strategic pharmaceutical collaboration agreed between Bayer and Merck & Co., Inc., United States, in the field of soluble guanylate cyclase (sGC) modulation. The deferred income is being amortized over a period of 13.5 years as the obligations are satisfied. The remaining amount deferred at the end of 2015 was €719 million (2014: €778 million). The amount amortized in 2015 was €59 million (2014: €15 million).

The deferred income included €62 million (2014: €70 million) in grants and subsidies received from governments, of which €7 million (2014: €8 million) was reversed and recognized in profit or loss.

The miscellaneous liabilities included €125 million (2014: €204 million) from derivatives.

30. Financial instruments

The system used by the Bayer Group to manage credit risks, liquidity risks and the various types of market risks (interest-rate, currency and other price risks), together with its objectives, methods and procedures, is outlined in the Risk Report, which forms part of the Combined Management Report.

30.1 Financial instruments by category

The following table shows the carrying amounts and fair values of financial assets and liabilities for each financial instrument category and a reconciliation to the corresponding line item in the statements of financial position. Since the line items “Other receivables,” “Trade accounts payable” and “Other liabilities” contain both financial instruments and nonfinancial assets or liabilities (such as other tax receivables or advance payments for services to be received in the future), the reconciliation is shown in the column headed “Nonfinancial assets/liabilities.”

Carrying Amounts and Fair Values of Financial Instruments

						Dec. 31, 2014
	Carried at amortized cost	Carried at fair value [Fair Value for information[1]]			Nonfinancial assets/ liabilities	
		Based on quoted prices in active markets (Level 1)	Based on observable market data (Level 2)	Based on unobservable inputs (Level 3)		
	Carrying amount	Carrying amount	Carrying amount	Carrying amount	Carrying amount	Carrying amount in the statement of financial position
	€ million	€ million	€ million	€ million	€ million	€ million
Trade accounts receivable	9,097					9,097
Loans and receivables	9,097					9,097
Other financial assets	276	325	450	779		1,830
Loans and receivables	178		[170]	[19]		178
Available-for-sale financial assets	29	325		745		1,099
Held-to-maturity financial assets	69		[70]			69
Derivatives that qualify for hedge accounting			189			189
Derivatives that do not qualify for hedge accounting			261	34		295
Other receivables	620			58	1,257	1,935
Loans and receivables	620		[620]			620
Available-for-sale financial assets				58		58
Nonfinancial assets					1,257	1,257
Cash and cash equivalents	1,853					1,853
Loans and receivables	1,853		[1,853]			1,853
Total financial assets	**11,846**	**325**	**450**	**837**		**13,458**
of which loans and receivables	11,748					11,748
of which available-for-sale financial assets	29	325		803		1,157
Financial liabilities	21,216		644			21,860
Carried at amortized cost	21,216	[15,129]	[6,628]			21,216
Derivatives that qualify for hedge accounting			284			284
Derivatives that do not qualify for hedge accounting			360			360
Trade accounts payable	5,113				250	5,363
Carried at amortized cost	5,113					5,113
Nonfinancial liabilities					250	250
Other liabilities	790		176	59	1,852	2,877
Carried at amortized cost	790		[790]			790
Carried at fair value (nonderivative)				31		31
Derivatives that qualify for hedge accounting			156			156
Derivatives that do not qualify for hedge accounting			20	28		48
Nonfinancial liabilities					1,852	1,852
Total financial liabilities	**27,119**		**820**	**59**		**27,998**
of which carried at amortized cost	27,119					27,119
of which derivatives that qualify for hedge accounting			440			440
of which derivatives that do not qualify for hedge accounting			380	28		408

2014 figures restated

[1] The exemption provisions under IFRS 7.29a were applied for information on specific fair values.

[Table 4.84]

	Dec. 31, 2015					
	Carried at amortized cost	Carried at fair value [Fair value for information[1]]			Nonfinancial assets / liabilities	
		Based on quoted prices in active markets (Level 1)	Based on observable market data (Level 2)	Based on unobservable inputs (Level 3)		
	Carrying amount	Carrying amount	Carrying amount	Carrying amount	Carrying amount	Carrying amount in the statement of financial position
	€ million	€ million	€ million	€ million	€ million	€ million
	9,933					9,933
	9,933					9,933
	185	363	509	791		1,848
	72		[64]	[18]		72
	40	363		774		1,177
	73		[74]			73
			125			125
			384	17		401
	506			59	1,882	2,447
	506		[506]			506
				59		59
					1,882	1,882
	1,859					1,859
	1,859		[1,859]			1,859
	12,483	**363**	**509**	**850**		**14,205**
	12,370					12,370
	40	363		833		1,236
	19,169		765			19,934
	19,169	[15,440]	[4,121]			19,169
			470			470
			295			295
	5,680				265	5,945
	5,680					5,680
					265	265
	606		117	45	1,831	2,599
	606		[606]			606
				37		37
			93			93
			24	8		32
					1,831	1,831
	25,455		**882**	**45**		**26,382**
	25,455					25,455
			563			563
			319	8		327

The loans and receivables reflected in other financial assets and the liabilities measured at amortized cost also include receivables and liabilities under finance leases in which Bayer is the lessor or lessee and which are therefore measured in accordance with IAS 17.

Because of the short maturities of most trade accounts receivable and payable, other receivables and liabilities, and cash and cash equivalents, their carrying amounts at the closing date did not significantly differ from the fair values.

The fair values of loans and receivables, held-to-maturity financial investments and of financial liabilities carried at amortized cost that are given for information are the present values of the respective future cash flows. The present values were determined by discounting the cash flows at a closing-date interest rate, taking into account the term of the assets or liabilities and the creditworthiness of the counterparty. Where a market price was available, however, this was deemed to be the fair value.

The fair values of available-for-sale financial assets correspond to quoted prices in active markets (Level 1) or are the present values of the respective future cash flows, determined on the basis of unobservable inputs (Level 3).

The fair values of derivatives for which no publicly quoted prices existed in active markets (Level 1) were determined using valuation techniques based on observable market data as of the end of the reporting period (Level 2). In applying valuation techniques, credit value adjustments were determined to allow for the contracting party's credit risk.

Currency and commodity forward contracts were measured individually at their forward rates or forward prices on the closing date. These depend on spot rates or prices, including time spreads. The fair values of interest-rate hedging instruments and cross-currency interest-rate swaps were determined by discounting future cash flows over the remaining terms of the instruments at market rates of interest, taking into account any foreign currency translation as of the closing date.

Fair values measured using unobservable inputs are categorized within Level 3 of the fair value hierarchy. This applies to certain available-for-sale debt or equity instruments, in some cases to the fair values of embedded derivatives, and to obligations for contingent consideration in business combinations. Credit risk is frequently the principal unobservable input used to determine the fair values of debt instruments classified as available-for-sale financial assets by the discounted cash flow method. Here we refer to credit spreads of comparable issuers. A significant increase in credit risk could result in a lower fair value, whereas a significant decrease could result in a higher fair value. However, a 10% relative change in the credit spread would not materially affect fair value.

Embedded derivatives are separated from their respective host contracts. Such host contracts are generally sales or purchase agreements relating to the operational business. The embedded derivatives cause the cash flows from the contracts to vary with exchange-rate or price fluctuations. The internal measurement of embedded derivatives is mainly performed using the discounted cash flow method, which is based on unobservable inputs. These included planned sales and purchase volumes, and prices derived from market data. Regular monitoring is carried out based on these fair values as part of quarterly reporting.

The changes in the amount of financial assets and liabilities recognized at fair value based on unobservable inputs (Level 3) for each financial instrument category were as follows:

Changes in the Amount of Financial Assets and Liabilities Recognized at Fair Value Based on Unobservable Inputs [Table 4.85]

	2014				2015			
	Available-for-sale financial assets	Derivatives (net)	Liabilities measured at fair value (non-derivative)	Total	Available-for-sale financial assets	Derivatives (net)	Liabilities measured at fair value (non-derivative)	Total
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Carrying amounts of net assets/(net liabilities), Jan. 1	**824**	**(7)**	**–**	**817**	**803**	**6**	**(31)**	**778**
Gains (losses) recognized in profit or loss	10	(8)	–	2	22	(12)	(3)	7
of which related to assets/liabilities recognized in the statements of financial position	10	(8)	–	2	22	(17)	(3)	2
Gains (losses) recognized outside profit or loss	–	–	–	–	19	–	–	19
Additions of assets/(liabilities)	–	–	(31)	(31)	11	–	(4)	7
Settlements of (assets)/liabilities	(31)	21	–	(10)	(22)	9	1	(12)
Transfers (IFRS 5)	–	–	–	–	–	6	–	6
Carrying amounts of net assets/(net liabilities), Dec. 31	**803**	**6**	**(31)**	**778**	**833**	**9**	**(37)**	**805**

2014 figures restated

The changes recognized in profit or loss were included in other operating income/expenses, interest income or exchange gains/losses.

Income, expense, gains and losses on financial instruments can be assigned to the following categories:

Income, Expense, Gains and Losses on Financial Instruments [Table 4.86]

	2015					
	Loans and receivables	Held-to-maturity financial investments	Available-for-sale financial assets	Held for trading	Liabilities carried at amortized cost	Total
	€ million	€ million	€ million	€ million	€ million	€ million
Interest income	55	1	22	25	86	189
Interest expense	–	–	–	(25)	(703)	(728)
Income/expenses from affiliated companies	–	–	3	–	–	3
Changes in fair value	–	–	–	147	–	147
Impairment losses	(93)	–	(1)	–	–	(94)
Impairment loss reversals	32	–	–	–	–	32
Exchange gains/losses	450	–	–	(235)	(679)	(464)
Gains/losses from retirements	–	–	31	–	–	31
Other financial income/expenses	(1)	–	13	–	(12)	–
Net result	**443**	**1**	**68**	**(88)**	**(1,308)**	**(884)**

Income, Expense, Gains and Losses on Financial Instruments (Previous Year) [Table 4.87]

	2014					
	Loans and receivables	Held-to-maturity financial investments	Available-for-sale financial assets	Held for trading	Liabilities carried at amortized cost	Total
	€ million	€ million	€ million	€ million	€ million	€ million
Interest income	88	1	11	54	122	276
Interest expense	–	–	–	(75)	(550)	(625)
Income/expenses from affiliated companies	–	–	1	–	–	1
Changes in fair value	–	–	–	32	–	32
Impairment losses	(87)	–	–	–	–	(87)
Impairment loss reversals	24	–	2	–	–	26
Exchange gains/losses	590	–	–	(245)	(552)	(207)
Gains/losses from retirements	–	–	–	–	–	–
Other financial income/expenses	–	–	–	–	(44)	(44)
Net result	**615**	**1**	**14**	**(234)**	**(1,024)**	**(628)**

2014 figures restated

The interest expense of €703 million (2014: €550 million) from nonderivative financial liabilities also included the income and expense from interest-rate swaps that qualified for hedge accounting. Interest income from financial assets not measured at fair value through profit or loss amounted to €73 million (2014: €54 million). Interest income from interest-rate derivatives that qualified for hedge accounting was €86 million (2014: €122 million). The changes in fair values of financial assets held for trading related mainly to forward commodity contracts and embedded derivatives.

Derivatives that constitute financial assets and form part of a master netting arrangement but do not satisfy, or only partially satisfy, the offsetting criteria and are only enforceable in the event of breach of contract by, or insolvency of, one of the contracting parties amounted to €415 million (2014: €360 million), the related financial liabilities (derivatives) to €256 million (2014: €242 million). Derivatives classified as financial liabilities and forming part of a master netting arrangement amounted to €761 million (2014: €773 million), the related financial assets (derivatives) to €256 million (2014: €242 million).

30.2 Maturity analysis

The liquidity risks to which the Bayer Group was exposed from its financial instruments at the end of the reporting period comprised obligations for future interest and repayment installments on financial liabilities and the liquidity risk arising from derivatives, as shown in the table in NOTE [30.3].

In addition, loan commitments existed for an as yet unpaid €1,213 million (2014: €1,005 million) portion of the effective initial fund of Bayer-Pensionskasse VVaG, which may result in further payments by Bayer AG (€1,005 million) and/or Covestro AG (€208 million) in subsequent years.

Maturity Analysis of Financial Instruments

	Dec. 31, 2015	Cash flows 2016	Cash flows 2017	
	Carrying amount	Interest and repayment	Interest and repayment	
	€ million	€ million	€ million	
Financial liabilities				
Bonds and notes/promissory notes	15,547	1,475	2,334	
Liabilities to banks	2,779	1,221	298	
Remaining liabilities	843	440	79	
Trade accounts payable	5,680	5,673	3	
Other liabilities				
Accrued interest on liabilities	189	180	1	
Remaining liabilities	454	420	5	
Liabilities from derivatives				
Derivatives that qualify for hedge accounting	563	397	11	
Derivatives that do not qualify for hedge accounting	327	312	8	
Receivables from derivatives				
Derivatives that qualify for hedge accounting	125	66	26	
Derivatives that do not qualify for hedge accounting	401	379	2	
Loan commitments	–	1,213	–	
Financial guarantees	–	14	–	

	Dec. 31, 2014	Cash flows 2015	Cash flows 2016	
	Carrying amount	Interest and repayment	Interest and repayment	
	€ million	€ million	€ million	
Financial liabilities				
Bonds and notes/promissory notes[1]	14,964	1,690	1,521	
Liabilities to banks	3,835	1,281	475	
Remaining liabilities	2,417	1,714	405	
Trade accounts payable	5,113	5,114	6	
Other liabilities				
Accrued interest on liabilities	201	192	2	
Remaining liabilities	620	582	6	
Liabilities from derivatives				
Derivatives that qualify for hedge accounting	440	169	131	
Derivatives that do not qualify for hedge accounting	408	311	80	
Receivables from derivatives				
Derivatives that qualify for hedge accounting	189	144	21	
Derivatives that do not qualify for hedge accounting	295	257	2	
Loan commitments	–	1,006	–	
Financial guarantees	–	25	–	

[1] Repayment of the €1,300 million 100-year hybrid bond is reflected at the earliest possible repayment date in 2015.

[Table 4.88]

Cash flows 2018	Cash flows 2019	Cash flows 2020	Cash flows after 2020
Interest and repayment	Interest and repayment	Interest and repayment	Interest and repayment
€ million	€ million	€ million	€ million
1,704	2,282	277	9,845
1,387	38	–	10
69	60	61	307
3	2	–	–
2	1	1	4
2	1	1	25
122	50	–	–
1	3	1	2
13	2	2	1
3	2	2	4
–	–	–	–
–	–	–	2

Cash flows 2017	Cash flows 2018	Cash flows 2019	Cash flows after 2019
Interest and repayment	Interest and repayment	Interest and repayment	Interest and repayment
€ million	€ million	€ million	€ million
2,131	1,612	2,037	8,353
277	1,921	65	18
65	55	48	294
3	1	–	–
1	1	1	4
9	4	1	21
11	109	24	–
13	1	1	3
21	2	2	3
23	2	1	14
–	–	–	–
–	–	–	2

30.3 Information on derivatives

Asset and liability fair values and future cash flows are exposed to currency, interest-rate and commodity price risks. Derivatives are used to reduce this risk. In some cases they are designated as hedging instruments in a hedge accounting relationship.

CURRENCY RISKS

Foreign currency receivables and liabilities are hedged using foreign exchange derivatives without the existence of a hedge accounting relationship. A bond of Bayer AG denominated in British pounds was swapped on the issuance date into a fixed-rate euro bond by means of a cross-currency interest-rate swap, which was designated as a cash flow hedge. Certain forward exchange contracts and cross-currency interest-rate swaps used to hedge intra-Group loans are also designated as cash flow hedges.

Fluctuations in future cash flows resulting from forecasted foreign currency transactions and procurement activities are avoided partly through derivatives contracts, most of which are designated as cash flow hedges.

INTEREST-RATE RISKS

The interest-rate risks from fixed-interest borrowings are managed in part using interest-rate swaps. This applies mainly to the €750 million bond issued in 2014, which matures in 2021. Hedge accounting is applied to the respective borrowings and hedging instruments (fair-value hedge).

Losses of €26 million (2014: €47 million) were recorded on fair-value hedging instruments in 2015. Gains of €25 million (2014: €47 million) were recorded on the underlying hedged items.

COMMODITY PRICE RISKS

Hedging contracts are also used to partly reduce exposure to fluctuations in future cash outflows resulting from price changes on procurement markets.

HEDGING OF OBLIGATIONS UNDER STOCK-BASED EMPLOYEE COMPENSATION PROGRAMS

A portion of the obligations to make variable payments to employees under stock-based compensation programs (Aspire) is hedged against share price fluctuations using derivatives contracts that are settled in cash at maturity. These derivatives are designated as cash flow hedges.

FURTHER INFORMATION ON CASH FLOW HEDGES

Accumulated other comprehensive income from cash flow hedges in 2015 decreased by €203 million (2014: €102 million) due to changes in the fair values of derivatives net of tax. Losses of €304 million (2014: gains of €46 million) from fair-value changes – originally recognized in accumulated other comprehensive income – of derivatives designated as cash flow hedges were reclassified to profit or loss. The respective pro-rated deferred tax income of €88 million (2014: deferred tax expense of €13 million) was likewise reclassified to profit or loss.

No material ineffective portions of hedges required recognition in profit or loss in 2015 or 2014.

The income and expense from cash flow hedges recognized in accumulated other comprehensive income mainly comprised gains of €91 million (2014: €115 million) and losses of €90 million (2014: €156 million) from the hedging of forecasted transactions in foreign currencies. Of these gains and losses, gains of €79 million (2014: €81 million) and losses of €84 million (2014: €152 million) will be reclassifiable to profit or loss within one year and gains of €12 million (2014: €34 million) and losses of €6 million (2014: €4 million) in subsequent years.

The fair values of existing contracts in the major categories at the end of the reporting period are indicated in the following table together with the included volumes of cash flow hedges.

Fair Values of Derivatives [Table 4.89]

	Dec. 31, 2014			Dec. 31, 2015		
	Notional amount[1]	Positive fair value	Negative fair value	Notional amount[1]	Positive fair value	Negative fair value
	€ million	€ million	€ million	€ million	€ million	€ million
Currency hedging of recorded transactions	**14,023**	**176**	**(618)**	**22,275**	**337**	**(753)**
Forward exchange contracts	11,754	176	(334)	19,896	336	(283)
of which cash flow hedges	–	–	–	–	–	–
Cross-currency interest-rate swaps	2,269	–	(284)	2,379	1	(470)
of which cash flow hedges	2,269	–	(284)	2,362	–	(470)
Currency hedging of forecasted transactions	**3,743**	**117**	**(159)**	**4,082**	**99**	**(100)**
Forward exchange contracts	3,230	83	(151)	3,627	86	(99)
of which cash flow hedges	3,158	82	(150)	3,255	78	(90)
Currency options	513	34	(8)	455	13	(1)
of which cash flow hedges	430	33	(6)	368	13	(1)
Interest-rate hedging of recorded transactions	**2,771**	**83**	**(24)**	**200**	**13**	**–**
Interest-rate swaps	2,771	83	(24)	200	13	–
of which fair value hedges	1,665	62	–	200	13	–
Commodity price hedging	**27**	**3**	**(2)**	**91**	**14**	**(12)**
Forward commodity contracts	5	1	–	86	12	(10)
Commodity option contracts	22	2	(2)	5	2	(2)
Hedging of stock-based employee compensation programs	**14**	**12**	**–**	**80**	**21**	**(2)**
Share price options	14	12	–	30	21	–
of which cash flow hedges	14	12	–	30	21	–
Share price forwards	–	–	–	50	–	(2)
of which cash flow hedges	–	–	–	50	–	(2)
Total	**20,578**	**391**	**(803)**	**26,728**	**484**	**(867)**
of which current derivatives	17,092	329	(455)	25,022	435	(692)
for currency hedging	14,494	251	(429)	24,931	420	(680)
for interest-rate hedging[2]	2,571	75	(24)	–	1	–
for commodity hedging	27	3	(2)	91	14	(12)
for hedging of stock-based employee compensation programs	–	–	–	–	–	–

[1] The notional amount is reported as gross volume, which also contains economically closed hedges.
[2] The portion of the fair value of long-term interest-rate swaps that relates to current interest payments was classified as current.

31. Contingent liabilities and other financial commitments

CONTINGENT LIABILITIES

The following warranty contracts, guarantees and other contingent liabilities existed at the end of the reporting period:

Contingent Liabilities [Table 4.90]

	Dec. 31, 2014	Dec. 31, 2015
	€ million	€ million
Warranties	95	99
Guarantees	144	123
Other contingent liabilities	486	562
Total	**725**	**784**

2014 figures restated

The guarantees mainly comprise a declaration issued by Bayer AG to the trustees of the U.K. pension plans guaranteeing the pension obligations of Bayer Public Limited Company and Bayer CropScience Limited. Under the declaration, Bayer AG – in addition to the two companies – undertakes to make further payments into the plans upon receipt of a payment request from the trustees. The net liability with respect to these defined benefit plans as of December 31, 2015, amounted to €123 million (2014: €144 million).

OTHER FINANCIAL COMMITMENTS

The other financial commitments were as follows:

Other Financial Commitments [Table 4.91]

	Dec. 31, 2014	Dec. 31, 2015
	€ million	€ million
Operating leases	671	891
Orders already placed under purchase agreements	476	690
Capital contribution commitments	48	391
Unpaid portion of the effective initial fund	1,005	1,213
Potential payment obligations under R&D collaboration agreements	2,427	2,887
Revenue-based milestone payment commitments	2,169	2,241
Total	**6,796**	**8,313**

2014 figures restated

The nondiscounted future minimum lease payments relating to operating leases totaled €891 million (2014: €671 million). The maturities of the respective payment obligations were as follows:

Operating Leases [Table 4.92]

Maturing in	Dec. 31, 2014	Maturing in	Dec. 31, 2015
	€ million		€ million
2015	174	2016	195
2016	125	2017	155
2017	98	2018	110
2018	70	2019	94
2019	59	2020	79
2020 or later	145	2021 or later	258
Total	**671**	**Total**	**891**

Financial commitments resulting from orders already placed under purchase agreements related to planned or ongoing capital expenditure projects totaled €690 million (2014: €476 million).

On December 19, 2015, Bayer entered into an agreement to create a joint venture with CRISPR THERAPEUTICS AG, Basel, Switzerland. As of December 31, 2015, Bayer had capital contribution obligations of US$370 million in this connection to CRISPR THERAPEUTICS AG and the joint venture yet to be established. These obligations mature on December 31, 2020, at the latest.

The Bayer Group has entered into cooperation agreements with third parties under which it has agreed to fund various research and development projects or has assumed other payment obligations based on the achievement of certain milestones or other specific conditions. If all of these payments have to be made, their maturity distribution as of December 31, 2015, was expected to be as set forth in the following table. The amounts shown represent the maximum payments to be made, and it is unlikely that they will all fall due. Since the achievement of the conditions for payment is highly uncertain, both the amounts and the dates of the actual payments may vary considerably from those stated in the table.

Potential Payment Obligations Under R&D Collaboration Agreements [Table 4.93]

Maturing in	Dec. 31, 2014	Maturing in	Dec. 31, 2015
	€ million		€ million
2015	155	2016	262
2016	198	2017	229
2017	164	2018	96
2018	130	2019	240
2019	203	2020	78
2020 or later	1,577	2021 or later	1,982
Total	**2,427**	**Total**	**2,887**

In addition to the above commitments, there were also revenue-based milestone payment commitments totaling €2,241 million (2014: €2,169 million), of which €2,237 million (2014: €2,157 million) was not expected to fall due until 2021 (2014: 2020) or later. These commitments are also highly uncertain.

32. Legal risks

As a global company with a diverse business portfolio, the Bayer Group is exposed to numerous legal risks, particularly in the areas of product liability, competition and antitrust law, patent disputes, tax assessments and environmental matters. The outcome of any current or future proceedings cannot normally be predicted. It is therefore possible that legal or regulatory judgments or future settlements could give rise to expenses that are not covered, or not fully covered, by insurers' compensation payments and could significantly affect our revenues and earnings.

Legal proceedings currently considered to involve material risks are outlined below. The legal proceedings referred to do not represent an exhaustive list.

PRODUCT-RELATED LITIGATION

Yasmin™/YAZ™: As of January 25, 2016, the number of claimants in the pending lawsuits and claims in the United States totaled about 2,300 (excluding claims already settled). Claimants allege that users have suffered personal injuries, some of them fatal, from the use of Bayer's drospirenone-containing oral contraceptive products such as Yasmin™ and/or YAZ™ or from the use of Ocella™ and/or Gianvi™, generic versions of Yasmin™ and YAZ™, respectively, marketed by Barr Laboratories, Inc. in the United States. Claimants seek compensatory and punitive damages, claiming, in particular, that Bayer knew or should have known of the alleged risks and should be held liable for having failed to disclose them or adequately warn users. All cases pending in U.S. federal courts have been consolidated in a multidistrict litigation proceeding for common pre-trial management.

A few State Attorney Generals in the United States are investigating an alleged off-label promotion of Yasmin™ and YAZ™ as well as an alleged failure to warn about an alleged increased risk of developing blood clots in violation of consumer protection statutes. One Attorney General has filed an action against Bayer.

As of January 25, 2016, 13 lawsuits seeking class action certification had been served upon Bayer in Canada. In one of these lawsuits a class has been certified. Two motions for certification of a class action are pending in Israel.

As of January 25, 2016, Bayer had reached agreements, without admission of liability, to settle approximately 10,300 claims for venous clot injuries (deep vein thrombosis or pulmonary embolism) for a total amount of about US$2.04 billion and approximately 7,200 claims for gallbladder injuries for a total amount of about US$21.5 million in the United States. Bayer will continue to consider the option of settling venous clot injury claims after a case-specific analysis of medical records. At present, about 300 such claims are under review.

In August 2015, Bayer reached an agreement to settle, without admission of liability, lawsuits and claims in which plaintiffs allege an arterial thromboembolic injury (primarily strokes and heart attacks) for a total maximum aggregate amount of US$56.9 million. Bayer may withdraw from the settlement if fewer than 97.5% of those who are eligible, and/or fewer than 96% of those who are eligible and allege death or catastrophic injuries, choose to participate. As of January 25, 2016, about 1,200 of the 2,300 above-mentioned claimants alleged arterial thromboembolic injuries.

In August 2015, the U.S. multidistrict and state coordinating courts overseeing the litigation issued case management orders governing all cases before them (regardless of alleged injury), imposing much stricter threshold requirements for litigating the remaining unsettled cases and for filing of new cases. Failing compliance with these requirements, such cases will be dismissed.

Additional lawsuits are anticipated. Bayer believes that it has meritorious defenses and will continue to defend itself vigorously against all claims that are not considered for settlement. Bayer has taken appropriate accounting measures for anticipated defense costs and for agreed and anticipated future settlements based on the information currently available and based on the number of pending and estimated future claims alleging venous clot injuries.

Mirena™: As of January 25, 2016, lawsuits from approximately 3,500 users of Mirena™, a levonorgestrel-releasing intrauterine system providing long-term contraception, had been served upon Bayer in the United States (excluding lawsuits no longer pending). Most of the cases pending in U.S. federal courts have been consolidated in a multidistrict litigation proceeding for common pre-trial management. Additional lawsuits are anticipated. Plaintiffs allege personal injuries resulting from the use of Mirena™, including perforation of the uterus, ectopic pregnancy, or idiopathic intracranial hypertension, and seek compensatory and punitive damages. Plaintiffs claim, inter alia, that Mirena™ is defective and that Bayer knew or should have known of the risks associated with it and failed to adequately warn its users. As of January 25, 2016, five lawsuits relating to Mirena™ seeking class action certification had been served upon Bayer in Canada. Bayer believes it has meritorious defenses and intends to defend itself vigorously. Based on the information currently available, Bayer has taken appropriate accounting measures for anticipated defense costs.

Xarelto™: As of January 25, 2016, in the United States, lawsuits from approximately 4,300 recipients of Xarelto™, an oral anticoagulant for the treatment and prevention of blood clots, had been served upon Bayer. Plaintiffs allege personal injuries from the use of Xarelto™, including cerebral, gastrointestinal or other bleeding and death, and seek compensatory and punitive damages. They claim, amongst other things, that Xarelto™ is defective and that Bayer knew or should have known of the risks associated with the use of Xarelto™ and failed to adequately warn its users. Additional lawsuits are anticipated. Cases pending in U.S. federal courts have been consolidated in a multi-district litigation for common pre-trial management. As of January 25, 2016, eight lawsuits relating to Xarelto™ seeking class action certification had been served upon Bayer in Canada. Bayer believes it has meritorious defenses and intends to defend itself vigorously. Based on the information currently available, Bayer has taken appropriate accounting measures for anticipated defense costs.

In connection with the above proceedings concerning Yasmin™/YAZ™, Mirena™ and Xarelto™, Bayer is insured against product liability risks to the extent customary in the industry. However, the accounting measures taken with regard to the Yasmin™/YAZ™ claims exceed the available insurance coverage.

COMPETITION LAW PROCEEDINGS

Phillips' Colon Health/Department of Justice: In 2014, the United States Department of Justice, representing the United States Federal Trade Commission (FTC), filed a motion in a New Jersey federal court contending that Bayer did not have the requisite support for claims made with respect to Phillips' Colon Health probiotics. The motion sought to hold Bayer in contempt of a prior consent order that required Bayer to have competent and reliable scientific evidence to substantiate dietary supplement claims. In September 2015, the New Jersey federal court ruled that the United States failed to satisfy its burden of proving that Bayer failed to possess competent and reliable scientific evidence. Thus, the court found that Bayer did not violate the consent order. The decision is final.

PATENT DISPUTES

Beyaz™/Safyral™: Beyaz™ and Safyral™ are Bayer's oral contraceptives containing folate. In September 2015, a U.S. federal court ruled in favor of Bayer regarding both the validity of its patent and the infringement thereof by Watson Laboratories, Inc. Watson had filed Abbreviated New Drug Applications with a Paragraph IV certification ("ANDA IV") seeking approval of generic versions of both Beyaz™ and Safyral™ in the United States. Watson appealed the decision. In May and October 2015, Bayer filed two suits against Lupin Ltd. and Lupin Pharmaceuticals, Inc. (together "Lupin") in U.S. federal court for infringement of the same patent. In April and September 2015, Bayer had received two notices of an ANDA IV by Lupin seeking approval to market generic versions of Safyral™ and Beyaz™ in the United States.

Betaferon™/Betaseron™: In 2010, Bayer filed a complaint against Biogen Idec MA Inc. in U.S. federal court seeking a declaration by the court that a patent issued to Biogen in 2009 is invalid and not infringed by Bayer's production and distribution of Betaseron™, Bayer's drug product for the treatment of multiple sclerosis. Biogen is alleging patent infringement by Bayer through Bayer's production and distribution of Betaseron™ and Extavia™ and has sued Bayer accordingly. Bayer manufactures Betaseron™ and distributes the product in the United States. Extavia™ is also a drug product for the treatment of multiple sclerosis; it is manufactured by Bayer, but distributed in the United States by Novartis Pharmaceuticals Corporation, another defendant in the lawsuit.

Finacea™: In July 2015, a U.S. federal court found that Bayer's patent relating to Finacea™ topical gel is valid and infringed by Glenmark Generics Ltd. Glenmark had filed an ANDA IV seeking approval of a generic version of Finacea™ in the United States, and Glenmark appealed the US federal court decision.

Damoctocog alfa pegol (BAY 94-9027, long-acting rFVIII): In 2013, Bayer filed a lawsuit against Nektar Therapeutics in the district court of Munich, Germany. In this proceeding, Bayer claims rights to certain European patent applications based on a past collaboration between Bayer and Nektar in the field of hemophilia. The European patent applications with the title "Polymer-factor VIII moiety conjugates" are part of a patent family registered in the name of Nektar comprising further patent applications and patents in other countries including the United States. However, Bayer believes that the patent family does not include any valid patent claim relevant for Bayer's drug candidate BAY 94-9027 for the treatment of hemophilia A.

Nexavar™: In January and December 2015, Bayer filed patent infringement lawsuits in a U.S. federal court against Mylan Pharmaceuticals Inc. and Mylan Inc. (together "Mylan"). In December 2014 and in November 2015, Bayer had received notices of ANDA IV applications pursuant to which Mylan seeks approval of a generic version of Bayer´s cancer drug Nexavar™ in the United States.

Staxyn™: Staxyn™ is a Bayer product for erectile dysfunction treatment. It is an orodispersible (orally disintegrating) formulation of Levitra™. Both drug products contain the same active ingredient, which is protected in the United States by two patents expiring in 2018. In 2012, Bayer received notice of an ANDA IV application pursuant to which Watson seeks approval to market a generic version of Bayer's erectile dysfunction treatment Staxyn™ prior to patent expiration in the United States. Bayer filed a patent infringement suit in a U.S. federal court against Watson Laboratories, Inc. In April 2015, the court ruled that both of Bayer's compound patents are valid and infringed. Watson may appeal.

Xarelto™: In October 2015, Bayer and Janssen Pharmaceuticals, Inc. filed a patent infringement suit in a U.S. federal court against Aurobindo Pharma Limited, Aurobindo Pharma USA, Inc. (together "Aurobindo"), Breckenridge Pharmaceutical Inc. ("Breckenridge"), Micro Labs Ltd., Micro Labs USA Inc. (together "Micro Labs"), Mylan Pharmaceuticals Inc., Mylan Inc. (together "Mylan"), Prinston Pharmaceutical Inc. ("Prinston"), Sigmapharm Laboratories, LLC ("Sigmapharm"), Torrent Pharmaceuticals, Limited and Torrent Pharma Inc. (together "Torrent"). In September 2015, Bayer had received notices of an ANDA IV application by Aurobindo, Breckenridge, Micro Labs, Mylan, Prinston, Sigmapharm and Torrent, each seeking approval to market a generic version of Xarelto™, an oral anticoagulant for the treatment and prevention of blood clots, in the United States. In January 2016, Bayer received another notice of such an ANDA IV application by InvaGen Pharmaceuticals, Inc. ("InvaGen"). In February 2016, Bayer and Janssen Pharmaceuticals, Inc. filed a patent infringement suit against InvaGen in the same U.S. federal court.

Bayer believes it has meritorious defenses in the above patent disputes and intends to defend itself vigorously.

FURTHER LEGAL PROCEEDINGS

Trasylol™/Avelox™: A qui tam complaint relating to marketing practices for Trasylol™ (aprotinin) and Avelox™ (moxifloxacin) filed by a former Bayer employee is pending in the United States District Court in New Jersey. The U.S. government has declined to intervene at the present time.

Newark Bay Environmental Matters: In the United States, Bayer is one of numerous parties involved in a series of claims brought by federal and state environmental protection agencies. The claims arise from operations by entities which historically were conducted near Newark Bay or surrounding bodies of water, or which allegedly discharged hazardous waste into these waterways or onto nearby land. Bayer and the other potentially responsible parties are being asked to remediate and contribute to the payment of past and future remediation or restoration costs and damages.

In the Lower Passaic River matter, a group of more than sixty companies including Bayer is investigating contaminated sediments in the riverbed under the supervision of the United States Environmental Protection Agency (EPA) and other governmental authorities. Future remediation will involve some form of dredging, the nature and scope of which are not yet defined, and potentially other tasks. The cost of the investigation and the remediation work may be substantial if the final remedy involves extensive dredging and disposal of impacted sediments. In the Newark Bay matter, an unaffiliated party is currently conducting an investigation of sediments in Newark Bay under EPA supervision. The investigation is in a preliminary stage. Bayer has contributed to certain investigation costs in the past and may incur costs for future investigation and remediation activities in Newark Bay.

Bayer has also been notified by governmental authorities acting as natural resource trustees that it may have liability for natural resource damages arising from the contamination of the Lower Passaic River, Newark Bay and surrounding water bodies. Bayer is currently unable to determine the extent of its liability.

Asbestos: A further risk may arise from asbestos litigation in the United States. In many cases, the plaintiffs allege that Bayer and co-defendants employed third parties on their sites in past decades without providing them with sufficient warnings or protection against the known dangers of asbestos. Additionally, a Bayer affiliate in the United States is the legal successor to companies that sold asbestos products until 1976. Union Carbide has agreed to indemnify Bayer for this liability. Bayer believes it has meritorious defenses and intends to defend itself vigorously.

TAX PROCEEDINGS

Stamp taxes in Greece: In 2014, a Greek administrative court of first instance dismissed Bayer's lawsuit against the assessment of stamp taxes and contingent penalties in the total amount of approximately €23 million on certain intra-Group loans to a Greek subsidiary. Bayer is convinced that the decision is wrong and has appealed. In two additional court proceeding of first instance before the same court, Bayer has filed lawsuits against the assessment of stamp taxes and contingent penalties in an amount of approximately €90 million and a further amount of approximately €16 million. Bayer believes it has meritorious arguments to support its legal position and intends to defend itself vigorously.

Notes to the Statements of Cash Flows

The statement of cash flows shows how cash inflows and outflows during the fiscal year affected the cash and cash equivalents of the Bayer Group. Cash flows are classified by operating, investing and financing activities in accordance with IAS 7 (Statement of Cash Flows). Effects of changes in the scope of consolidation are stated separately.

Of the cash and cash equivalents, an amount of €17 million (2014: €72 million) had limited availability due to foreign exchange restrictions. Past experience has shown such restrictions to be of short duration. The above amount included €3 million (2014: €64 million) of exchange-restricted cash in Venezuela. The conversion of cash from Venezuelan bolivars (VEF) into U.S. dollars is subject to a government approval process.

The cash flows reported by consolidated companies outside the eurozone are translated at average monthly exchange rates, with the exception of cash and cash equivalents, which are translated at closing rates. The "Change in cash and cash equivalents due to exchange rate movements" is reported in a separate line item.

33. Net cash provided by (used in) operating activities

The gross cash flow from continuing operations, amounting in 2015 to €6,999 million (2014: €6,707 million), is the cash surplus from operating activities before any changes in working capital. The cash flows by segment are shown in NOTE [1].

The net operating cash flow (total) of €6,890 million (2014: €5,810 million) also takes into account the changes in working capital and other noncash transactions.

An income-tax-related net cash outflow of €1,699 million (2014: €1,835 million) is included in the net cash flow for 2015. The changes in income tax liabilities, income tax provisions and claims for reimbursement of income taxes are shown in the line item "Changes in other working capital, other noncash items."

The transfers of bonds with a total value of €300 million (2014: €250 million) to pension funds were noncash transactions and therefore did not result in an operating cash outflow.

34. Net cash provided by (used in) investing activities

The net cash outflow for investing activities in 2015 amounted to €2,762 million (2014: €15,539 million).

Additions to property, plant and equipment and intangible assets in 2015 resulted in a cash outflow of €2,517 million (2014: €2,371 million). Cash inflows from sales of property, plant and equipment and intangible assets amounted to €193 million (2014: €143 million).

The cash outflows of €176 million (2014: €13,545 million) for acquisitions primarily related to the acquisition of SeedWorks India Pvt. Ltd., Hyderabad, India, and further payments in connection with the acquisition of the consumer care business of Merck & Co., Inc., United States. The prior-year figure mainly comprised the acquisitions of the consumer care business of Merck & Co., Inc., United States, and Algeta ASA, Norway. Further details of acquisitions and divestitures are given in NOTES [6.2] and [6.3], respectively.

The net cash outflow for noncurrent and current financial assets amounted to €370 million (2014: €177 million).

The transfers of bonds with a total value of €300 million (2014: €250 million) to pension funds were noncash transactions and therefore did not result in an investing cash inflow.

35. Net cash provided by (used in) financing activities

In 2015 there was a net cash outflow of €3,974 million (2014: inflow of €9,736 million) for financing activities. Net loan repayments amounted to €2,929 million (2014: net borrowings of €11,838 million).

Cash outflows for dividend payments amounted to €1,869 million (2014: €1,739 million). Net interest payments – including payments for and receipts from interest-rate swaps – rose to €652 million (2014: €362 million). The proceeds from the stock market flotation of Covestro AG amounted to €1,490 million.

Other Information

36. Audit fees

The following fees for the services of the worldwide network of PricewaterhouseCoopers (PwC), including PricewaterhouseCoopers Aktiengesellschaft Wirtschaftsprüfungsgesellschaft (PwC AG WPG), were recognized as expenses:

Audit Fees [Table 4.94]

	PwC		of which PwC AG WPG	
	2014	2015	2014	2015
	€ million	€ million	€ million	€ million
Financial statements auditing	12	17	4	7
Audit-related services and other audit work	4	9	3	9
Tax consultancy	2	3	–	–
Other services	6	7	–	5
Total	**24**	**36**	**7**	**21**

The fees for the auditing of financial statements mainly comprised those for the audits of the consolidated financial statements of the Bayer Group and the financial statements of Bayer AG and its subsidiaries. The increase in fees for financial statements auditing and for audit-related services and other audit work mainly resulted from the carve-out and stock market flotation of Covestro.

The Independent Auditor's Report on the consolidated financial statements for fiscal 2015 was signed by Dr. Peter Bartels and Eckhard Sprinkmeier. Dr. Peter Bartels signed the Independent Auditor's Report for the first time for the year ended December 31, 2012, and Eckhard Sprinkmeier for the year ended December 31, 2014. PwC has served as the auditor of Bayer's consolidated financial statements since the merger of Price Waterhouse Deutschland and Coopers & Lybrand Deutsche Revision in 1998. The predecessor firm of Coopers & Lybrand Deutsche Revision had already audited Bayer's consolidated financial statements for some years prior to that date.

37. Related parties

Related parties as defined in IAS 24 (Related Party Disclosures) are those legal entities and natural persons that are able to exert influence on Bayer AG and its subsidiaries or over which Bayer AG or its subsidiaries exercise control or joint control or have a significant influence. They include, in particular, nonconsolidated subsidiaries, joint ventures and associates included in the consolidated financial statements at cost of acquisition or using the equity method, and post-employment benefit plans, as well as the corporate officers of Bayer AG whose compensation is reported in NOTE [38] and in the Compensation Report, which forms part of the Combined Management Report.

Transactions with nonconsolidated subsidiaries, joint ventures and associates included in the consolidated financial statements at cost of acquisition or using the equity method, and post-employment benefit plans are carried out on an arm's-length basis.

The following table shows the volume of transactions with related parties included in the consolidated financial statements of the Bayer Group at amortized cost or using the equity method, and with post-employment benefit plans:

Related Parties [Table 4.95]

	2014				2015			
	Sales of goods and services	Purchases of goods and services	Receivables	Liabilities	Sales of goods and services	Purchases of goods and services	Receivables	Liabilities
	€ million	€ million	€ million	€ million	€ million	€ million	€ million	€ million
Nonconsolidated subsidiaries	21	4	8	18	21	4	11	22
Joint ventures	29	–	4	–	25	–	4	1
Associates	33	758	5	5	36	645	–	4
Post-employment benefit plans	–	–	803	64	–	–	822	68

Goods and services in the amount of €609 million (2014: €737 million) were purchased from the associate PO JV, LP, Wilmington, United States, mainly in the course of day-to-day business operations.

Intercompany profits and losses for companies accounted for in the consolidated financial statements using the equity method were immaterial in 2015 and 2014.

Bayer AG has undertaken to provide jouissance right capital (Genussrechtskapital) in the form of an interest-bearing loan with a nominal volume of €150 million (2014: €150 million) for Bayer-Pensionskasse VVaG. The entire amount remained drawn as of December 31, 2015. The carrying amount as of December 31, 2015, was €153 million (2014: €150 million). Loan capital was first provided to Bayer-Pensionskasse VVaG in 2008 for its effective initial fund. This capital had a nominal volume of €595 million as of December 31, 2015 (2014: €595 million). The carrying amount as of December 31, 2015, was €610 million (2014: €595 million). The outstanding receivables, comprised of different tranches, are each subject to a five-year interest-rate adjustment mechanism. Net interest income of €22 million was recognized for 2015 (2014: €10 million).

No impairment losses were recognized on receivables from related parties in 2015 or 2014.

38. Total compensation of the Board of Management and the Supervisory Board, advances and loans

The compensation of the Board of Management comprises short-term payments, stock-based payments and post-employment benefits.

The following table shows the individual components of the Board of Management's compensation according to IFRS:

Board of Management Compensation according to IFRS [Table 4.96]

	2014	2015
	€ thousand	€ thousand
Fixed annual compensation	4,118	4,455
Fringe benefits	443	207
Total short-term non-performance-related compensation	**4,561**	**4,662**
Short-term performance-related cash compensation	5,051	5,983
Total short-term compensation	**9,612**	**10,645**
Stock-based compensation (virtual Bayer shares) earned in the respective year	5,058	5,983
Change in value of existing entitlements to stock-based compensation (virtual Bayer shares)	1,559	556
Stock-based compensation (Aspire) earned in the respective year	3,602	2,330
Change in value of existing entitlements to stock-based compensation (Aspire)	687	272
Total stock-based compensation (long-term incentive)	**10,906**	**9,141**
Service cost for pension entitlements earned in the respective year	1,716	2,891
Total long-term compensation	**12,622**	**12,032**
Severance indemnity in connection with the termination of a service contract	–	1,131
Aggregate compensation (IFRS)	**22,234**	**23,808**

In addition to the above compensation, actuarial gains of €2,309 thousand (2014: losses of €11,311 thousand) incurred in connection with pension obligations to the currently serving members of the Board of Management were recognized outside profit or loss. These changes mainly resulted from the slight increase (2014: sharp decline) in the level of interest rates.

Further details are provided in the Compensation Report, which forms part of the Combined Management Report.

In addition to the provisions of €5,983 thousand (2014: €4,771 thousand) for the short-term variable cash compensation, an amount of €18,663 thousand (2014: €17,775 thousand) was recognized in the statement of financial position for future payments of stock-based compensation based on virtual shares to the members of the Board of Management serving as of December 31, 2015.

An amount of €7,110 thousand (2014: €7,155 thousand) was recognized in the statement of financial position for future payments of stock-based compensation based on the Aspire program to the members of the Board of Management serving as of December 31, 2015.

The present value of the defined benefit pension obligation for the members of the Board of Management serving as of December 31, 2015, was €33,491 thousand (2014: €32,248 thousand).

Pension payments to former members of the Board of Management and their surviving dependents amounted to €13,416 thousand (2014: €13,457 thousand). The defined benefit obligation for former members of the Board of Management and their surviving dependents amounted to €172,767 thousand (2014: €187,759 thousand).

The compensation of the Supervisory Board amounted to €3,291 thousand (2014: €3,286 thousand).

In addition to their compensation as members of the Supervisory Board, those employee representatives who are employees of Bayer Group companies receive compensation unrelated to their service on the Supervisory Board. The total amount of such compensation in 2015 was €741 thousand (2014: €737 thousand).

Pension obligations for employee representatives on the Supervisory Board amounted to €3,756 thousand (2014: €3,623 thousand).

There were no advances or loans to members of the Board of Management or the Supervisory Board outstanding as of December 31, 2015, nor at any time during 2015 or 2014.

39. Events after the end of the reporting period

DIABETES CARE BUSINESS

Implementation of the agreement concerning the sale of the Diabetes Care business to Panasonic Healthcare Holdings Co, Ltd., Tokyo, Japan, began on January 4, 2016, and thus after the closing date for the financial statements. A payment of €0.9 billion was made in January 2016 in connection with the sale. Bayer has entered into further significant obligations, which are to be met over the next two years.

REDEMPTION OF FINANCIAL LIABILITIES

On January 25, 2016, Bayer AG redeemed at maturity a bond with a nominal volume of €500 million issued under the multi-currency European Medium Term Notes program. In addition, commercial paper and promissory notes in a total amount of €383 million were repaid in January and February, 2016, respectively.

Leverkusen, February 16, 2016

Bayer Aktiengesellschaft

The Board of Management