Report on Economic Position

11. Economic Environment

Global economy

At 3.1%, the global economy continued to grow at about the prior-year pace in 2018. In the United States, the economy performed better than in the previous year, mainly driven by expansive fiscal policy, tax reforms and robust job growth. The economy in the European Union remained dynamic despite weaker year-on-year growth as fiscal supports and emerging labor markets boosted domestic demand. In China, economic growth continued, reaching 6.6% over the previous year, and was driven primarily by consumption. However, increasing barriers to trade had a dampening effect.

Economic Environment

	Growth[1] 2017	Growth[1] 2018
	%	%
World	**+3.2**	**+3.1**
European Union	+2.6	+1.9
of which Germany	+2.5	+1.5
NAFTA	+2.3	+2.7
of which United States	+2.2	+2.9
Asia-Pacific	+5.0	+4.9
of which China	+6.8	+6.6

[1] Real growth of gross domestic product, source: IHS (Global Insight), as of February 2019

Main customer industries[6]

In fiscal 2018, automotive production worldwide dropped around 1%. Despite a decline in sales of some 4%, China remains the most important sales market for the automotive industry. The Eastern Europe and Latin America regions managed to register considerable growth, while North America, Asia, and particularly Western Europe were lower year on year.

In 2018, growth in the global construction industry, at approximately 3%, was weaker than in the previous year. An ongoing recovery in Eastern Europe and Latin America as well as the continued stability of the investment climate in North America were unable to offset the decline in growth in Western Europe and China.

The global electrical, electronics and household appliances industry expanded by some 7% in 2018. Growing approximately 11% on average, the emerging economies continued their positive performance in contrast with weaker growth of some 4% in the industrialized countries.

In 2018, the global furniture industry grew by roughly 2% year over year. All regions saw positive growth rates, although Asia stands out as the main driver at around 4%.

[6] Covestro's estimate, based on the following sources: LMC Automotive Limited, B+L, CSIL (Centre for Industrial Studies), Oxford Economics

12. Covestro Group Business Development

Covestro Group Key Data

	4th quarter 2017	4th quarter 2018	Change	2017	2018	Change
	€ million	€ million	%	€ million	€ million	%
Core volume growth[1]	**+4.2%**	**+1.7%**		**+3.4%**	**+1.6%**	
Sales	**3,522**	**3,272**	**–7.1**	**14,138**	**14,616**	**+3.4**
Change in sales						
Volume	+4.6%	+2.9%		+4.3%	+2.3%	
Price	+17.4%	–9.3%		+16.1%	+4.5%	
Currency	–5.3%	+0.3%		–1.6%	–3.0%	
Portfolio	0.0%	–1.0%		0.0%	–0.4%	
EBITDA	**879**	**293**	**–66.7**	**3,435**	**3,200**	**–6.8**
Depreciation and amortization	**151**	**153**	**+1.3**	**627**	**620**	**–1.1**
EBIT	**728**	**140**	**–80.8**	**2,808**	**2,580**	**–8.1**
Financial result	**(27)**	**(24)**	**–11.1**	**(150)**	**(104)**	**–30.7**
Net income	**566**	**79**	**–86.0**	**2,009**	**1,823**	**–9.3**
Operating cash flows	**890**	**641**	**–28.0**	**2,361**	**2,376**	**+0.6**
Cash outflows for additions to property, plant, equipment and intangible assets	**235**	**278**	**+18.3**	**518**	**707**	**+36.5**
Free operating cash flow	**655**	**363**	**–44.6**	**1,843**	**1,669**	**–9.4**
Net financial debt[2]				**283**	**348**	**+23.0**
ROCE				**33.4%**	**29.5%**	

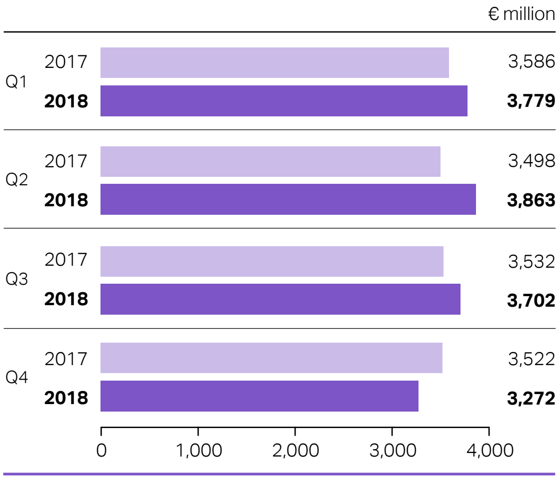
[1] Reference values calculated based on the definition of the core business effective March 31, 2018
[2] As of December 31, 2018, compared with December 31, 2017

The Group's core volumes in 2018 as a whole rose 1.6% over the prior-year period. All segments contributed to this growth. The Polycarbonates and Coatings, Adhesives, Specialties segments reported growth rates of 3.0% and 2.5%, respectively. The Polyurethanes segment expanded core volumes by 0.8%.

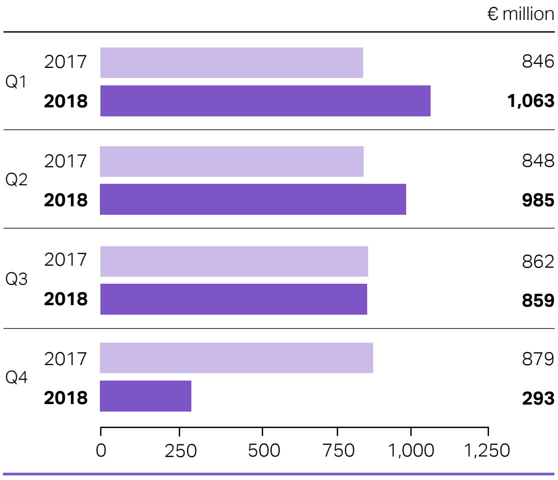
In fiscal 2018, Group sales rose 3.4% year over year to €14,616 million (previous year: €14,138 million). This is largely due to higher selling prices, which were up 4.5% on average. The increase in total volumes sold had a positive effect of 2.3% on sales. In contrast, the effects of exchange rate developments had a negative impact on sales with 3.0%. The portfolio effect from the sale of the U.S. sheet business in the Polycarbonates segment additionally reduced sales by 0.4%.

In 2018, growth in Group sales was driven chiefly by the Polycarbonates segment. Sales here rose 8.4% to €4,051 million (previous year: €3,737 million). Sales of Coatings, Adhesives, Specialties increased by 1.5% to €2,361 million (previous year: €2,327 million) and the Polyurethanes segment remained stable at €7,362 million (previous year: €7,386 million).

Covestro Group Quarterly Sales



Covestro Group Quarterly EBITDA



The Group's EBITDA in 2018 as a whole decreased 6.8% over the prior-year period to €3,200 million (previous year: €3,435 million). This drop was primarily due to significantly more intense competition, which led to substantially lower margins in the fourth quarter of 2018. In addition, this period saw various nonrecurring expenses, such as higher logistics costs due to the low level of the Rhine River and expenses related to the Perspective efficiency program. In the full year 2018, higher volumes and the change in margins, which was still positive on the whole, were unable to balance out the negative effects of exchange rate movements and increases in other functional cost items.

In the Polyurethanes segment, EBITDA slid 19.1% to €1,763 million (previous year: €2,179 million). The Polycarbonates segment's EBITDA rose 21.5% to €1,036 million (previous year: €853 million). At €464 million, EBITDA in the Coatings, Adhesives, Specialties segment was down 4.5% on the prior-year figure (previous year: €486 million).

Depreciation, amortization and impairments for 2018 as a whole decreased 1.1% to €620 million (previous year: €627 million). They comprised €599 million (previous year: €602 million) in depreciation and impairments of property, plant and equipment and €21 million (previous year: €25 million) in amortization and impairments of intangible assets. These included impairment losses totaling €7 million (previous year: €6 million). There were no impairment loss reversals in fiscal 2018 (previous year: €18 million).

In the 2018 fiscal year, the Covestro Group's EBIT dropped 8.1% to €2,580 million (previous year: €2,808 million).

Taking into account a financial result of minus €104 million (previous year: minus €150 million), income before income taxes declined 6.8% from the prior-year period to €2,476 million (previous year: €2,658 million). After tax expense of €647 million (previous year: €641 million), income after income taxes was €1,829 million (previous year: €2,017 million). After noncontrolling interests, net income amounted to €1,823 million (previous year: €2,009 million).

At €2,376 million, operating cash flows remained at the previous year's level in fiscal 2018 (previous year: €2,361 million). A decline in EBITDA and increased income tax payments stood in contrast to a decrease in cash tied up in working capital.

In the reporting period, free operating cash flow was down 9.4% to €1,669 million (previous year: €1,843 million) due to a rise in cash outflows for additions to property, plant, equipment and intangible assets. These outflows totaled €707 million in 2018 (previous year: €518 million).

In the 2018 fiscal year, Covestro earned a substantial premium on its capital costs. The ROCE of 29.5% (previous year: 33.4%) was well under the WACC of 6.7% (previous year: 6.6%). At €1,474 million, however the resulting positive value contribution fell below the prior-year figure of €1,710 million.

Covestro Value Management Indicators at a Glance

	2017	2018
	€ million	€ million
NOPAT	2,131	1,907
Average capital employed	6,378	6,468
WACC	6.6%	6.7%
ROCE	33.4%	29.5%
Value contribution	1,710	1,474

Calculation of return on capital employed

See section 17 "Alternative Performance Measures"

ROCE measures profitability and is calculated as the ratio of the operating result (EBIT) after taxes (NOPAT = net operating profit after taxes) to the average capital employed. Taxes are determined by multiplying the effective tax rate by EBIT. If ROCE exceeds the weighted average cost of capital (WACC), the company is earning a premium on its cost of capital.

This is the difference between NOPAT and the cost of capital. The latter is calculated by multiplying the average capital employed by WACC. A positive value contribution means that value has been generated.

Target Attainment

The Covestro Group's fiscal year was successful on the whole. However, the very positive business performance in the first six months was followed by progressive weakening throughout the rest of the year. In the first half of the year, the MDI and TDI product groups and the PCS segment generated record-breaking margins, largely due to a positive supply/demand situation. Increasing competitive pressure in the fourth quarter of 2018 led to a massive decrease in margins, especially in the Polyurethanes segment. In addition, earnings were diminished by nonrecurring expenses such as logistics costs due to the low level of the Rhine River and expenses related to the Perspective efficiency program. As a result of this development, the forecast lifted in July 2018 had to be adjusted on November 20, 2018.

Target Attainment 2018

	2017	Forecast 2018[1]	Latest forecast[2]	Target attainment 2018
Core volume growth	+3.4%	Low- to mid-single-digit-percentage range	Low-single-digit-percentage range	+ 1.6%
Free operating cash flow	€1,843 million	Significantly above the average of the last three years[3]	Slightly below the previous year	€1,669 million
ROCE	+33.4%	Approaching the 2017 level	Slightly below the 2017 level	+ 29.5%

[1] Published on February 20, 2018 (Annual Report 2017)
[2] Published on November 20, 2018 (ad-hoc statement)
[3] Average free operating cash flow from 2015 to 2017: €1,391 million

At 1.6%, our core volume growth met our forecast target. All segments further expanded core volumes compared with the previous year. In line with the most recent projection, free operating cash flow and ROCE fell slightly below the prior-year figures. Overall we generated a significant premium on capital costs, as in the previous year.

13. Business Development by Segment

Polyurethanes

Polyurethanes Key Data[1]

	4th quarter 2017	4th quarter 2018	Change	2017	2018	Change
	€ million	€ million	%	€ million	€ million	%
Core volume growth[2]	**+5.3%**	**+2.3%**		**+3.1%**	**+0.8%**	
Sales	**1,876**	**1,597**	**–14.9**	**7,386**	**7,362**	**–0.3**
Change in sales						
Volume	+6.9%	+2.5%		+3.5%	+0.9%	
Price	+26.2%	–17.6%		+28.2%	+1.9%	
Currency	–5.8%	+0.2%		–1.8%	–3.1%	
Portfolio	0.0%	0.0%		0.0%	0.0%	
Sales by region						
EMLA	787	678	–13.9	3,147	3,182	+1.1
NAFTA	442	474	+7.2	1,868	1,947	+4.2
APAC	647	445	–31.2	2,371	2,233	–5.8
EBITDA	**612**	**111**	**–81.9**	**2,179**	**1,763**	**–19.1**
EBIT	**529**	**27**	**–94.9**	**1,826**	**1,412**	**–22.7**
Operating cash flows	**595**	**393**	**–33.9**	**1,352**	**1,386**	**+2.5**
Cash outflows for additions to property, plant, equipment and intangible assets	**126**	**171**	**+35.7**	**276**	**414**	**+50.0**
Free operating cash flow	**469**	**222**	**–52.7**	**1,076**	**972**	**–9.7**

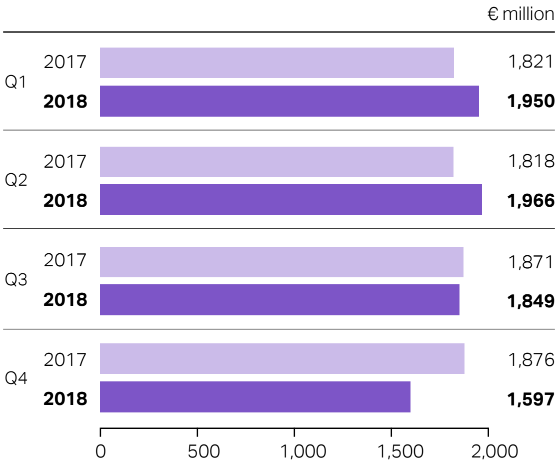
[1] All prior-year figures have been adjusted to reflect the transfer of the specialty elastomers business from the Polyurethanes segment to the Coatings, Adhesives, Specialties segment as of January 1, 2018.
[2] Reference values calculated based on the definition of the core business effective March 31, 2018

In 2018 as a whole, core volumes in Polyurethanes rose by 0.8% over the prior-year period.

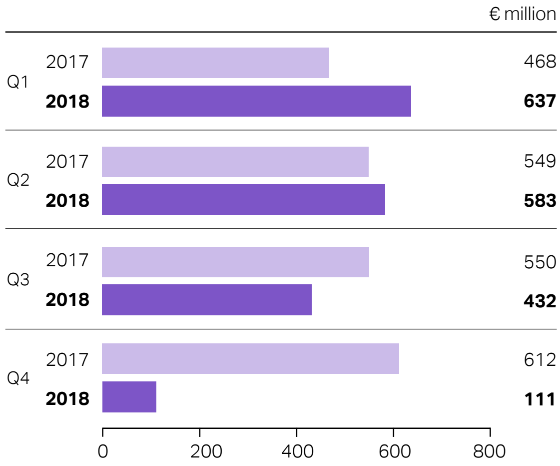
At €7,362 million, the Polyurethanes segment’s sales remained stable year-on-year (previous year: €7,386 million). The increases in total volumes sold of 0.9% and average selling prices of 1.9% largely balanced out exchange rate movements, which reduced sales by 3.1%.

In the EMLA region, sales rose by 1.1% to €3,182 million (previous year: €3,147 million). Slightly higher selling price levels and stable total volumes more than offset mildly negative exchange rate changes. The NAFTA region’s sales grew 4.2% to €1,947 million (previous year: €1,868 million). A significant increase in average selling prices more than compensated for strongly negative currency effects. Total volumes sold in the region remained stable. Sales in the APAC region declined 5.8% to €2,233 million (previous year: €2,371 million). This was due to a modest decrease in selling price levels and a slightly negative trend in exchange rates. In contrast, total volumes sold increased somewhat.

Polyurethanes Quarterly Sales[1]



Polyurethanes Quarterly EBITDA[1]



[1] All prior-year figures have been adjusted to reflect the transfer of the specialty elastomers business from the Polyurethanes segment to the Coatings, Adhesives, Specialties segment as of January 1, 2018.

EBITDA was down 19.1% from the prior-year period, dropping to €1,763 million (previous year: €2,179 million). Although greater total volumes and higher average selling prices in 2018 improved earnings, these increases could not offset the negative effects of increasingly intense competition and consequently lower margins, particularly in the fourth quarter of 2018. In addition, the 2017 earnings reflected significant one-time revenue streams.

EBIT dropped to €1,412 million (previous year: €1,826 million).

Free operating cash flow amounted to €972 million, down 9.7% from the prior-year figure of €1,076 million. The lower EBITDA and higher cash outflows for additions to property, plant and equipment stood in contrast to the greater availability of working capital, particularly in trade accounts receivable.

Polycarbonates

Polycarbonates Key Data

	4th quarter 2017	4th quarter 2018	Change	2017	2018	Change
	€ million	€ million	%	€ million	€ million	%
Core volume growth[1]	**+3.7%**	**+1.6%**		**+5.0%**	**+3.0%**	
Sales	**939**	**924**	**–1.6**	**3,737**	**4,051**	**+8.4**
Change in sales						
Volume	+5.2%	+4.2%		+7.1%	+3.8%	
Price	+13.1%	–2.3%		+8.0%	+9.7%	
Currency	–5.6%	+0.3%		–1.8%	–3.4%	
Portfolio	0.0%	–3.8%		0.0%	–1.7%	
Sales by region						
EMLA	315	301	–4.4	1,241	1,347	+8.5
NAFTA	206	200	–2.9	874	817	–6.5
APAC	418	423	+1.2	1,622	1,887	+16.3
EBITDA	**213**	**133**	**–37.6**	**853**	**1,036**	**+21.5**
EBIT	**169**	**88**	**–47.9**	**672**	**861**	**+28.1**
Operating cash flows	**245**	**235**	**–4.1**	**476**	**654**	**+37.4**
Cash outflows for additions to property, plant, equipment and intangible assets	**74**	**70**	**–5.4**	**155**	**186**	**+20.0**
Free operating cash flow	**171**	**165**	**–3.5**	**321**	**468**	**+45.8**

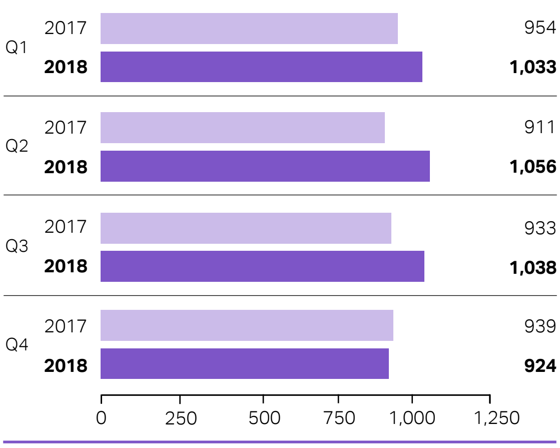
[1] Reference values calculated based on the definition of the core business effective March 31, 2018

In 2018 as a whole, core volumes in the Polycarbonates segment were up 3.0% over the prior-year period.

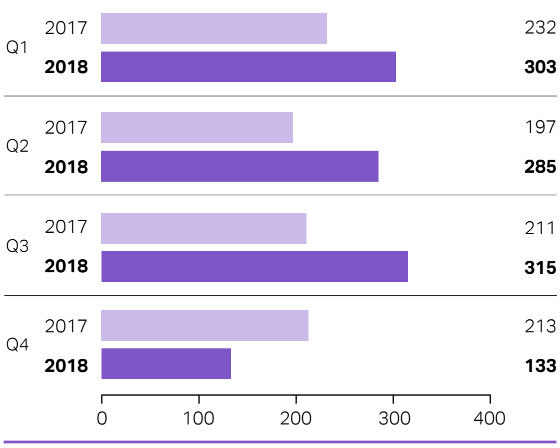
Sales in the Polycarbonates segment rose 8.4% to €4,051 million in fiscal 2018 (previous year: €3,737 million). The key driver here was the year-on-year increase in selling price levels throughout all regions, which boosted sales by 9.7%. Higher total volumes had a positive effect of 3.8% on sales, whereas exchange rate developments lowered sales by 3.4%. Moreover, the portfolio effect from the sale of the U.S. polycarbonate sheet business also reduced sales by 1.7%.

The EMLA region's sales were up 8.5% to €1,347 million (previous year: €1,241 million). A significantly higher selling price level and moderate increase in total volumes had a positive impact on sales. The effect of exchange rate movements remained neutral. In the NAFTA region, sales dropped 6.5% to €817 million (previous year: €874 million), chiefly due to the aforementioned portfolio effect, which caused sales in the region to decline considerably. A substantial rise in average selling prices and stable total volumes sold combined to boost sales, whereas exchange rate changes had a slightly negative effect. The APAC region saw sales grow 16.3% to €1,887 million (previous year: €1,622 million). Much higher selling prices and total volumes offset the mildly negative currency effects.

**Polycarbonates
Quarterly Sales**



**Polycarbonates
Quarterly EBITDA**



EBITDA in the Polycarbonates segment grew 21.5% over the prior-year period, rising to €1,036 million in fiscal 2018 (previous year: €853 million). An overall positive margins trend and greater total volumes lifted earnings, as did the proceeds from the sale of the U.S. sheet business. Over the course of the fourth quarter of 2018, earnings were burdened by an increasingly challenging competitive environment.

EBIT rose by 28.1% to €861 million (previous year: €672 million).

Free operating cash flow rose 45.8% year over year to €468 million (previous year: €321 million), mostly as a result of the improvement in EBITDA. An overall greater availability of working capital also had a positive effect, whereas higher cash outflows for additions to property, plant and equipment had the opposite effect.

Coatings, Adhesives, Specialties

Coatings, Adhesives, Specialties Key Data[1]

	4th quarter 2017	4th quarter 2018	Change	2017	2018	Change
	€ million	€ million	%	€ million	€ million	%
Core volume growth[2]	**–1.0%**	**–1.8%**		**+1.5%**	**+2.5%**	
Sales	**529**	**534**	**+0.9**	**2,327**	**2,361**	**+1.5**
Change in sales						
Volume	–2.1%	+0.3%		+1.8%	+3.5%	
Price	+3.1%	0.0%		+1.3%	+0.6%	
Currency	–4.3%	+0.6%		–1.1%	–2.6%	
Portfolio	0.0%	0.0%		0.0%	0.0%	
Sales by region						
EMLA	241	240	–0.4	1,085	1,117	+2.9
NAFTA	111	129	+16.2	510	519	+1.8
APAC	177	165	–6.8	732	725	–1.0
EBITDA	**80**	**63**	**–21.3**	**486**	**464**	**–4.5**
EBIT	**56**	**39**	**–30.4**	**396**	**371**	**–6.3**
Operating cash flows	**142**	**107**	**–24.6**	**336**	**309**	**–8.0**
Cash outflows for additions to property, plant, equipment and intangible assets	**37**	**36**	**–2.7**	**87**	**106**	**+21.8**
Free operating cash flow	**105**	**71**	**–32.4**	**249**	**203**	**–18.5**

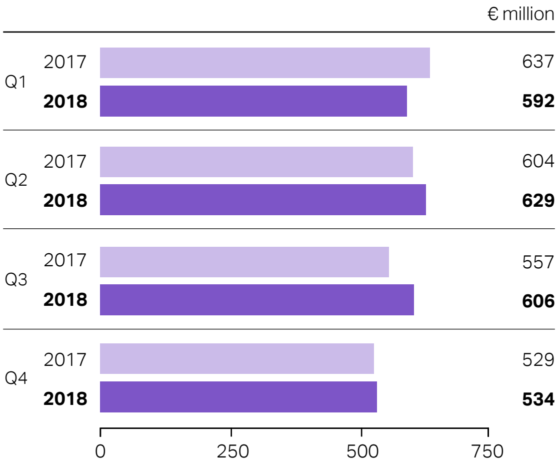
[1] All prior-year figures have been adjusted to reflect the transfer of the specialty elastomers business from the Polyurethanes segment to the Coatings, Adhesives, Specialties segment as of January 1, 2018.
[2] Reference values calculated based on the definition of the core business effective March 31, 2018

In 2018 as a whole, core volumes in Coatings, Adhesives, Specialties rose by 2.5% over the prior year.

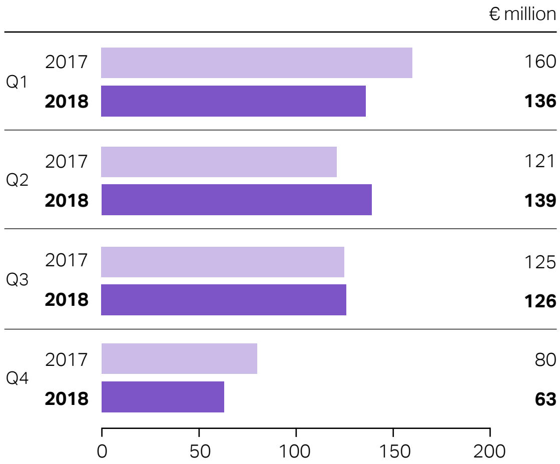
Sales of Coatings, Adhesives, Specialties increased 1.5% to €2,361 million (previous year: €2,327 million). Total volumes lifted sales by 3.5%, while average selling prices had a positive effect of 0.6% on sales. Exchange rate movements reduced sales by 2.6%.

In the EMLA region, sales were up 2.9% to €1,117 million (previous year: €1,085 million) due to a slight increase in total volumes and modestly higher selling prices. The effect of exchange rate developments remained neutral. In the NAFTA region, sales grew 1.8% to €519 million (previous year: €510 million). Minor increases in total volumes and average selling prices more than compensated for slightly negative currency effects. Sales in the APAC region declined 1.0% to €725 million (previous year: €732 million). A sharp rise in total volumes sold only partially offset the somewhat lower selling price level and moderately negative developments in exchange rates.

Coatings, Adhesives, Specialties Quarterly Sales[1]



Coatings, Adhesives, Specialties Quarterly EBITDA[1]



[1] All prior-year figures have been adjusted to reflect the transfer of the specialty elastomers business from the Polyurethanes segment to the Coatings, Adhesives, Specialties segment as of January 1, 2018.

EBITDA was down 4.5% from the previous year's figure, dropping to €464 million (previous year: €486 million). Higher volumes were unable to fully offset the rise in raw material costs and negative currency effects.

EBIT declined 6.3% to €371 million (previous year: €396 million).

Free operating cash flow decreased 18.5% to €203 million (previous year: €249 million). This was chiefly due to lower EBITDA and an increase in cash tied up in working capital.

14. Results of Operations

Covestro Group Summary Income Statements

	2017	2018	Change
	€ million	€ million	%
Sales	14,138	14,616	+3.4
Cost of goods sold	(9,308)	(9,918)	+6.6
Selling expenses	(1,352)	(1,408)	+4.1
Research and development expenses	(274)	(276)	+0.7
General administration expenses	(481)	(491)	+2.1
Other operating expenses (–) and income (+)	85	57	–32.9
EBIT	**2,808**	**2,580**	**–8.1**
Financial result	**(150)**	**(104)**	**–30.7**
Income before income taxes	**2,658**	**2,476**	**–6.8**
Income taxes	(641)	(647)	+0.9
Income after income taxes	**2,017**	**1,829**	**–9.3**
of which attributable to noncontrolling interest	8	6	–25.0
of which attributable to Covestro AG stockholders (net income)	**2,009**	**1,823**	**–9.3**

Group sales in the reporting year rose 3.4% to €14,616 million (previous year: €14,138 million).

There was a 6.6% increase in the cost of goods sold to €9,918 million (previous year: €9,308 million). The ratio of the cost of goods sold to sales increased to 67.9% (previous year: 65.8%).

Selling expenses were up 4.1% to €1,408 million (previous year: €1,352 million), yielding a ratio of selling expenses to sales of 9.6% (previous year: 9.6%). Research and development (R&D) expenses of €276 million were at the prior-year level (previous year: €274 million). The ratio of R&D expenses to sales was 1.9%, as in the previous year. The assets were used mainly for developing new application solutions for our products and improving products and process technologies. The R&D projects are aligned to sustainability aspects.

General administration expenses saw an increase of 2.1% to €491 million (previous year: €481 million). Other operating income exceeded other operating expenses by €57 million (previous year: €85 million). This development was primarily driven by the proceeds from the sale of the U.S. sheet business in the Polycarbonates segment totaling €36 million.

In the reporting period, EBIT amounted to €2,580 million, down 8.1% (previous year: €2,808 million). As a result, the EBIT margin decreased to 17.7% (previous year: 19.9%).

The financial result of minus €104 million (previous year: minus €150 million) was influenced mainly by the net interest expense of minus €47 million (previous year: minus €99 million). Including the financial result, income before income taxes declined 6.8% to €2,476 million (previous year: €2,658 million). The income tax expense of €647 million hovered around the prior-year level (previous year: €641 million). After taxes and noncontrolling interests, net income was down 9.3% and amounted to €1,823 million (previous year: €2,009 million).

15. Financial Position

Covestro Group Summary Statement of Cash Flows

	4th quarter 2017	4th quarter 2018	2017	2018
	€ million	€ million	€ million	€ million
EBITDA	**879**	**293**	**3,435**	**3,200**
Income taxes paid	(241)	(69)	(510)	(574)
Change in pension provisions	4	8	17	26
(Gains) losses on retirements of noncurrent assets	–	(10)	(45)	(45)
Change in working capital/other noncash items	248	419	(536)	(231)
Cash flows from operating activities	**890**	**641**	**2,361**	**2,376**
Cash outflows for additions to property, plant, equipment and intangible assets	(235)	(278)	(518)	(707)
Free operating cash flow	**655**	**363**	**1,843**	**1,669**
Cash flows from investing activities	**(72)**	**(254)**	**(747)**	**(346)**
Cash flows from financing activities	**(219)**	**(373)**	**(634)**	**(2,402)**
Change in cash and cash equivalents due to business activities	**599**	**14**	**980**	**(372)**
Cash and cash equivalents at beginning of period	**637**	**846**	**267**	**1,232**
Change in cash and cash equivalents due to exchange rate movements	(4)	5	(15)	5
Cash and cash equivalents at end of period	**1,232**	**865**	**1,232**	**865**

At €2,376 million, operating cash flows remained at the previous year's level (previous year: €2,361 million). A decrease in cash tied up in working capital stood in contrast to a decline in EBITDA and increased income tax payments. Due to increased cash outflows for additions to property, plant, equipment and intangible assets, free operating cash flow decreased to €1,669 million (previous year: €1,843 million).

Capital expenditures in 2018 were targeted at plant maintenance and improvement, as well as especially in new capacities for the three segments. The strategically relevant capital expenditures in property, plant and equipment pertained to the expansion of MDI capacities in Brunsbüttel, Germany, and Tarragona, Spain, at Polyurethanes; the expansion of capacities at the site in Shanghai, China, at Polycarbonates; and the expansion of global production capacities for Specialty Films at Coatings, Adhesives, Specialties.

Net cash outflow for investing activities in 2018 totaled €346 million (previous year: €747 million). Cash outflows for additions to property, plant, equipment and intangible assets of €707 million (previous year: €518 million) stood in contrast to net cash provided by current financial assets.

Net cash outflow for the Covestro Group's financing activities in 2018 amounted to €2,402 million (previous year: €634 million). The cash outflows mainly relate to the acquisition of treasury shares in the amount of €1,313 million, the redemption of the first tranche of the bond program totaling €500 million and Covestro AG's dividend distribution of €436 million.

Net Financial Debt

	Dec. 31, 2017	Dec. 31, 2018
	€ million	€ million
Bonds	1,495	996
Liabilities to banks	69	24
Liabilities under finance leases	223	193
Liabilities from derivatives	9	12
Receivables from derivatives	(15)	(12)
Financial liabilities	**1,781**	**1,213**
Cash and cash equivalents	(1,232)	(865)
Current financial assets	(266)	–
Net financial debt	**283**	**348**

Net financial debt increased by €65 million in fiscal 2018 to €348 million (previous year: €283 million). The net cash used in the aforementioned investing and financing activities exceeded the cash flow from operating activities and therefore reduced total cash and equivalents.

Financial management

The main purpose of financial management is to ensure solvency at all times, continuously optimize capital costs and reduce the risks of financing measures. Financial management for the Covestro Group is performed centrally by Covestro AG.

Covestro AG currently holds a Baa1 investment-grade rating with a stable outlook from the rating agency Moody's Investors Service, London (United Kingdom).

Covestro AG operates a Debt Issuance Program as a framework with a total volume of €5,000 million to facilitate obtaining flexible financing from the capital market. The company is thus in the position to issue fixed- and variable-rate bonds as well as to undertake private placements.

Under the program, Covestro AG successfully placed three bonds with a total volume of €1,500 million on March 3, 2016. The bonds comprise two fixed-rate tranches with terms until October 2021 (a coupon of 1.00% and a volume of €500 million) and September 2024 (a coupon of 1.75% and a volume of €500 million). A variable-rate tranche with a volume of €500 million and a coupon of 0.60 percentage points above the three-month Euribor was redeemed in March 2018 as planned. The outstanding bonds are valued at Baa1 by Moody's Investors Service.

The liquidity acquired in this way is intended to be used for general financing needs. Covestro AG agreed a syndicated revolving credit facility with a banking consortium totaling €1,500 million with a term until September 2022. No loans had been drawn against this syndicated credit facility as of December 31, 2018.

The Covestro Group pursues a prudent debt management strategy to ensure flexibility, drawing on a balanced financing portfolio. This portfolio will be based for the most part on bonds, syndicated credit facilities and bilateral loan agreements.

As a company with international operations, Covestro is exposed to financial opportunities and risks. These are continuously monitored within the context of Covestro's financial management activities. Derivative financial instruments are used to minimize risks.

Please see section 21 "Opportunities and Risks Report" for further details of financial opportunities and risks.

16. Net Assets

Covestro Group Summary Statement of Financial Position

	Dec. 31, 2017	Dec. 31, 2018
	€ million	€ million
Noncurrent assets	5,606	5,801
Current assets	5,735	5,283
Total assets	**11,341**	**11,084**
Equity	**5,365**	**5,375**
Noncurrent liabilities	2,885	3,126
Current liabilities	3,091	2,583
Liabilities	**5,976**	**5,709**
Total equity and liabilities	**11,341**	**11,084**

Total assets declined by €257 million compared with December 31, 2017, to €11,084 million as of December 31, 2018 (previous year: €11,341 million).

Noncurrent assets increased by €195 million to €5,801 million (previous year: €5,606 million) and accounted for 52.3% (previous year: 49.4%) of total assets. This change was primarily attributable to the increase in value of property, plant and equipment by €113 million and the growth in deferred taxes by €80 million. Current financial liabilities declined by €452 million to €5,283 million (previous year: €5,735 million) and therefore accounted for 47.7% (previous year: 50.6%) of total assets. This was due mainly to the decline in cash and cash equivalents and other financial assets.

Equity as of December 31, 2018, increased by €10 million to €5,375 million (previous year: €5,365 million). The equity ratio amounted to 48.5% as of the reporting date (previous year: 47.3%). Income after income taxes was sufficient to offset the equity-reducing effects of the acquisition of treasury shares, the dividend distribution and the remeasurement of pension obligations.

Liabilities were down €267 million as of the reporting date, totaling €5,709 million (previous year: €5,976 million). Provisions for pensions and other post-employment benefits increased by €258 million. Noncurrent financial liabilities decreased by €47 million to €1,166 million (previous year: €1,213 million). Current financial liabilities declined by €524 million to €59 million (previous year: €583 million). The key driver here was the redemption of the first tranche of the bond program totaling €500 million.

Net Defined Benefit Liability for Post-Employment Benefits

	Dec. 31, 2017	Dec. 31, 2018
	€ million	€ million
Net defined benefit liability for post-employment benefits	**1,185**	**1,444**

The net defined benefit liability for post-employment benefits (pension obligations less plan assets) increased by €259 million in the reporting year to €1,444 million (previous year: €1,185 million). In this context, pension obligations increased due to the negative performance of the plan assets and to actuarial losses, particularly in Germany on account of adjustments to the mortality tables and a reduction in the discount rate.

17. Alternative Performance Measures

Throughout its financial reporting, Covestro uses alternative performance measures (APMs) to assess the business performance of the Group. These are not defined in the International Financial Reporting Standards (IFRSs). They should be considered a supplement to, not a replacement for, the performance measures determined in accordance with IFRSs. The calculation methods and reconciliation of the non-IFRS sales and earnings APMs to the figures reported in the financial statements are presented below. The calculation methods for the APMs may vary from those of other companies, thus limiting the extent of the overall comparability. These alternative performance measures should not be viewed in isolation or employed as an alternative to the financial indicators determined in accordance with IFRSs and presented in the consolidated financial statements for purposes of assessing Covestro's net assets, financial position and results of operations.

The following are the alternative performance measures relevant to the Covestro Group:

- EBITDA
- Return on capital employed (ROCE)
- Free operating cash flow (FOCF)
- Net financial debt

Covestro uses ROCE to assess profitability in the context of the company's internal management system. EBITDA is also calculated as an additional indicator of profitability. FOCF is a key factor in the presentation of the liquidity position that indicates the company's ability to generate a cash surplus and finance its activities. Net financial debt gauges the Group's financial condition and financing requirements.

EBITDA

EBIT is a measure used in the calculation of EBITDA. EBIT represents the share of the income after income taxes plus financial result and income tax expense attributable to Covestro's core business after elimination of the influence of variable tax rates and/or various financing activities.

Calculation of EBIT

	2017	2018
	€ million	€ million
Sales	**14,138**	**14,616**
Cost of goods sold	(9,308)	(9,918)
Gross profit	**4,830**	**4,698**
Selling expenses	(1,352)	(1,408)
Research and development expenses	(274)	(276)
General administration expenses	(481)	(491)
Other operating income	145	123
Other operating expenses	(60)	(66)
EBIT	**2,808**	**2,580**
Financial result	(150)	(104)
Income before income taxes	**2,658**	**2,476**
Income taxes	(641)	(647)
Income after income taxes	**2,017**	**1,829**

EBITDA is EBIT plus amortization and impairment losses on intangible assets, and depreciation and impairment losses on property, plant and equipment, less impairment loss reversals. In addition, EBITDA is adjusted for possible distortions arising from various depreciation/amortization methods and measurement options, and therefore represents earnings from operating business activities.

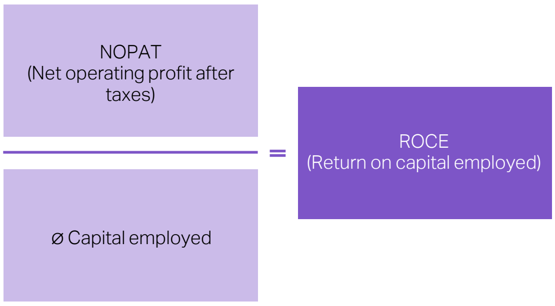
Calculation of EBITDA

	2017	2018
	€ million	€ million
EBIT	**2,808**	**2,580**
Depreciation, amortization, impairment losses and impairment loss reversals	627	620
EBITDA	**3,435**	**3,200**

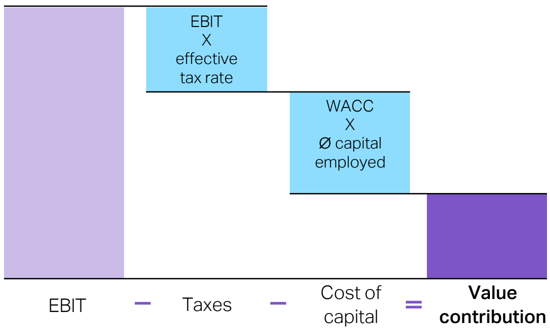
Return on capital employed (ROCE)

The foremost objective of the Covestro Group is to steadily increase enterprise value. Value is generated if Group earnings exceed the cost of capital. Covestro uses return on capital employed (ROCE) as the central value-based management metric. ROCE measures profitability and is calculated as the ratio of EBIT, adjusted for special items as needed, after taxes (NOPAT = net operating profit after taxes) to the average capital employed. If ROCE exceeds the weighted average cost of capital (WACC), the company is earning a premium on its cost of capital.

Calculation of the Return on Capital Employed



Calculation of the Value Contribution



Calculation of average capital employed

The capital employed is the interest-bearing capital required by the company for its operations. It is calculated from operating noncurrent and current assets less non-interest-bearing liabilities. Non-interest-bearing liabilities include, for example, trade accounts payable and current provisions. The average capital employed is determined using the capital employed at the beginning and end of the relevant period.

Calculation of Average Capital Employed

	Dec. 31, 2016/Jan. 01, 2017[1]	Dec. 31, 2017[1]	Effects of IFRS 9 and IFRS 15	Jan. 01, 2018	Dec. 31, 2018
	€ million	€ million	€ million	€ million	€ million
Goodwill	264	253	–	253	256
Other intangible assets	97	81	–	81	77
Property, plant and equipment	4,655	4,296	–	4,296	4,409
Investments accounted for using the equity method	230	208	–	208	214
Other noncurrent financial assets[2]	9	8	–	8	8
Other receivables[3]	341	297	61	358	361
Deferred taxes[4]	187	224	4	228	256
Inventories	1,721	1,913	(33)	1,880	2,213
Trade accounts receivable	1,674	1,882	(18)	1,864	1,786
Claims for income tax refunds	119	138	–	138	55
Gross capital employed	**9,297**	**9,300**	**14**	**9,314**	**9,635**
Other provisions[5]	(886)	(755)	28	(727)	(721)
Other liabilities[6]	(207)	(215)	(65)	(280)	(234)
Deferred tax liabilities[7]	(157)	(160)	(6)	(166)	(153)
Trade accounts payable	(1,536)	(1,618)	37	(1,581)	(1,637)
Income tax liabilities	(73)	(235)	–	(235)	(279)
Capital employed	**6,438**	**6,317**	**8**	**6,325**	**6,611**
Average capital employed		**6,378**			**6,468**

[1] Reference information has not been restated, see note 2.1 "Financial Reporting Standards Applied for the First Time in the Reporting Period."
[2] Other noncurrent financial assets were adjusted for nonoperating and financial assets.
[3] Other receivables were adjusted for nonoperating and financial receivables.
[4] Deferred taxes were adjusted for deferred taxes from defined benefit plans and similar obligations.
[5] Other provisions were adjusted for provisions for interest payments.
[6] Other liabilities were adjusted for nonoperating and financial liabilities.
[7] Deferred tax liabilities were adjusted for deferred tax liabilities from defined benefit plans and similar obligations.

Calculation of the cost of capital

WACC reflects the expected return on the company's capital comprising both equity and debt. The cost of equity factors used in WACC are calculated by addition of the risk-free interest rate and the risk premium for an equity investment. Covestro uses the returns on long-term German government bonds as the risk-free interest rate. We derive this risk premium from capital market information for comparable listed companies. The cost of debt factors are calculated by addition of the risk-free interest rate and a risk premium on debt capital that Covestro calculates using the financing costs of comparable companies, less the tax benefit of interest incurred on borrowed capital. Calculation of the cost of capital generally has a long-term perspective; short-term fluctuations are evened out. The capital cost factor for the Covestro Group was 6.7% in fiscal 2018 (previous year: 6.6%).

Calculation of the net operating profit after taxes (NOPAT) and value contribution

The absolute value generation of the company is measured by the metric value contribution. This is the difference between NOPAT and the cost of capital. The latter is calculated by multiplying the average capital employed by WACC. A positive value contribution means that value has been generated.

NOPAT is the operating result after taxes. Taxes are determined by multiplying the effective tax rate by EBIT.

Calculation of the Net Operating Profit After Taxes and Value Contribution

	2017	2018
	€ million	€ million
EBIT[1]	2,808	2,580
Effective tax rate[2]	24.1%	26.1%
Taxes	(677)	(673)
NOPAT	**2,131**	**1,907**
WACC	6.6%	6.7%
Average capital employed	6,378	6,468
Cost of capital	(421)	(433)
Value contribution	**1,710**	**1,474**
ROCE	**33.4%**	**29.5%**

[1] Adjusted EBITDA is not reported because no income or expense items were recognized as special items either in the reporting period or in the corresponding prior-year period.

[2] The calculation of the effective tax rate is presented in note 11 "Taxes."

Free operating cash flow (FOCF)

FOCF is the operating cash flow less cash outflows for additions to property, plant, equipment and intangible assets. Free operating cash flow serves in particular to pay dividends and interest and to repay debt.

Calculation of Free Operating Cash Flow

	2017	2018
	€ million	€ million
EBITDA	**3,435**	**3,200**
Income taxes paid	(510)	(574)
Change in pension provisions	17	26
(Gains) losses on retirements of noncurrent assets	(45)	(45)
Change in other working capital, other noncash items	(536)	(231)
Operating cash flows	**2,361**	**2,376**
Cash outflows for additions to property, plant, equipment and intangible assets	(518)	(707)
Free operating cash flow	**1,843**	**1,669**

Net financial debt

Net financial debt equals the sum of all financial liabilities less cash and cash equivalents, current financial assets and receivables from financial derivatives.

Net Financial Debt

	Dec. 31, 2017	Dec. 31, 2018
	€ million	€ million
Bonds	1,495	996
Liabilities to banks	69	24
Liabilities under finance leases	223	193
Liabilities from derivatives	9	12
Receivables from derivatives	(15)	(12)
Financial liabilities	**1,781**	**1,213**
Cash and cash equivalents	(1,232)	(865)
Current financial assets	(266)	–
Net financial debt	**283**	**348**

18. Results of Operations, Financial Position and Net Assets of Covestro AG

Covestro AG is the parent company and strategic management holding company of the Covestro Group. The principal management functions for the entire Group are performed by the Board of Management. These include strategic planning for the Group, resource allocation and executive and financial management. Covestro AG's net assets, financial position and results of operations are largely determined by the business performance of its subsidiaries.

The financial statements of Covestro AG are prepared in accordance with the German Commercial Code (HGB) and Stock Corporation Act (AktG). The company, headquartered in Leverkusen (Germany), is registered in the commercial register of the Local Court of Cologne under No. HRB 85281.

There is a control and profit and loss transfer agreement between Covestro AG and Covestro Deutschland AG, Leverkusen. All profit not subject to a prohibition on transfer is transferred in full to Covestro AG at the end of the year, and losses are absorbed in full. Other retained earnings recognized during the term of the agreement must be released upon request by Covestro AG and used to compensate a net loss for the year or transferred as profit.

18.1 Results of Operations

Covestro AG Income Statements according to the German Commercial Code

	2017	2018
	€ million	€ million
Income from investments in affiliated companies	704	745
Interest expense	(14)	(18)
Other financial income	(4)	(6)
Net sales	26	23
Cost of services provided	(27)	(22)
General administration expenses	(64)	(79)
Other operating income	1	25
Other operating expenses	(3)	(1)
Income before income taxes	**619**	**667**
Income taxes	(131)	(171)
Net income	**488**	**496**
Retained earnings brought forward from prior year	–	3
Allocation to other retained earnings	(49)	(60)
Distributable profit	**439**	**439**

Covestro AG's result after tax amounted to €496 million in the 2018 fiscal year, mainly due to income from investments in affiliated companies totaling €745 million. Income from investments in affiliated companies is solely attributable to income from the control and profit and loss transfer agreement with Covestro Deutschland AG.

General administration expenses totaling €79 million mainly consisted of personnel expenses for the employees of the holding company and members of the Board of Management. The year-on-year increase of €15 million is mainly attributable to higher expenses for strategic projects. Other operating income includes primarily income under the existing Contribution, Indemnification and Post-Formation Agreement and income from the reversal of provisions for obligations under this agreement. The interest result includes interest expense of €14 million for the bonds issued. Other income and expense items had no notable effect on earnings. The result of operations was €667 million and led to income taxes of €171 million. Taking into account the profit brought forward from the previous year and an allocation of €60 million to other retained earnings, there was a distributable profit of €439 million.

Our goal for the financial year 2018 is to generate net income that will again enable our stockholders to adequately participate in the Covestro Group's earnings. The Board of Management and the Supervisory Board are proposing a dividend of € 2.40 per share carrying dividend rights for the 2018 fiscal year to the Annual General Meeting. That would amount to a year-on-year increase of € 0.20.

18.2 Net Assets and Financial Position

Covestro AG Statements of Financial Position according to the German Commercial Code

	Dec. 31,2017	Dec. 31,2018
	€ million	€ million
ASSETS		
Noncurrent assets	**1,767**	**1,767**
Intangible assets, property, plant and equipment	1	1
Financial assets	1,766	1,766
Current assets	**5,581**	**3,839**
Trade accounts receivables	19	25
Receivables from affiliated companies	5,505	3,762
Other assets	57	52
Deferred charges	**9**	**7**
Excess of plan assets over pension liability	**13**	**7**
Total assets	**7,370**	**5,620**
EQUITY AND LIABILITIES		
Equity	**5,686**	**4,444**
Capital stock	203	183
Treasury shares	(2)	–
Issued capital	201	183
Capital reserves	4,777	3,493
Other retained earnings	269	329
Distributable profit	439	439
Provisions	**140**	**160**
Provisions for pensions	2	3
Provisions for taxes	79	108
Other provisions	59	49
Liabilities	**1,544**	**1,016**
Bonds	1,500	1,000
Trade accounts payables	7	10
Payables to affiliated companies	31	1
Other liabilities	6	5
Total equity and liabilities	**7,370**	**5,620**

Covestro AG had total assets of €5,620 million as of December 31, 2018. The net assets and financial position of Covestro AG are dominated by its role as a holding company in managing subsidiaries and financing corporate activities. This is primarily reflected in the levels of financial assets (31.4% of total assets) and receivables from (66.9% of total assets), and payables to, Group companies.

Receivables from affiliated companies declined by €1,743 million, mainly due to a corresponding decrease in an intercompany loan to Covestro Deutschland AG.

All receivables and other assets had maturities of less than one year.

Property, plant, equipment and intangible assets were of secondary importance. At €28 million, current other receivables, including deferred income, were also immaterial in relation to total assets. Other assets of €52 million mainly included income tax and VAT receivables.

Covestro AG's equity amounted to €4,444 million (previous year: €5,686 million). This corresponds to an equity ratio of 79.1% (previous year: 77.2%). Changes in equity in fiscal year 2018 chiefly related to share buy-backs and the retirement of 19,500,000 no-par-value shares. In the 2018, Covestro AG acquired 18,260,077 treasury shares at a total cost of €1,310 million (excluding transaction costs). Covestro AG's capital reserves decreased accordingly. On December 3, 2018, the Board of Management had resolved to retire 19,500,000 shares. The Company's Articles of Incorporation were amended accordingly on December 7, 2018. This was set against an allocation of €60 million to retained earnings.

Moreover, the payment of dividends for fiscal 2017 in the amount of €436 million reduced equity.

Equity is set against provisions amounting to €160 million and other liabilities of €1,016 million. The 2016–2018 bond of €500 million was repaid by the due date in March 2018.

Provisions were made up of provisions for pensions and other post-employment benefits (€3 million), tax provisions (€108 million), and other provisions (€49 million). The bonds have the following maturities: €500 million is due for repayment within one to five years and €500 million is due in 2024. All other liabilities are due within one year.