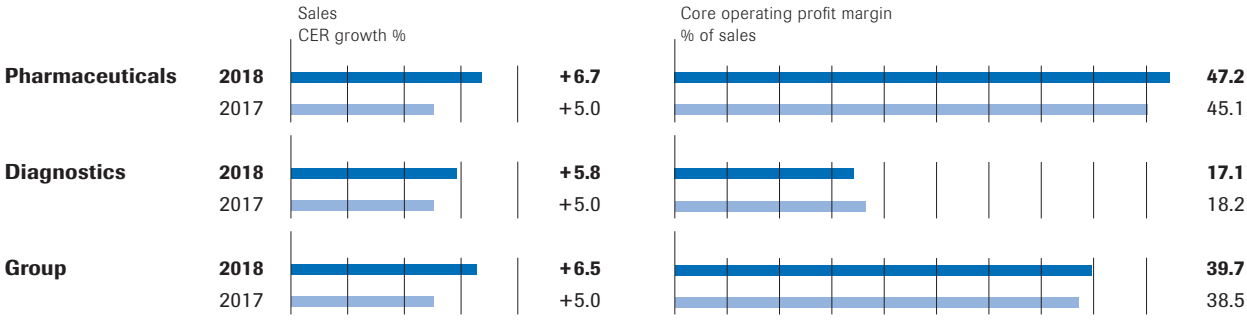
Half-Year Report *2018*

Finance in brief

Key interim results



	Six months ended 30 June 2018 (CHF m)	2017 (CHF m)	% change (CHF)	% change (CER)	% of sales (2018)	% of sales (2017)
IFRS results						
Sales	28,111	26,344	+7	+7		
Operating profit	9,812	7,795	+26	+25	34.9	29.6
Net income	7,516	5,577	+35	+33	26.7	21.2
Net income attributable to Roche shareholders	7,309	5,477	+33	+32	26.0	20.8
Diluted EPS (CHF)	8.51	6.37	+34	+32		
Core results						
Research and development	5,313	5,025	+6	+6	18.9	19.1
Core operating profit	11,162	10,135	+10	+10	39.7	38.5
Core EPS (CHF)	9.84	8.23	+20	+19		
Free cash flow						
Operating free cash flow	8,042	7,589	+6	+7	28.6	28.8
Free cash flow	5,966	5,605	+6	+7	21.2	21.3

	30 June 2018 (CHF m)	31 December 2017 (CHF m)	% change (CHF)	% change (CER)
Net debt	(11,736)	(6,963)	+69	+66
Capitalisation	50,874	47,967	+6	+6
– Debt	20,719	18,960	+9	+8
– Equity	30,155	29,007	+4	+4

CER (Constant Exchange Rates): The percentage changes at Constant Exchange Rates are calculated using simulations by reconsolidating both the 2018 and 2017 results at constant exchange rates (the average rates for the year ended 31 December 2017). For the definition of CER see page 78.

Core results and Core EPS (earnings per share): These exclude non-core items such as global restructuring plans and amortisation and impairment of goodwill and intangible assets. This allows an assessment of both the actual results and the underlying performance of the business. A full income statement for the Group and the operating results of the divisions are shown on both an IFRS and core basis. The core concept is fully described on pages 71–74 and reconciliations between the IFRS and core results are given there.

Free cash flow is used to assess the Group's ability to generate the cash required to conduct and maintain its operations. It also indicates the Group's ability to generate cash to finance dividend payments, repay debt and to undertake merger and acquisition activities. The free cash flow concept is used in the internal management of the business. The free cash flow concept is fully described on pages 74–76 and reconciliations between the IFRS cash flow and free cash flow are given there.

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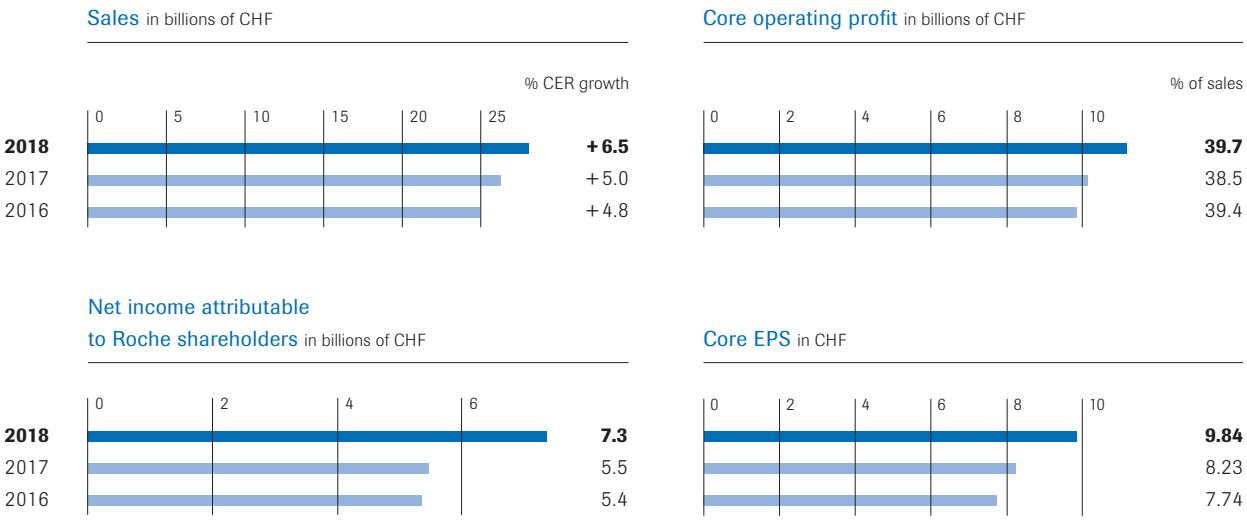
Financial Review

Group results



The Roche Group's results for the first half of 2018 showed sales growth of 7% at constant exchange rates (CER) and core operating profit growth of 10%. Core EPS increased by 19% in part due to the impact of the 2017 US tax reform. The sales growth was driven by the recently launched Pharmaceuticals products Ocrevus, Alecensa and Tecentriq, and by the immunodiagnostics business in the Diagnostics Division. The Group improved its operating profitability while supporting the development and launch of new products. Operating free cash flow was CHF 8.0 billion, an increase of 7%, due to the cash generated from the business.

Sales in the first half of 2018 in the Pharmaceuticals Division rose by 7% to CHF 21.8 billion. The recently launched products Ocrevus, Alecensa and Tecentriq together contributed CHF 1.1 billion at CER to the sales growth, with Ocrevus in particular continuing its strong uptake since being launched. This more than offset the impact of biosimilar competition, notably the CHF 0.4 billion (or 47%) decrease in MabThera/Rituxan sales in Europe. In oncology, HER2 franchise sales increased by 7% to CHF 5.4 billion, led by the 23% increase in Perjeta sales. MabThera/Rituxan sales were CHF 3.5 billion, a decline of 9% due to the biosimilar competition in Europe. Interim sales of Avastin remained stable compared to the previous year at CHF 3.4 billion. Other significant sales growth drivers were Actemra/RoActemra, Lucentis and Xolair. Diagnostics Division sales grew by 6%, with the major growth area being Centralised and Point of Care Solutions where sales increased by 6% led by its immunodiagnostics business.

IFRS operating profit increased by 28% in the Pharmaceuticals Division and by 5% in the Diagnostics Division. Core operating profit increased by 11% in the Pharmaceuticals Division while it remained stable in the Diagnostics Division. In the Pharmaceuticals Division there was higher income from product disposals, while research and development grew by 5%, with continued investments, especially in the oncology area. In the Diagnostics Division research and development increased by 10% due to higher spending in digital clinical decision support, sequencing and Centralised and Point of Care Solutions.

Operating free cash flow was CHF 8.0 billion, an increase of 7% at CER, due to the high cash generation of the business. This was partly offset by a higher increase in net working capital compared to the first half of 2017, driven by a reduction in accounts payable. The free cash flow was CHF 6.0 billion, an increase of CHF 0.4 billion, due to the higher operating free cash flow and lower net cash outflows from treasury activities, which included higher proceeds from sale of equity securities.

Net income increased by 33% at CER on an IFRS basis and by 20% on a core basis. The net financial expenses were lower mainly due to higher net income from equity securities in 2018. In addition to the items described above in the core results, the IFRS results include lower intangible asset impairment charges of CHF 0.3 billion compared to CHF 1.5 billion in the first half of 2017, as well as lower amortisation of intangible assets compared to the previous year. Core EPS increased by 19% at CER driven by the operating results and the impact of the 2017 changes to the US tax rates effective from 1 January 2018. Excluding the impact of the 2017 US tax reform Core EPS increased by 8%.

The results expressed in Swiss francs were positively impacted by the appreciation of the euro against the Swiss franc, partially offset by the stronger Swiss franc against the US dollar. The net impact on the results expressed in Swiss francs compared to constant exchange rates was negligible on sales and core operating profit and there was a 1 percentage point impact on Core EPS.

Income statement

	Six months ended 30 June 2018 (CHF m)	2017 (CHF m)	% change (CHF)	% change (CER)
IFRS results				
Sales	28,111	26,344	+7	+7
Royalties and other operating income	1,416	1,204	+18	+20
Revenue	**29,527**	**27,548**	**+7**	**+7**
Cost of sales	(8,046)	(8,752)	–8	–8
Marketing and distribution	(4,600)	(4,493)	+2	+2
Research and development	(5,612)	(5,605)	0	0
General and administration	(1,457)	(903)	+61	+60
Operating profit	**9,812**	**7,795**	**+26**	**+25**
Financing costs	(383)	(391)	–2	–1
Other financial income (expense)	65	59	+10	+7
Profit before taxes	**9,494**	**7,463**	**+27**	**+26**
Income taxes	(1,978)	(1,886)	+5	+5
Net income	**7,516**	**5,577**	**+35**	**+33**
Attributable to				
– Roche shareholders	7,309	5,477	+33	+32
– Non-controlling interests	207	100	+107	+106
EPS – Basic (CHF)	8.56	6.42	+33	+32
EPS – Diluted (CHF)	8.51	6.37	+34	+32
Core results [1]				
Sales	28,111	26,344	+7	+7
Royalties and other operating income	1,414	1,204	+17	+19
Revenue	**29,525**	**27,548**	**+7**	**+7**
Cost of sales	(7,322)	(6,829)	+7	+8
Marketing and distribution	(4,551)	(4,444)	+2	+2
Research and development	(5,313)	(5,025)	+6	+6
General and administration	(1,177)	(1,115)	+6	+5
Operating profit	**11,162**	**10,135**	**+10**	**+10**
Financing costs	(369)	(386)	–4	–3
Other financial income (expense)	65	52	+25	+23
Profit before taxes	**10,858**	**9,801**	**+11**	**+10**
Income taxes	(2,179)	(2,614)	–17	–16
Net income	**8,679**	**7,187**	**+21**	**+20**
Attributable to				
– Roche shareholders	8,451	7,077	+19	+18
– Non-controlling interests	228	110	+107	+105
Core EPS – Basic (CHF)	9.89	8.30	+19	+18
Core EPS – Diluted (CHF)	9.84	8.23	+20	+19

1) See pages 71–74 for definition of core results and Core EPS.

Sales

In the first half of 2018 sales increased by 7% at CER (+7% in CHF; +10% in USD) to CHF 28.1 billion. Sales in the Pharmaceuticals Division rose 7% to CHF 21.8 billion, driven by growth of CHF 1.1 billion at CER for the recently launched medicines Ocrevus, Alecensa and Tecentriq, as well as by Perjeta, Actemra/RoActemra, Lucentis and Xolair. Sales grew in the US with Ocrevus reaching CHF 0.9 billion sales and the HER2 franchise growing at 15%. MabThera/Rituxan sales were CHF 3.5 billion, a decline of 9% mainly driven by Europe where sales fell by 47% due to the launch of biosimilars in most EU markets. Interim sales of Avastin remained stable at CHF 3.4 billion, with sales growth in the International region offsetting lower sales in the US and in Europe. Herceptin sales were 2% higher, growing at 12% in the US. Lucentis sales grew 16% in the US driven by the launch of prefilled syringes and diabetic retinopathy demand. Biosimilar launches of Herceptin in some European markets and MabThera/Rituxan in Japan did not have a significant impact on interim sales. The decline in Tamiflu sales due to competition from generics was partly offset by a strong flu season in the US. The Diagnostics Division recorded sales of CHF 6.3 billion, an increase of 6% at CER. The major growth area was Centralised and Point of Care Solutions, which represents more than half of the division's sales and which grew by 6%, led by the immunodiagnostics business. Diabetes Care sales increased by 1% driven by growth in Asia-Pacific and North America, with continued challenging market conditions in Europe.

Divisional operating results for the six months ended 30 June 2018

	Pharmaceuticals (CHF m)	Diagnostics (CHF m)	Corporate (CHF m)	Group (CHF m)
Sales	21,847	6,264	–	28,111
Core operating profit	10,301	1,074	(213)	11,162
– margin, % of sales	47.2	17.1	–	39.7
Operating profit	9,310	831	(329)	9,812
– margin, % of sales	42.6	13.3	–	34.9
Operating free cash flow	7,900	429	(287)	8,042
– margin, % of sales	36.2	6.8	–	28.6

Divisional operating results – Development of results compared to the six months ended 30 June 2017

	Pharmaceuticals	Diagnostics	Corporate	Group
Sales				
– % increase at CER	+7	+6	–	+7
Core operating profit				
– % increase at CER	+11	0	+14	+10
– margin: percentage point change	+1.8	–1.0	–	+1.2
Operating profit				
– % increase at CER	+28	+5	+63	+25
– margin: percentage point change	+7.1	–0.1	–	+5.2
Operating free cash flow				
– % increase at CER	+6	+29	+24	+7
– margin: percentage point change	–0.1	+1.0	–	0.0

Core operating results

Core operating profit for the Group increased by 10% at CER driven by the growth in the Pharmaceuticals Division of 11%. Core operating profit for the Diagnostics Division remained stable compared to the previous year.

Pharmaceuticals Division. The division's core operating profit increased by 11% at CER, above the 7% sales increase. In addition to the sales growth translating into operating profit growth, there was increased income from product disposals, mainly by Chugai in Japan. There was increased expenditure on research and development by 5% with continued investments in oncology, neuroscience and immunotherapy, while marketing and distribution costs increased by 1%.

Diagnostics Division. Core operating profit remained stable, despite the sales increase of 6% CER, due to higher spending in research and development in digital clinical decision support, sequencing and Centralised and Point of Care Solutions. Royalty and other operating income decreased due to the base impact of the settlement of a patent dispute in the prior year.

Acquisitions

During the first half of 2018 the Group completed the acquisitions of Ignyta, previously announced in 2017, and Flatiron Health. The total cost of the acquired businesses was CHF 3.4 billion in cash.

On 8 February 2018 the Pharmaceuticals Division acquired a 100% controlling interest in Ignyta, Inc. ('Ignyta') for CHF 1.8 billion. With the acquisition, the Group obtained rights to Ignyta's lead product candidate, entrectinib, an orally bioavailable, CNS-active tyrosine kinase inhibitor that is currently in pivotal phase 2 clinical trial for patients who have tumours that harbour ROS1 or NTRK fusions.

On 5 April 2018 the Pharmaceuticals Division acquired a 100% controlling interest in Flatiron Health, Inc. ('Flatiron Health') for CHF 1.6 billion. Flatiron Health is a market leader in the curation and development of real-world evidence for cancer research as well as oncology-specific electronic health record software.

During the first half of 2018 there was CHF 75 million of non-core income from contingent consideration provisions, mainly due to the reversal of the remaining provision related to the Trophos acquisition from 2015. There were impairment charges of CHF 207 million related to this acquisition, as noted below in the 'Impairment of goodwill and intangible assets' commentary.

On 18 June 2018 the Group entered into a merger agreement with Foundation Medicine, Inc. ('FMI') to acquire the outstanding shares of FMI's common stock not already owned by the Group at a price of USD 137.00 per share in cash. This corresponds to a total transaction value of USD 2.4 billion on a fully diluted basis. FMI is a fully consolidated subsidiary of the Group and at 30 June 2018 the Group's interest in FMI was 56.6%. A tender offer was launched on 2 July 2018 and the closing of the transaction is expected to take place in the second half of 2018, subject to a majority of FMI's outstanding shares not already held by the Group being tendered and other customary conditions. Upon closing the transaction will be accounted for in full as an equity transaction.

Further details are given in Notes 6, 13 and 16 to the Interim Financial Statements.

Global restructuring plans

During the first half of 2018 the Group continued with the implementation of various resourcing flexibility plans initiated in 2017 in its Pharmaceuticals Division to address various future challenges including biosimilar competition. The areas of the plans include biologics manufacturing, commercial operations and product development/strategy. The Group also continued with the implementation of several major global restructuring plans initiated in prior years, notably the strategic realignment of the Pharmaceuticals Division's manufacturing network, and programmes to address long-term strategy in the Diagnostics Division.

Global restructuring plans: costs incurred for the six months ended 30 June 2018 in millions of CHF

	Diagnostics[1]	Site consolidation[2]	Other plans[3]	Total
Global restructuring costs				
– Employee-related costs	61	82	118	261
– Site closure costs	16	46	5	67
– Divestments of products and businesses	(2)	0	0	(2)
– Other reorganisation expenses	37	7	57	101
Total global restructuring costs	**112**	**135**	**180**	**427**
Additional costs				
– Impairment of goodwill	0	0	0	0
– Impairment of intangible assets	0	0	0	0
– Legal and environmental cases	6	14	0	20
Total costs	**118**	**149**	**180**	**447**

1) Includes strategy plans in the Diagnostics Division.
2) Includes the Pharmaceuticals Division's strategic realignment of its manufacturing network and resourcing flexibility in biologics manufacturing network.
3) Includes plans for outsourcing of IT and other functions to shared service centres and external providers.

Diagnostics Division. Strategy plans in the Diagnostics Division that were launched in 2016 incurred costs of CHF 62 million mainly for employee-related costs. Spending on other smaller plans within the division was CHF 56 million and included costs related to a reorganisation in the Molecular Diagnostics business.

Site consolidation. On 12 November 2015 the Pharmaceuticals Division announced a strategic realignment of its manufacturing network. Costs from this plan in the first half of 2018 were CHF 81 million and mainly related to the exit from the manufacturing site at Clarecastle, Ireland. The expected costs of the environmental remediation at the Clarecastle site were reassessed and resulted in an increase in the provisions. Other plans include the resourcing flexibility in the biologics manufacturing network with costs of CHF 46 million.

Other global restructuring plans. The major item was CHF 73 million for plans for the outsourcing of IT and other functions to shared service centres and external providers. Other plans include the resourcing flexibility in the Pharmaceuticals Division, with costs of CHF 55 million and other IT plans totalling CHF 39 million.

Impairment of goodwill and intangible assets

There were impairment charges of CHF 273 million in the Pharmaceuticals Division. The largest item relates to the Trophos acquisition with intangible asset impairment charges (CHF 100 million) due to the decision to stop the development of the compound acquired and a charge of CHF 107 million for the full goodwill write-off from Trophos, which is deemed to have been disposed of. There was a related decrease in the contingent consideration provisions, mainly due to the reversal of the remaining provision related to the Trophos acquisition, which contributed to the income of CHF 75 million noted above in the 'Acquisitions' commentary. Other impairments in the Pharmaceuticals Division totalled CHF 66 million. There were no impairments in the Diagnostics Division. Further details are given in Notes 8, 9 and 16 to the Interim Financial Statements.

Legal and environmental cases

The legal and environmental cases include an increase in provisions of CHF 41 million for litigation matters and CHF 20 million for environmental matters. There were no significant developments in the first half of 2018. Further details are given in Note 10 to the Interim Financial Statements.

Treasury and taxation

Core financing costs were CHF 0.4 billion, a decrease of 3% at CER, due to lower interest expenses. Core other financial income was CHF 65 million, including net income from equity securities of CHF 117 million, partly offset by net foreign exchange losses of CHF 85 million. Core tax expenses decreased by 16% at CER to CHF 2.2 billion and the Group's effective core tax rate decreased to 20.1% compared to 26.7% in the first half of 2017. This was largely due to the impact from the US tax reform which decreased the effective core tax rate by approximately 7 percentage points.

Net income and earnings per share

IFRS net income increased by 35% in CHF terms and by 33% at CER, while the diluted EPS increased by 34% in CHF terms and by 32% at CER. Core net income and Core EPS increased by 20% and 19% at CER, respectively. The core basis excludes non-core items such as global restructuring costs, amortisation and impairment of goodwill and intangible assets, and alliance and business combination costs. Core EPS increased by 8% when excluding the impact of the 2017 changes to the US tax rates effective from 1 January 2018.

Net income

	Six months ended 30 June 2018 (CHF m)	2017 (CHF m)	% change (CHF)	% change (CER)
IFRS net income	**7,516**	**5,577**	**+35**	**+33**
Reconciling items (net of tax)				
– Global restructuring	355	282	+26	+23
– Intangible asset amortisation	522	656	–20	–19
– Goodwill and intangible asset impairment	234	972	–76	–76
– Alliances and business combinations	(45)	(199)	–77	–78
– Legal and environmental cases	61	(104)	–	–
– Normalisation of equity compensation plan tax benefit	36	3	Over +500	Over +500
Core net income	**8,679**	**7,187**	**+21**	**+20**

Supplementary net income and EPS information is given on pages 71 to 74. This includes calculations of Core EPS and reconciles the core results to the Group's published IFRS results.

Financial position

Financial position

	30 June 2018 (CHF m)	31 December 2017 (CHF m)	% change (CHF)	% change (CER)
Pharmaceuticals				
Net working capital	5,203	3,420	+52	+52
Long-term net operating assets	27,373	23,539	+16	+15
Diagnostics				
Net working capital	3,168	2,594	+22	+26
Long-term net operating assets	12,645	12,849	–2	–2
Corporate				
Net working capital	(90)	(119)	–24	–25
Long-term net operating assets	(100)	(178)	–44	–45
Net operating assets	**48,199**	**42,105**	**+14**	**+14**
Net debt	(11,736)	(6,963)	+69	+66
Pensions	(5,860)	(6,620)	–11	–11
Income taxes	(752)	21	–	–
Other non-operating assets, net	304	464	–34	–35
Total net assets	**30,155**	**29,007**	**+4**	**+4**

Compared to the start of the year the Swiss franc depreciated significantly against the Japanese yen and to a lesser degree against the US dollar. This had a positive translation impact on the net operating assets, which was partly offset at Group level by the natural hedge from the Group's US dollar-denominated debt. The appreciation of the Swiss franc against the euro and the Brazilian real during 2018 also had an offsetting impact. The exchange rates used are given on page 29.

In the Pharmaceuticals Division net working capital increased by 52% at CER. There was an increase in trade receivables due to higher sales and extended payment terms for Ocrevus in the US. Payables decreased since the end of 2017 due to the settlement of year-end accounts payable. Inventory level decreases were mainly driven by lower inventory levels for certain mature products. Long-term net operating assets increased by 15% mainly due to the Ignyta and Flatiron Health acquisitions which were completed in the first half of 2018. In the Diagnostics Division the increase in net working capital of 26% at CER was driven by a decrease in trade payables and other receivables/payables following the settlement of year-end positions, including employee benefits. The increase in inventories was due to high demand in emerging markets driving higher purchase of instruments pending installation. Payables decreased since the end of 2017 for similar reasons as described for the Pharmaceuticals Division.

The increase in net debt was due to dividend payments of CHF 7.2 billion and payments for business combinations of CHF 3.2 billion, partly offset by the free cash flow of CHF 6.0 billion. The net pension liability was 11% lower at CHF 5.9 billion due to an increase in discount rates in Switzerland, the US and the UK. The net tax liabilities increased mainly due to the deferred tax effects from the Ignyta and Flatiron Health acquisitions and from the change in net pension liabilities.

Free cash flow

Free cash flow

	Six months ended 30 June 2018 (CHF m)	2017 (CHF m)	% change (CHF)	% change (CER)
Pharmaceuticals	7,900	7,560	+4	+6
Diagnostics	429	260	+65	+29
Corporate	(287)	(231)	+24	+24
Operating free cash flow	**8,042**	**7,589**	**+6**	**+7**
Treasury activities	(228)	(351)	–35	–29
Taxes paid	(1,848)	(1,633)	+13	+15
Free cash flow	**5,966**	**5,605**	**+6**	**+7**

See pages 74–76 for definition of free cash flow.

The Group's operating free cash flow for the first six months of 2018 was CHF 8.0 billion, an increase of 7% at CER. This was due to the high cash generation of the business, with sales growth exceeding the increases in cash expenses. This was partly offset by a higher increase in net working capital compared to the first half of 2017, driven by the reduction in accounts payable. The free cash flow in the first half of 2018 was CHF 6.0 billion, an increase of 7% compared to the first half of 2017. This was due to the higher operating free cash flow and lower net cash outflows from treasury activities, due to higher proceeds from sales of equity securities in 2018.

Pharmaceuticals operating results

Pharmaceuticals Division interim operating results

	2018 (CHF m)	2017 (CHF m)	% change (CHF)	% change (CER)
IFRS results				
Sales	21,847	20,521	+6	+7
Royalties and other operating income	1,375	1,115	+23	+26
Revenue	**23,222**	**21,636**	**+7**	**+8**
Cost of sales	(5,061)	(5,917)	–14	–13
Marketing and distribution	(3,154)	(3,116)	+1	+2
Research and development	(4,862)	(4,943)	–2	–1
General and administration	(835)	(447)	+87	+86
Operating profit	**9,310**	**7,213**	**+29**	**+28**
– margin, % of sales	42.6	35.1	+7.5	+7.1
Core results[1]				
Sales	21,847	20,521	+6	+7
Royalties and other operating income	1,375	1,115	+23	+26
Revenue	**23,222**	**21,636**	**+7**	**+8**
Cost of sales	(4,476)	(4,180)	+7	+9
Marketing and distribution	(3,122)	(3,107)	0	+1
Research and development	(4,598)	(4,383)	+5	+5
General and administration	(725)	(709)	+2	+3
Core operating profit	**10,301**	**9,257**	**+11**	**+11**
– margin, % of sales	47.2	45.1	+2.1	+1.8
Financial position				
Net working capital	5,203	3,420	+52	+52
Long-term net operating assets	27,373	23,539	+16	+15
Net operating assets	**32,576**	**26,959**	**+21**	**+20**
Free cash flow[2]				
Operating free cash flow	7,900	7,560	+4	+6
– margin, % of sales	36.2	36.8	–0.6	–0.1

1) See pages 71–74 for definition of core results.
2) See pages 74–76 for definition of free cash flow.

Sales overview

Pharmaceuticals Division – Interim sales by therapeutic area

	2018 (CHF m)	2017 (CHF m)	% change (CER)	% of sales (2018)	% of sales (2017)
Oncology	13,171	12,995	+1	60.3	63.3
Immunology	3,928	3,739	+6	18.0	18.2
Neuroscience	1,383	526	+164	6.3	2.6
Ophthalmology	818	727	+16	3.7	3.5
Infectious diseases	684	779	–13	3.1	3.8
Other therapeutic areas	1,863	1,755	+7	8.6	8.6
Total sales	**21,847**	**20,521**	**+7**	**100**	**100**

Pharmaceuticals Division sales increased by 7% at CER to CHF 21.8 billion with the growth led by neuroscience, immunology and oncology products. Sales growth was primarily driven by the recently launched medicines Ocrevus, Alecensa and Tecentriq, which contributed CHF 1.1 billion at CER of sales, representing 79% of the division's growth. Ocrevus continued its strong uptake since being launched in the US in April 2017. Alecensa sales grew in all regions, notably in the US. The higher Tecentriq sales were driven mainly by continued uptake in Germany following the launch in September 2017. The HER2 franchise continued to grow, increasing by 7% in the first half of 2018. A main driver of this growth was increased demand for Perjeta in the early-stage adjuvant settings in the US and continued growth in neoadjuvant and metastatic settings in Europe. Herceptin, MabThera/Rituxan and Avastin remained major products with sales of about CHF 3.5 billion each. Herceptin sales were 2% higher, in particular driven by growth in the US, while biosimilar launches of Herceptin in some European markets did not have a significant impact on interim sales. MabThera/Rituxan sales fell in both oncology and immunology following biosimilar launches in Europe. In Japan, the recent biosimilar launches had limited impact on MabThera/Rituxan interim sales, with the main factor of the sales decline being government price cuts. Avastin sales were flat overall, with a decrease in the US being offset by growth in China and Japan. Sales in immunology grew, with Actemra/RoActemra and Xolair increasing by 13% and 10% respectively. Lucentis sales grew 16% in the US driven by the launch of prefilled syringes and growth in all approved indications. Sales of Tarceva fell 32%, primarily due to competitive pressure in the US market. In the US, the decline in Tamiflu sales due to competition from generics was partly offset by a strong flu season.

Product sales

Pharmaceuticals Division – Interim sales

	2018 (CHF m)	2017 (CHF m)	% change (CER)	% of sales (2018)	% of sales (2017)
Oncology					
Herceptin	3,624	3,542	+2	16.6	17.3
Avastin	3,418	3,405	0	15.6	16.6
MabThera/Rituxan [1]	2,705	3,048	–11	12.4	14.9
Perjeta	1,313	1,065	+23	6.0	5.2
Kadcyla	484	443	+9	2.2	2.2
Tecentriq	320	237	+37	1.5	1.2
Tarceva	298	436	–32	1.4	2.1
Alecensa	279	148	+91	1.3	0.7
Xeloda	216	229	–7	1.0	1.1
Gazyva/Gazyvaro	177	133	+32	0.8	0.6
Others	337	309	+12	1.5	1.4
Total Oncology	**13,171**	**12,995**	**+1**	**60.3**	**63.3**
Immunology					
Actemra/RoActemra	1,049	922	+13	4.8	4.5
Xolair	928	866	+10	4.2	4.2
MabThera/Rituxan [1]	749	789	–4	3.4	3.8
Esbriet	472	418	+14	2.2	2.0
Pulmozyme	357	352	+3	1.6	1.7
CellCept	333	346	–6	1.5	1.7
Others	40	46	–30	0.3	0.3
Total Immunology	**3,928**	**3,739**	**+6**	**18.0**	**18.2**
Infectious diseases					
Tamiflu	320	364	–11	1.5	1.8
Rocephin	161	143	+9	0.7	0.7
Others	203	272	–26	0.9	1.3
Total Infectious diseases	**684**	**779**	**–13**	**3.1**	**3.8**
Ophthalmology					
Lucentis	818	727	+16	3.7	3.5
Total Ophthalmology	**818**	**727**	**+16**	**3.7**	**3.5**
Neuroscience					
Ocrevus	1,040	192	+456	4.8	0.9
Madopar	182	163	+9	0.8	0.8
Others	161	171	–7	0.7	0.9
Total Neuroscience	**1,383**	**526**	**+164**	**6.3**	**2.6**
Other therapeutic areas					
Activase/TNKase	652	613	+9	3.0	3.0
Mircera	248	236	+4	1.1	1.2
NeoRecormon/Epogin	149	156	–8	0.7	0.8
Others	814	750	+9	3.8	3.6
Total other therapeutic areas	**1,863**	**1,755**	**+7**	**8.6**	**8.6**
Total sales	**21,847**	**20,521**	**+7**	**100**	**100**

1) Total MabThera/Rituxan sales of CHF 3,454 million (2017: CHF 3,837 million) split between oncology and immunology franchises.

MabThera/Rituxan. For non-Hodgkin lymphoma (NHL), chronic lymphocytic leukaemia (CLL), follicular lymphoma (FL) and rheumatoid arthritis (RA) as well as certain types of antineutrophil cytoplasmic antibody (ANCA) associated vasculitis.

MabThera/Rituxan interim regional sales

	2018 (CHF m)	2017 (CHF m)	% change (CER)	% of sales (2018)	% of sales (2017)
United States	2,127	2,119	+3	61.6	55.2
Europe	525	923	–47	15.2	24.1
Japan	105	137	–23	3.0	3.6
International	697	658	+7	20.2	17.1
Total sales	**3,454**	**3,837**	**–9**	**100**	**100**

Sales were 9% lower, driven by Europe where sales fell by 47% due to the launch of biosimilars in most EU markets. In the US, where MabThera/Rituxan is widely used across nearly all approved indications, sales increased by 3%, with growth in both the immunology and oncology segments, also driven by the subcutaneous formulation. Sales were also higher in the International region, particularly in China (+23%) due to broader market penetration. In Japan sales were adversely affected by government price cuts and, to a limited extent, by the first biosimilar versions which were launched in 2018.

HER2 franchise (Herceptin, Perjeta and Kadcyla). For HER2-positive breast cancer and HER2-positive metastatic (advanced) gastric cancer (Herceptin only).

Herceptin interim regional sales

	2018 (CHF m)	2017 (CHF m)	% change (CER)	% of sales (2018)	% of sales (2017)
United States	1,494	1,374	+12	41.2	38.8
Europe	1,076	1,047	–5	29.7	29.6
Japan	123	143	–15	3.4	4.0
International	931	978	–2	25.7	27.6
Total sales	**3,624**	**3,542**	**+2**	**100**	**100**

Perjeta interim regional sales

	2018 (CHF m)	2017 (CHF m)	% change (CER)	% of sales (2018)	% of sales (2017)
United States	626	507	+27	47.7	47.6
Europe	438	366	+11	33.4	34.4
Japan	63	56	+12	4.8	5.3
International	186	136	+46	14.1	12.7
Total sales	**1,313**	**1,065**	**+23**	**100**	**100**

Kadcyla interim regional sales

	2018 (CHF m)	2017 (CHF m)	% change (CER)	% of sales (2018)	% of sales (2017)
United States	178	171	+7	36.8	38.6
Europe	186	170	+1	38.4	38.4
Japan	35	33	+7	7.2	7.4
International	85	69	+34	17.6	15.6
Total sales	**484**	**443**	**+9**	**100**	**100**

The HER2 franchise grew 7% to CHF 5.4 billion. Herceptin sales were higher by 2%, driven by 12% growth in the US. Factors in the US growth include lower sales reserves on new formulations and longer duration of treatment in combination with Perjeta. Sales of Perjeta grew in all regions following increased demand, notably in early breast cancer adjuvant setting in the US. Kadcyla sales increased in the US and especially in the International region (+34%).

Avastin. For advanced colorectal, breast, lung, kidney, cervical and ovarian cancer, and relapsed glioblastoma (a type of brain tumour).

Avastin interim regional sales

	2018 (CHF m)	2017 (CHF m)	% change (CER)	% of sales (2018)	% of sales (2017)
United States	1,442	1,516	–2	42.2	44.5
Europe	933	881	–2	27.3	25.9
Japan	404	390	+3	11.8	11.5
International	639	618	+6	18.7	18.1
Total sales	**3,418**	**3,405**	**0**	**100**	**100**

Overall sales were in line with prior year. US sales decreased by 2% due to competition from immunotherapy medicines in lung cancer. In Europe sales declined by 2%, mainly driven by France. Sales grew in the International region by 6%, in particular in China where sales increased due to broader market penetration in the lung and colorectal cancer settings. In Japan sales increased by 3% due to steady growth for ovarian cancer.

Actemra/RoActemra. For rheumatoid arthritis (RA), systemic juvenile idiopathic arthritis, polyarticular juvenile idiopathic arthritis and giant cell arteritis.

Actemra/RoActemra interim regional sales

	2018 (CHF m)	2017 (CHF m)	% change (CER)	% of sales (2018)	% of sales (2017)
United States	411	365	+16	39.2	39.6
Europe	347	306	+5	33.1	33.2
Japan	164	140	+16	15.6	15.2
International	127	111	+20	12.1	12.0
Total sales	**1,049**	**922**	**+13**	**100**	**100**

Sales increased by 13%, with growth in all regions, driven by continued uptake of the subcutaneous formulation.

Xolair. For moderate to severe persistent allergic asthma (AA) and chronic idiopathic urticaria (CIU).

Xolair interim regional sales

	2018 (CHF m)	2017 (CHF m)	% change (CER)	% of sales (2018)	% of sales (2017)
United States	928	866	+10	100	100
Total sales	**928**	**866**	**+10**	**100**	**100**

Sales grew by 10%, driven by demand growth in chronic idiopathic urticaria.

Ocrevus. For relapsing forms of multiple sclerosis (RMS) and primary progressive multiple sclerosis (PPMS).

Ocrevus interim regional sales

	2018 (CHF m)	2017 (CHF m)	% change (CER)	% of sales (2018)	% of sales (2017)
United States	939	191	+406	90.3	99.5
Europe	78	0	Over +500	7.5	0
International	23	1	Over +500	2.2	0.5
Total sales	**1,040**	**192**	**+456**	**100**	**100**

Ocrevus was approved for sale by the US Food and Drug Administration (FDA) on 28 March 2017 and has now been approved in more than 60 countries. Since being launched strong demand in both indications has continued.

Lucentis. For wet age-related macular degeneration (wAMD), macular edema following retinal vein occlusion (RVO), diabetic macular edema (DME) and diabetic retinopathy (DR). US sales grew 16% driven by the launch of prefilled syringes and growth in all approved indications.

Activase/TNKase. For acute ischaemic stroke (AIS) and acute myocardial infarction (AMI). Sales were 9% higher, led by the US, and mainly driven by broader use in hospitals and a higher number of patients being treated.

Tecentriq. For metastatic urothelial carcinoma and metastatic non-small cell lung cancer. Sales grew by 37% due to the post-launch uptake in Europe, notably in Germany.

Alecensa. For ALK-positive non-small cell lung cancer. The global uptake continued with a 91% increase in sales across all regions.

Pharmaceuticals Division – Interim sales by region

	2018 (CHF m)	2017 (CHF m)	% change (CER)	% of sales (2018)	% of sales (2017)
United States	11,378	10,185	+15	52.1	49.6
Europe	4,528	4,539	–8	20.7	22.1
Japan	1,781	1,771	0	8.2	8.6
International	4,160	4,026	+5	19.0	19.7
– EEMEA [1)]	*742*	*756*	*+2*	*3.4*	*3.7*
– Latin America	*1,064*	*1,089*	*+8*	*4.9*	*5.3*
– Asia-Pacific	*1,856*	*1,734*	*+4*	*8.5*	*8.4*
– Other regions	*498*	*447*	*+10*	*2.2*	*2.3*
Total sales	**21,847**	**20,521**	**+7**	**100**	**100**

1) Eastern Europe, Middle East and Africa.

United States. Sales grew by 15% led by the continued uptake of Ocrevus, which was launched in April 2017. The HER2 franchise grew 15%, with sales increase of Perjeta in particular in the early breast cancer adjuvant setting as well as sales growth for Herceptin. Lucentis sales increased by 16% following the launch of prefilled syringes and driven by growth in all approved indications. Avastin sales declined 2% due to competition from immunotherapy medicines. Sales of Tamiflu fell by 10% mainly due to competition from generics, partly offset by a strong flu season. Mandatory discounts to hospitals under the 340B Drug Discount Program increased due to higher sales, notably for Ocrevus and oncology products.

Europe. Sales declined 8% due to increasing biosimilar penetration in most EU markets, notably in Germany, France and the UK. This negative impact on sales was partly offset by the launches of Ocrevus, Tecentriq and Alecensa, in particular in Germany. Perjeta sales also continued to grow, mostly in the metastatic and neoadjuvant setting. Actemra/RoActemra sales increased due to continued uptake of the subcutaneous formulation.

Japan. Interim sales were in line with the first half of 2017 despite the government price cuts which had a negative effect on sales of approximately 4%. The main growth drivers included Actemra/RoActemra (+16%), Alecensa (+32%) and Tecentriq, which was launched in 2018. This was offset by lower sales of MabThera/Rituxan (–23%) and Herceptin (–15%), which were both negatively affected by the government price cuts in 2018.

International. Sales increased by 5% driven by the Asia-Pacific and Latin America subregions. Sales in China grew due to broader market penetration for Avastin and MabThera/Rituxan, while sales of Herceptin declined due to price reductions. Sales in Brazil were higher mainly due to higher sales of Perjeta and MabThera/Rituxan. In both Russia and Turkey, sales growth was driven by higher sales across the HER2 franchise.

Pharmaceuticals Division – Interim sales for E7 leading emerging markets

	2018 (CHF m)	2017 (CHF m)	% change (CER)	% of sales (2018)	% of sales (2017)
Brazil	497	511	+8	2.3	2.5
China	1,031	912	+9	4.8	4.5
India	32	34	–2	0.1	0.2
Mexico	123	129	–4	0.6	0.6
Russia	68	30	+141	0.3	0.1
South Korea	162	184	–15	0.7	0.9
Turkey	153	146	+21	0.7	0.7
Total sales	**2,066**	**1,946**	**+8**	**9.5**	**9.5**

Competition from generic medicines and biosimilars. The introduction of a generic, biosimilar or non-comparable biologic version of the same or a similar medicine typically results in a significant reduction in net sales for the relevant product, as other manufacturers typically offer their versions at lower prices.

2018 interim product sales affected by recent patent expiry

	2018 (CHF m)	2017 (CHF m)	% change (CER)	Comment
Tamiflu	320	364	–11	Patent expiry in US and other major markets in 2016

The decline in Tamiflu sales due to competition from generic medicines was partly offset by a strong flu season in the US in early 2018.

The intellectual property for biologics can involve multiple patents and patent timelines for each individual product and therefore it is more difficult to give an exact date for patent expiry for biologic medicines. The Group currently estimates that some basic, primary patents for its major biologic medicines will begin to expire as follows:

- MabThera/Rituxan: from around mid-2018 in the US.
- Herceptin: from around mid-2019 in the US.
- Avastin: from around mid-2019 in the US and from around 2020 in the EU.
- Subcutaneous formulations of MabThera/Rituxan and Herceptin: beyond 2025 (secondary patent rights).

The 'composition of matter' patents for MabThera/Rituxan and Herceptin in the EU have expired. The first biosimilar versions of MabThera/Rituxan have been launched in most EU markets since mid-2017 and these were the major driver in the sales decline of this product in Europe in the first half of 2018. The first biosimilar versions of Herceptin were launched in several EU markets during the second quarter of 2018. However, these did not have a significant impact on interim sales for 2018. In Japan, the first biosimilar versions of MabThera/Rituxan were launched in 2018 and sales were also adversely affected by government price cuts.

2018 interim product sales affected by biosimilar launches

	2018 (CHF m)	2017 (CHF m)	% change (CER)	Comment
MabThera/Rituxan – Europe	525	923	–47	First biosimilar launches from mid-2017
Herceptin – Europe	1,076	1,047	–5	First biosimilar launches from mid-2018
MabThera/Rituxan – Japan	105	137	–23	First biosimilar launches from early 2018

Based on publicly available information from competitor companies, the Group currently anticipates the following further potential developments in 2018:

- In the US, there are still many uncertainties about when specific biosimilar versions of the Group's biologic medicines will be approved by the Food and Drug Administration. The first biosimilar versions of MabThera/Rituxan could come to market in the US around the beginning of 2019.
- In Japan, the first biosimilar version of Herceptin has been approved for only gastric cancer, and is expected to launch in the second half of 2018.

Sales in the interim period, including regional breakdowns, for MabThera/Rituxan, Herceptin and Avastin are disclosed above in the previous sections.

The Group derives royalty income from US Patent No. 6,331,415 (known as the Cabilly patent). This patent expires in December 2018 and therefore, while there will be certain residual income after the expiry, the Group expects that royalty income in 2019 will be significantly lower than in 2018. Annual royalty income in 2017 from the Cabilly patent was CHF 834 million.

Operating results

Pharmaceuticals Division – Royalties and other operating income for the six months ended 30 June

	2018 (CHF m)	2017 (CHF m)	% change (CER)
Royalty income	813	749	+12
Income from out-licensing agreements	119	45	+160
Income from disposal of products and other	443	321	+38
Total – IFRS and Core basis	**1,375**	**1,115**	**+26**

Royalties and other operating income increased by 26% at CER. Royalty income was 12% higher due to a net increase in sales across the royalty portfolio. There was income of CHF 82 million from sale of the worldwide rights for Konakion and Cymevene (excluding Brazil) and in Japan there was CHF 209 million of other operating income, mainly from the sale of the rights for established products by Chugai.

Pharmaceuticals Division – Cost of sales for the six months ended 30 June

	2018 (CHF m)	2017 (CHF m)	% change (CER)
Manufacturing cost of goods sold and period costs	(2,760)	(2,708)	+3
Royalty expenses	(504)	(338)	+50
Collaboration and profit-sharing agreements	(1,189)	(1,147)	+6
Impairment of property, plant and equipment	(23)	13	–
Cost of sales – Core basis	**(4,476)**	**(4,180)**	**+9**
Global restructuring plans	(113)	(81)	+34
Amortisation of intangible assets	(472)	(678)	–29
Impairment of intangible assets	0	(978)	–100
Total – IFRS basis	**(5,061)**	**(5,917)**	**–13**

Core costs increased by 9% at CER. As a percentage of sales, cost of sales increased by 0.2 percentage points to 20.5%. Manufacturing cost of sales grew by 3%, below the sales growth of 7%, due to efficiency improvements, product mix and lower inventory write-offs. Royalty expenses were 50% higher due to increased sales for certain products, notably Ocrevus. Non-core costs include the amortisation of intangible assets, mainly related to the Esbriet product intangibles acquired in the InterMune acquisition of 2014. The 2017 results additionally included CHF 978 million of impairment of these Esbriet intangibles.

Pharmaceuticals Division – Marketing and distribution for the six months ended 30 June

	2018 (CHF m)	2017 (CHF m)	% change (CER)
Marketing and distribution – Core basis	**(3,122)**	**(3,107)**	**+1**
Global restructuring plans	(20)	(6)	+327
Amortisation of intangible assets	(12)	(3)	+334
Total – IFRS basis	**(3,154)**	**(3,116)**	**+2**

Core costs increased by 1% at CER. As a percentage of sales, they decreased to 14.3% from 15.1% in the comparative period. Costs were incurred to ensure increased patient access and for the launches of Ocrevus, Tecentriq and other products.

Pharmaceuticals Division – Research and development for the six months ended 30 June

	2018 (CHF m)	2017 (CHF m)	% change (CER)
Research and development – Core basis	**(4,598)**	**(4,383)**	**+5**
Global restructuring plans	(40)	1	–
Amortisation of intangible assets	(58)	(64)	–6
Impairment of intangible assets	(166)	(497)	–66
Total – IFRS basis	**(4,862)**	**(4,943)**	**–1**

Core costs increased by 5% at CER and, as a percentage of sales decreased by 0.4 percentage points to 21.0%. The oncology franchise remained the primary area of research and development with Tecentriq and the cancer immunotherapy portfolio being a key driver. Neuroscience and immunology also represent significant areas of spending. In addition, the Pharmaceuticals Division in-licensed pipeline compounds and technologies with a total value of CHF 270 million, which are capitalised as intangible assets. The impairment charges of CHF 166 million include CHF 100 million due to the decision to stop the development of the compound acquired as part of the Trophos acquisition.

Pharmaceuticals Division – General and administration for the six months ended 30 June

	2018 (CHF m)	2017 (CHF m)	% change (CER)
Administration	(644)	(577)	+13
Pensions – Past service costs	31	0	–
Gains (losses) on disposal of property, plant and equipment	(2)	0	–
Business taxes and capital taxes	(129)	(169)	–23
Other general items	19	37	–41
General and administration – Core basis	**(725)**	**(709)**	**+3**
Global restructuring plans	(26)	(118)	–77
Impairment of intangible assets	(107)	0	–
Alliances and business combinations	41	186	–78
Legal and environmental cases	(18)	194	–
Total – IFRS basis	**(835)**	**(447)**	**+86**

Core costs increased by 3% at CER and, as a percentage of sales, decreased to 3.3% from 3.5%. Business taxes and capital taxes declined by 23%, primarily due to decreased costs for the US Branded Prescription Drug Fee. Administration costs were higher mainly due to higher legal service costs. The alliance and business combination income includes the reversal of the remaining contingent consideration provision related to the Trophos acquisition in 2015. In 2017 income of CHF 204 million arose from the release of legal provisions, notably the Accutane case. The impairment charges relate to the full write-off of goodwill from the Trophos acquisition, which is deemed to have been disposed of.

Roche Pharmaceuticals and Chugai subdivisional operating results

Pharmaceuticals subdivisional interim operating results in millions of CHF

	Roche Pharmaceuticals		Chugai		Pharmaceuticals Division	
	2018	2017	2018	2017	2018	2017
Sales						
– External customers	20,066	18,750	1,781	1,771	21,847	20,521
– Within division	686	686	491	326	1,177	1,012
Core operating profit	9,676	8,928	696	436	10,301	9,257
– margin, % of sales to external customers	48.2	47.6	39.1	24.6	47.2	45.1
Operating profit	8,727	6,901	654	419	9,310	7,213
– margin, % of sales to external customers	43.5	36.8	36.7	23.7	42.6	35.1
Operating free cash flow	7,313	7,203	587	357	7,900	7,560
– margin, % of sales to external customers	36.4	38.4	33.0	20.2	36.2	36.8

Pharmaceuticals Division total core operating profit and operating profit both include the elimination of minus CHF 71 million of unrealised intercompany gains between Roche Pharmaceuticals and Chugai (2017: minus CHF 107 million).

The increase in the exchange rate of the Japanese yen has a positive impact of approximately 1% on the Chugai results when expressed in Swiss francs for the Group's consolidated results. At CER (as reported in Japanese yen), sales by Chugai to external customers were in line with the comparative period while sales within the division increased by 50%. Chugai core operating profit increased by 59% due to income from the divestment of established products and higher gross profit from sales within the division. This was partially offset by higher research and development costs and higher marketing and distribution costs. Operating free cash flow at Chugai increased by CHF 230 million due to higher operating profit, driven by the gain on the product divestment.

Financial position

Pharmaceuticals Division – Net operating assets

	30 June 2018 (CHF m)	31 Dec. 2017 (CHF m)	% change (CHF)	% change (CER)	Movement: Transactions (CHF m)	Movement: CTA (CHF m)
Trade receivables	7,499	6,569	+14	+14	922	8
Inventories	4,903	5,126	–4	–5	(258)	35
Trade payables	(1,337)	(1,765)	–24	–25	430	(2)
Net trade working capital	**11,065**	**9,930**	**+11**	**+11**	**1,094**	**41**
Other receivables/(payables)	(5,862)	(6,510)	–10	–11	719	(71)
Net working capital	**5,203**	**3,420**	**+52**	**+52**	**1,813**	**(30)**
Property, plant and equipment	14,590	14,358	+2	+1	92	140
Goodwill and intangible assets	14,780	11,196	+32	+30	3,231	353
Provisions	(2,478)	(2,449)	+1	+1	(18)	(11)
Other long-term assets, net	481	434	+11	+9	41	6
Long-term net operating assets	**27,373**	**23,539**	**+16**	**+15**	**3,346**	**488**
Net operating assets	**32,576**	**26,959**	**+21**	**+20**	**5,159**	**458**

The absolute amount of the movement between the 30 June 2018 and 31 December 2017 consolidated balances reported in Swiss francs is split between actual 2018 transactions (translated at average rates for 2017) and the currency translation adjustment (CTA) that arises on consolidation. The 2018 transactions include non-cash movements and therefore the movements in this table are not the same as the amounts shown in the operating free cash flow (which only includes the cash movements). A full consolidated balance sheet is given on page 41 of the Interim Financial Statements, and a reconciliation between that balance sheet and the information given above is on page 77.

Currency translation effects on balance sheet amounts. Compared to the start of the year the Swiss franc depreciated significantly against the Japanese yen and to a lesser degree against the US dollar, resulting in a positive translation impact on net operating assets which was partly offset by the appreciation of the Swiss franc against the Brazilian real. The exchange rates used are given on page 29.

Net working capital. Net working capital increased by 52%, mainly due to higher trade receivables and a lower net liability for other receivables/payables. Trade receivables were higher due to higher sales and due to extended payment terms for Ocrevus in the US. Inventories decreased due to lower inventory levels for certain mature products. Trade payables were lower due to the settlement of year-end positions. The net liability for other receivables/payables decreased following the settlement of the relatively high accruals recorded at the end of 2017. Other accrued liabilities in 2017 also included CHF 261 million for the Genentech property purchase option exercise obligation, which was paid during the first half of 2018.

Long-term net operating assets. Overall long-term net operating assets increased by 15%. Goodwill and intangible assets increased due to the acquisitions of Ignyta and Flatiron Health. Capital expenditure includes manufacturing investments in Switzerland, the US, Germany and by Chugai in Japan. Investments in site development were made at the Basel/Kaiseraugst site in Switzerland and at the South San Francisco campus in the US.

Free cash flow

Pharmaceuticals Division – Operating free cash flow for the six months ended 30 June

	2018 (CHF m)	2017 (CHF m)	% change (CHF)	% change (CER)
Operating profit	**9,310**	**7,213**	**+29**	**+28**
– Depreciation, amortisation and impairment	1,392	2,892	–52	–52
– Provisions	22	(584)	–	–
– Equity compensation plans	181	175	+3	+6
– Other	38	200	–	–
Operating profit cash adjustments	**1,633**	**2,683**	**–39**	**–34**
Operating profit, net of operating cash adjustments	**10,943**	**9,896**	**+11**	**+12**
(Increase) decrease in net working capital	(1,652)	(1,091)	+51	+50
Investments in property, plant and equipment	(1,134)	(987)	+15	+15
Investments in intangible assets	(257)	(258)	0	0
Operating free cash flow	**7,900**	**7,560**	**+4**	**+6**
– as % of sales	36.2	36.8	–0.6	–0.1

See pages 74–76 for definition of free cash flow and a detailed breakdown.

The Pharmaceuticals Division's operating free cash flow increased by 6% at CER to CHF 7.9 billion. The main contribution came from operating profit, net of operating cash adjustments, with an increase of 12%. Net working capital absorbed an additional CHF 1.7 billion of cash, largely driven by lower payables, for the reasons described above in the 'Financial Position' section. Capital expenditure was higher due to the final payment of the Genentech property lease option exercise. Investments in intangible assets were in line with 2017.

Diagnostics operating results

Diagnostics Division interim operating results

	2018 (CHF m)	2017 (CHF m)	% change (CHF)	% change (CER)
IFRS results				
Sales	6,264	5,823	+8	+6
Royalties and other operating income	41	89	–54	–54
Revenue	**6,305**	**5,912**	**+7**	**+5**
Cost of sales	(2,985)	(2,835)	+5	+3
Marketing and distribution	(1,446)	(1,377)	+5	+3
Research and development	(750)	(662)	+13	+12
General and administration	(293)	(258)	+14	+12
Operating profit	**831**	**780**	**+7**	**+5**
– margin, % of sales	13.3	13.4	–0.1	–0.1
Core results[1]				
Sales	6,264	5,823	+8	+6
Royalties and other operating income	39	89	–56	–56
Revenue	**6,303**	**5,912**	**+7**	**+5**
Cost of sales	(2,846)	(2,649)	+7	+5
Marketing and distribution	(1,429)	(1,337)	+7	+5
Research and development	(715)	(642)	+11	+10
General and administration	(239)	(225)	+6	+4
Core operating profit	**1,074**	**1,059**	**+1**	**0**
– margin, % of sales	17.1	18.2	–1.1	–1.0
Financial position				
Net working capital	3,168	2,594	+22	+26
Long-term net operating assets	12,645	12,849	–2	–2
Net operating assets	**15,813**	**15,443**	**+2**	**+3**
Free cash flow[2]				
Operating free cash flow	429	260	+65	+29
– margin, % of sales	6.8	4.5	+2.3	+1.0

1) See pages 71–74 for definition of core results.
2) See pages 74–76 for definition of free cash flow.

Sales

The Diagnostics Division continued to increase sales with growth of 6% at CER to CHF 6.3 billion. Centralised and Point of Care Solutions, with 6% sales growth, was the main contributor, led by its immunodiagnostics business. Diabetes Care sales increased by 1% driven by growth in Asia-Pacific and North America, with continued challenging market conditions in Europe. Molecular Diagnostics sales increased by 5%, with growth of 6% in the underlying molecular business due to the cobas Liat system, women's health testing (HPV, human papillomavirus) and virology businesses. The 11% growth in Tissue Diagnostics was driven by the advanced staining product portfolio.

Diagnostics Division – Interim sales by business area

	2018 (CHF m)	2017 (CHF m)	% change (CER)	% of sales (2018)	% of sales (2017)
Centralised and Point of Care Solutions	3,755	3,456	+6	60.0	59.4
Diabetes Care	991	962	+1	15.8	16.5
Molecular Diagnostics	979	920	+5	15.6	15.8
Tissue Diagnostics	539	485	+11	8.6	8.3
Total sales	**6,264**	**5,823**	**+6**	**100**	**100**

Centralised and Point of Care Solutions. With an increase in sales of 6%, the business area was the major contributor to the divisional performance, with growth being primarily driven by the immunodiagnostics business (+9%), which now represents 32% of divisional sales. Sales growth was also supported by the clinical chemistry business (+5%). The Centralised and Point of Care Solutions business is growing especially in Asia-Pacific (+15%) due to sales growth in China, as well as in North America (+6%), driven by the US.

Diabetes Care. Sales increased by 1%, driven by Asia-Pacific (+11%) and North America (+9%). Sales growth mainly comes from Accu-Chek Guide and Accu-Chek Instant. In the Europe, Middle East and Africa (EMEA) region sales decreased by 5%, mainly resulting from a sales decrease in France due to competition and lower sales in Algeria.

Molecular Diagnostics. Overall sales rose by 5%, with 6% growth in the underlying molecular business and a decrease in the sequencing business. The growth in the molecular business sales came from the cobas Liat system, women's health testing (HPV, human papillomavirus) and virology businesses. Regional growth was led by North America (+6%) and EMEA (+5%), notably South Africa.

Tissue Diagnostics. Sales rose by 11%, driven by 12% growth in the advanced staining portfolio, which is the main contributor of the sales in Tissue Diagnostics. In addition, sales increased by 16% in the primary staining business. Regionally, growth was led by North America (+10%) and EMEA (+11%). Asia-Pacific sales increased by 23%, with China being the main growth market.

Diagnostics Division – Interim sales by region

	2018 (CHF m)	2017 (CHF m)	% change (CER)	% of sales (2018)	% of sales (2017)
Europe, Middle East and Africa (EMEA)	2,492	2,330	+1	39.8	40.0
Asia-Pacific	1,573	1,341	+14	25.1	23.0
North America	1,570	1,507	+7	25.1	25.9
Latin America	413	425	+6	6.6	7.3
Japan	216	220	–2	3.4	3.8
Total sales	**6,264**	**5,823**	**+6**	**100**	**100**

In the EMEA region, the division's largest market, the main driver of the sales increase was Centralised and Point of Care Solutions. In North America, sales increase was spread over all the business areas. The sales increase in Asia-Pacific was mainly in China, which grew by 16% driven by Centralised and Point of Care Solutions. Sales in Latin America rose by 6% mainly driven by Diabetes Care and Molecular Diagnostics. Japan sales decreased by 2% due to lower instrument and reagent sales in Molecular Diagnostics.

Diagnostics Division – Interim sales for E7 leading emerging markets

	2018 (CHF m)	2017 (CHF m)	% change (CER)	% of sales (2018)	% of sales (2017)
Brazil	124	149	–8	2.0	2.6
China	1,028	851	+16	16.3	14.7
India	88	77	+17	1.4	1.3
Mexico	60	48	+26	1.0	0.8
Russia	80	66	+27	1.3	1.1
South Korea	110	98	+9	1.8	1.7
Turkey	64	61	+20	1.0	1.0
Total sales	**1,554**	**1,350**	**+14**	**24.8**	**23.2**

Operating results

Diagnostics Division – Royalties and other operating income for the six months ended 30 June

	2018 (CHF m)	2017 (CHF m)	% change (CER)
Royalty income	30	53	–46
Income from out-licensing agreements	2	28	–92
Income from disposal of products and other	7	8	–4
Total – Core basis	**39**	**89**	**–56**
Global restructuring plans	2	0	–
Total – IFRS basis	**41**	**89**	**–54**

Royalty income was lower due to the expiry in late 2017 of royalty-bearing patents in PCR (Polymerase Chain Reaction). The decrease in out-licensing income was due to the base impact of the settlement of a patent dispute in the prior year.

Diagnostics Division – Cost of sales for the six months ended 30 June

	2018 (CHF m)	2017 (CHF m)	% change (CER)
Manufacturing cost of goods sold and period costs	(2,750)	(2,566)	+5
Royalty expenses	(96)	(83)	+15
Cost of sales – Core basis	**(2,846)**	**(2,649)**	**+5**
Global restructuring plans	(64)	(30)	+99
Amortisation of intangible assets	(75)	(156)	–51
Total – IFRS basis	**(2,985)**	**(2,835)**	**+3**

Core costs increased by 5% at CER, below the sales growth of 6%. This was in part due to lower costs from external suppliers. The core cost of sales ratio increased by 0.1 percentage points to 45.5%. Global restructuring costs were mainly due to Diagnostics strategy plans.

Diagnostics Division – Marketing and distribution for the six months ended 30 June

	2018 (CHF m)	2017 (CHF m)	% change (CER)
Marketing and distribution – Core basis	**(1,429)**	**(1,337)**	**+5**
Global restructuring plans	(15)	(40)	–65
Amortisation of intangible assets	(2)	0	–
Total – IFRS basis	**(1,446)**	**(1,377)**	**+3**

Core costs increased by 5% at CER, primarily due to increased spending in the Asia-Pacific and EMEA regions and in Solution Integration & Services. On a core basis, marketing and distribution costs as a percentage of sales decreased slightly to 22.8% compared to 23.0% in 2017. Global restructuring costs consisted of organisational changes in Diabetes Care.

Diagnostics Division – Research and development for the six months ended 30 June

	2018 (CHF m)	2017 (CHF m)	% change (CER)
Research and development – Core basis	**(715)**	**(642)**	**+10**
Global restructuring plans	(26)	(15)	+82
Amortisation of intangible assets	(9)	(5)	+71
Total – IFRS basis	**(750)**	**(662)**	**+12**

Core costs increased by 10% at CER, due to increased spending in development projects, notably increased headcount for Diagnostics Information Solutions projects and the General Electric collaboration to develop digital clinical decision support products. There was also increased spending in the sequencing business as well as in the Centralised and Point of Care Solutions portfolio in high/mid-volume systems. As a percentage of sales, research and development core costs increased to 11.4% from 11.0% in 2017. Global restructuring costs were due to Diagnostics strategy plans.

Diagnostics Division – General and administration for the six months ended 30 June

	2018 (CHF m)	2017 (CHF m)	% change (CER)
Administration	(270)	(247)	+7
Pensions – Past service costs	7	0	–
Business taxes and capital taxes	(8)	8	–
Other general items	32	14	+121
General and administration – Core basis	**(239)**	**(225)**	**+4**
Global restructuring plans	(9)	(16)	–45
Alliances and business combinations	5	11	–57
Legal and environmental cases	(50)	(28)	+83
Total – IFRS basis	**(293)**	**(258)**	**+12**

Core costs increased by 4% at CER compared to 2017, mainly due to the 7% increase in administration costs. The main drivers in this increase are higher personnel costs and integration expenses of recently acquired businesses, such as Viewics and mySugr. Business taxes in 2017 included an income from a settlement agreement for the Medical Device Excise Tax in the US. As a percentage of sales, core costs decreased to 3.8% from 3.9% in 2017.

Financial position

Diagnostics Division – Net operating assets

	30 June 2018 (CHF m)	31 Dec. 2017 (CHF m)	% change (CHF)	% change (CER)	Movement: Transactions (CHF m)	Movement: CTA (CHF m)
Trade receivables	3,055	3,137	–3	–1	(33)	(49)
Inventories	2,414	2,280	+6	+8	164	(30)
Trade payables	(839)	(1,007)	–17	–16	165	3
Net trade working capital	**4,630**	**4,410**	**+5**	**+7**	**296**	**(76)**
Other receivables/(payables)	(1,462)	(1,816)	–19	–20	366	(12)
Net working capital	**3,168**	**2,594**	**+22**	**+26**	**662**	**(88)**
Property, plant and equipment	6,381	6,431	–1	0	(9)	(41)
Goodwill and intangible assets	7,241	7,249	0	–1	(85)	77
Provisions	(949)	(842)	+13	+12	(100)	(7)
Other long-term assets, net	(28)	11	–355	–317	(40)	1
Long-term net operating assets	**12,645**	**12,849**	**–2**	**–2**	**(234)**	**30**
Net operating assets	**15,813**	**15,443**	**+2**	**+3**	**428**	**(58)**

The absolute amount of the movement between the 30 June 2018 and 31 December 2017 consolidated balances reported in Swiss francs is split between actual 2018 transactions (translated at average rates for 2017) and the currency translation adjustment (CTA) that arises on consolidation. The 2018 transactions include non-cash movements and therefore the movements in this table are not the same as the amounts shown in the operating free cash flow (which only includes the cash movements). A full consolidated balance sheet is given on page 41 of the Interim Financial Statements, and a reconciliation between that balance sheet and the information given above is on page 77.

Currency translation effects on balance sheet amounts. Compared to the start of the year the Swiss franc depreciated against the US dollar, resulting in a positive translation impact on net operating assets. This was offset by the appreciation of the Swiss franc against the euro. The Diagnostics Division does not have a significant net asset position in Japanese yen and so the depreciation of the Swiss franc against the Japanese yen had only a minor impact. The exchange rates used are given on page 29.

Net working capital. Net working capital increased by 26% at CER. Trade receivables decreased by 1% due to settlement of the high receivables balances at the end of 2017 and due to good collections in general. Inventories increased by 8% due to high demand in emerging markets driving higher purchase of instruments pending installation. Trade payables decreased by 16% compared to the start of the year following the settlement of year-end positions. The decrease in net liability for other receivables/payables since the end of 2017 was the result of settlement of significant year-end accounts payable and accruals, including employee benefits.

Long-term net operating assets. Overall long-term net operating assets decreased by 2% at CER, mainly triggered by the increase of provisions for restructuring and litigation cases. The 1% decrease in goodwill and intangible assets was a result of regular amortisation of intangible assets. Capital expenditure relates to manufacturing site development in China and Germany.

Free cash flow

Diagnostics Division – Operating free cash flow for the six months ended 30 June

	2018 (CHF m)	2017 (CHF m)	% change (CHF)	% change (CER)
Operating profit	**831**	**780**	**+7**	**+5**
– Depreciation, amortisation and impairment	630	659	–4	–7
– Provisions	100	(10)	–	–
– Equity compensation plans	35	32	+9	+10
– Other	102	79	+29	+33
Operating profit cash adjustments	**867**	**760**	**+14**	**+12**
Operating profit, net of operating cash adjustments	**1,698**	**1,540**	**+10**	**+9**
(Increase) decrease in net working capital	(708)	(629)	+13	+26
Investments in property, plant and equipment	(559)	(627)	–11	–14
Investments in intangible assets	(2)	(24)	–92	–93
Operating free cash flow	**429**	**260**	**+65**	**+29**
– as % of sales	6.8	4.5	+2.3	+1.0

See pages 74–76 for definition of free cash flow and a detailed breakdown.

The operating free cash flow of the Diagnostics Division was a net cash inflow of CHF 429 million, an increase of 29% at CER compared to the first half of 2017. The cash generation of the business, measured by the operating profit, net of operating cash adjustments, increased by 9% while the core operating profit was stable. This was due to increased non-cash provisions and lower cash spending on restructuring. Net working capital movement increased and absorbed CHF 708 million of cash in the first half of 2018, which was in part due to decreasing payables following the settlement in the year-end 2017 positions and also due to increases in inventories.

Corporate operating results

Corporate interim operating results summary

	2018 (CHF m)	2017 (CHF m)	% change (CER)
Administration	(225)	(212)	+7
Pensions – Past service costs	5	0	–
Business taxes and capital taxes	(11)	(10)	+12
Other general items	18	41	–37
General and administration costs – Core basis[1)]	**(213)**	**(181)**	**+14**
Global restructuring plans	(116)	(16)	Over +500
Legal and environmental cases	0	(1)	–99
Total costs – IFRS basis	**(329)**	**(198)**	**+63**
Financial position			
Net working capital	(90)	(119)	–25
Long-term net operating assets	(100)	(178)	–45
Net operating assets	**(190)**	**(297)**	**–37**
Free cash flow[2)]			
Operating free cash flow	(287)	(231)	+24

1) See pages 71–74 for definition of core results.
2) See pages 74–76 for definition of free cash flow and a detailed breakdown.

General and administration costs increased by 14% at CER on a core basis, driven by higher administration costs in most corporate functions mainly due to increased personnel-related expenses and higher corporate project activities. Total costs on IFRS basis have increased by 63% due to restructuring in procurement, IT and several corporate functions. The change in net operating assets was mainly driven by organisational changes in IT resulting in a transfer of CHF 145 million of assets, mainly property, plant and equipment, from the Pharmaceuticals Division. Net working capital was higher due to increased prepayments partially offset by higher payables related to the organisational change in IT. Corporate operating free cash flow showed a higher outflow mainly coming from higher general and administration costs and higher capital expenditure.

Foreign exchange impact on operating results

The Group's exposure to movements in foreign currencies affecting its operating results, as expressed in Swiss francs, is summarised by the following key figures and comments.

Growth (reported at CER and in Swiss francs) for the six months ended 30 June

	% change (CER)		% change (CHF)	
	2018	2017	2018	2017
Pharmaceuticals Division				
Sales	+7	+5	+6	+5
Core operating profit	+11	+3	+11	+3
Diagnostics Division				
Sales	+6	+5	+8	+5
Core operating profit	0	+5	+1	+5
Group				
Sales	+7	+5	+7	+5
Core operating profit	+10	+3	+10	+3

Exchange rates against the Swiss franc

	30 June 2018	Average to 30 June 2018	31 December 2017	Average to 30 June 2017
1 USD	1.00	0.97	0.98	0.99
1 EUR	1.15	1.17	1.17	1.08
100 JPY	0.90	0.89	0.87	0.89

The results expressed in Swiss francs were positively impacted by the appreciation of the euro against the Swiss franc, partially offset by the stronger Swiss franc against the US dollar. The net impact on the results expressed in Swiss francs compared to constant exchange rates was negligible on sales and core operating profit and there was a 1 percentage point impact on Core EPS. The sensitivity of Group sales and core operating profit to a 1% change in average foreign currency exchange rates against the Swiss franc during the first half of 2018 is shown in the table below.

Currency sensitivities for the six months ended 30 June 2018

Impact of 1% increase in average exchange rate versus the Swiss franc	Sales (CHF m)	Core operating profit (CHF m)
US dollar	+132	+60
Euro	+49	+23
Japanese yen	+20	+15
All other currencies	+71	+38

Treasury and taxation results

Treasury and taxation interim results

	2018 (CHF m)	2017 (CHF m)	% change (CHF)	% change (CER)
IFRS results				
Operating profit	9,812	7,795	+26	+25
Financing costs	(383)	(391)	–2	–1
Other financial income (expense)	65	59	+10	+7
Profit before taxes	**9,494**	**7,463**	**+27**	**+26**
Income taxes	(1,978)	(1,886)	+5	+5
Net income	**7,516**	**5,577**	**+35**	**+33**
Attributable to				
– Roche shareholders	7,309	5,477	+33	+32
– Non-controlling interests	207	100	+107	+106
Core results[1]				
Operating profit	11,162	10,135	+10	+10
Financing costs	(369)	(386)	–4	–3
Other financial income (expense)	65	52	+25	+23
Profit before taxes	**10,858**	**9,801**	**+11**	**+10**
Income taxes	(2,179)	(2,614)	–17	–16
Net income	**8,679**	**7,187**	**+21**	**+20**
Attributable to				
– Roche shareholders	8,451	7,077	+19	+18
– Non-controlling interests	228	110	+107	+105
Financial position				
Net debt	(11,736)	(6,963)	+69	+66
Pensions	(5,860)	(6,620)	–11	–11
Income taxes	(752)	21	–	–
Financial non-current assets	352	557	–37	–37
Derivatives, net	32	(22)	–	–
Collateral, net	(56)	39	–	–
Interest payable	(159)	(218)	–27	–28
Other non-operating assets, net	135	108	+25	+25
Total net assets (liabilities)	**(18,044)**	**(13,098)**	**+38**	**+36**
Free cash flow[2]				
Treasury activities	(228)	(351)	–35	–29
Taxes paid	(1,848)	(1,633)	+13	+15
Total	**(2,076)**	**(1,984)**	**+5**	**+7**

1) See pages 71–74 for definition of core results.
2) See pages 74–76 for definition of free cash flow.

Financing costs

Core financing costs were CHF 369 million, a decrease of 3% at CER compared to the first half of 2017. Interest expenses decreased by 3% at CER to CHF 298 million. The net interest cost of defined benefit pension plans decreased by 5% at CER to CHF 71 million due to lower discount rates in the US at the end of 2017. A full analysis of financing costs is given in Note 4 to the Interim Financial Statements.

Other financial income (expense)

Core other financial income (expense) was a net income of CHF 65 million compared to a net income of CHF 52 million in the first half of 2017. Net income from equity securities was CHF 117 million, an increase of CHF 29 million on the comparative period. The net foreign exchange results, which reflect hedging costs and losses on unhedged positions, were losses of CHF 85 million compared to net losses of CHF 55 million in 2017. A full analysis of other financial income (expense) is given in Note 4 to the Interim Financial Statements.

Income taxes

The Group's effective core tax rate decreased by 6.6 percentage points to 20.1% in the first half of 2018. This was largely due to the impact from the US tax reform which decreased the effective core tax rate by approximately 7 percentage points.

The IFRS results saw the effective tax rate decrease by 4.5 percentage points. The core tax rate impacts were partially offset by lower intangible asset impairments coming from tax jurisdictions with relatively higher tax rates than the Group's effective tax rate and the deferred tax impact from equity compensation plans. The IFRS results also include the releases of contingent consideration provisions that are not taxable, hence the net effect in the 'Alliances and business combinations' line in the table below.

Analysis of the Group's effective tax rate for the six months ended 30 June

	2018			2017		
	Profit before tax (CHF m)	Income taxes (CHF m)	Tax rate (%)	Profit before tax (CHF m)	Income taxes (CHF m)	Tax rate (%)
Group's effective tax rate – Core basis	**10,858**	**(2,179)**	**20.1**	**9,801**	**(2,614)**	**26.7**
Global restructuring plans	(428)	73	17.1	(322)	40	12.4
Goodwill and intangible assets	(901)	145	16.1	(2,381)	753	31.6
Alliances and business combinations	38	7	–	202	(3)	–
Legal and environmental cases	(73)	12	16.4	163	(59)	36.2
Normalisation of equity compensation plan tax benefit	–	(36)	–	–	(3)	–
Group's effective tax rate – IFRS basis	**9,494**	**(1,978)**	**20.8**	**7,463**	**(1,886)**	**25.3**

Financial position

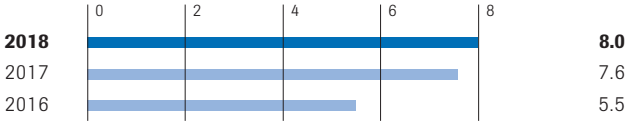
The increase in net debt was due to dividend payments of CHF 7.2 billion and the payments for business combinations of CHF 3.2 billion, partly offset by the free cash flow of CHF 6.0 billion. The net pension liability decreased by CHF 0.8 billion to CHF 5.9 billion due to an increase in discount rates in Switzerland, the US and the UK. The net tax liabilities increased mainly due to the deferred tax effects from the Ignyta and Flatiron Health acquisitions and from the change in net pension liabilities. At 30 June 2018 the Group held financial long-term assets with a market value of CHF 0.3 billion, which consist mostly of holdings in biotechnology and other pharmaceuticals companies which were acquired as part of licensing transactions or scientific collaborations.

Free cash flow

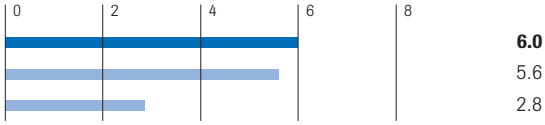
The cash outflow from treasury activities decreased to CHF 0.2 billion due to higher proceeds from sales of equity securities in 2018. Total taxes paid in the first half of 2018 were up by 15% to CHF 1.8 billion due to the timing of tax payments, partially offset by lower tax payments in the US following the US tax reform.

Cash flows and net debt

Operating free cash flow in billions of CHF



Free cash flow in billions of CHF



Free cash flow for the six months ended 30 June

	Pharmaceuticals (CHF m)	Diagnostics (CHF m)	Corporate (CHF m)	Group (CHF m)
2018				
Operating profit – IFRS basis	9,310	831	(329)	9,812
Operating profit cash adjustments	1,633	867	90	2,590
Operating profit, net of operating cash adjustments	**10,943**	**1,698**	**(239)**	**12,402**
(Increase) decrease in net working capital	(1,652)	(708)	(28)	(2,388)
Investments in property, plant and equipment	(1,134)	(559)	(20)	(1,713)
Investments in intangible assets	(257)	(2)	–	(259)
Operating free cash flow	**7,900**	**429**	**(287)**	**8,042**
Treasury activities				(228)
Taxes paid				(1,848)
Free cash flow				**5,966**
2017				
Operating profit – IFRS basis	7,213	780	(198)	7,795
Operating profit cash adjustments	2,683	760	(15)	3,428
Operating profit, net of operating cash adjustments	**9,896**	**1,540**	**(213)**	**11,223**
(Increase) decrease in net working capital	(1,091)	(629)	(17)	(1,737)
Investments in property, plant and equipment	(987)	(627)	(1)	(1,615)
Investments in intangible assets	(258)	(24)	–	(282)
Operating free cash flow	**7,560**	**260**	**(231)**	**7,589**
Treasury activities				(351)
Taxes paid				(1,633)
Free cash flow				**5,605**

See pages 74–76 for definition of free cash flow and a detailed breakdown.

Operating free cash flow increased by 7% at CER to CHF 8.0 billion. The major factor in this significant increase was the growth in the underlying cash generated from operations, which was CHF 12.4 billion, as cash revenues grew more than cash expenses. The increase in net working capital was higher than in the first half of 2017. This was mainly due to the higher settlement of accounts payable in the first half of 2018. Capital expenditure was CHF 1.7 billion, driven by site development in Basel and South San Francisco and the final payment of the Genentech property lease option exercise.

The net cash outflow from treasury activities decreased to CHF 0.2 billion due to higher proceeds from sales of equity securities in 2018. Taxes paid were 15% higher at CHF 1.8 billion due to the timing of tax payments partially offset by the lower tax payments in the US following the US tax reform. The free cash flow of CHF 6.0 billion was 7% higher than in the first half of 2017, as a result of higher operating free cash flow and lower net cash outflow from treasury operations.

Net debt – Movement in carrying value in millions of CHF

At 1 January 2018	
Cash and cash equivalents	4,719
Marketable securities	7,278
Long-term debt	(15,839)
Short-term debt	(3,121)
Net debt at beginning of period	**(6,963)**
Change in net debt during interim period 2018	
Free cash flow	5,966
Dividend payments	(7,178)
Transactions in own equity instruments	(202)
Business combinations, net of divestments of subsidiaries	(3,235)
Hedging and collateral arrangements	24
Currency translation, fair value and other movements	(148)
Change in net debt	**(4,773)**
At 30 June 2018	
Cash and cash equivalents	5,293
Marketable securities	3,690
Long-term debt	(15,975)
Short-term debt	(4,744)
Net debt at end of period	**(11,736)**

Net debt – Currency profile in millions of CHF

	Cash and marketable securities		Debt	
	30 June 2018	31 Dec. 2017	30 June 2018	31 Dec. 2017
US dollar[1)]	719	1,935	(15,797)	(12,973)
Euro	2,630	4,422	(1,901)	(3,109)
Swiss franc	2,522	2,751	(2,593)	(2,599)
Japanese yen	2,491	2,057	(3)	(3)
Pound sterling	148	278	(99)	(100)
Other	473	554	(326)	(176)
Total	**8,983**	**11,997**	**(20,719)**	**(18,960)**

1) US dollar-denominated debt includes those bonds and notes denominated in euros that were swapped into US dollars, and therefore in the financial statements have economic characteristics equivalent to US dollar-denominated bonds and notes.

The net debt position of the Group at 30 June 2018 was CHF 11.7 billion, an increase of CHF 4.8 billion from 31 December 2017, but a decrease from the CHF 14.2 billion of net debt at 30 June 2017. The increase during the first half of 2018 was due to annual dividend payments of CHF 7.2 billion and the payments for the Ignyta and Flatiron Health acquisitions of CHF 3.2 billion, which in total exceeded the free cash flow of CHF 6.0 billion. This led to an increase in short-term debt as at 30 June 2018.

The issuance, redemption and repurchase of bonds and notes for cash (see Note 11 to the Interim Financial Statements) had an impact on liquid funds, but had no impact on the net debt position.

Pensions and other post-employment benefits

During the first half of 2018 operating income of CHF 43 million was recorded for past service costs from changes to the Group's pension plans in Switzerland. Of this amount, CHF 31 million was recorded in the Pharmaceuticals Division, CHF 7 million in the Diagnostics Division and CHF 5 million in Corporate.

Funding status and balance sheet position in millions of CHF

	30 June 2018	31 December 2017
Funded plans		
– Fair value of plan assets	15,580	14,356
– Defined benefit obligation	(16,192)	(15,705)
Over (under) funding	**(612)**	**(1,349)**
Unfunded plans		
– Defined benefit obligation	(5,392)	(5,411)
Total funding status	**(6,004)**	**(6,760)**
Limit on asset recognition	0	0
Reimbursement rights	144	140
Net recognised asset (liability)	**(5,860)**	**(6,620)**

Overall the funding status on an IFRS basis of the Group's funded defined benefit plans increased to 96% compared to 91% at the start of the year. This came mainly from an increase in the discount rates in Switzerland, the US and the UK since the end of 2017. Both plan assets and defined benefit obligation of funded plans increased by approximately CHF 1.1 billion following a plan change in Switzerland. The funded status of the pension funds is monitored by the local pension fund governance bodies as well as being closely reviewed at a Group level.

The unfunded plans are mainly those in the Group's German affiliates, where the fully reserved pension obligations are invested in the local affiliate's operations. The unfunded liabilities for these plans decreased during the first half of 2018 due to the exchange rate changes.

Further information on the Group's pensions and other post-employment benefits is given in Note 25 to the 2017 Annual Financial Statements.

Debt

During the first half of 2018 there was the redemption on the due date of 25 June 2018 of EUR 1.0 billion of bonds.

The Group issued no debt in the first half of 2018.

The maturity schedule of the Group's bonds and notes outstanding at 30 June 2018 is shown in the table below.

Bonds and notes: nominal amounts at 30 June 2018 by contractual maturity

	US dollar (USD m)	Euro (EUR m)	Pound sterling (GBP m)	Swiss franc (CHF m)	Total [1] (USD m)	Total [1] (CHF m)
2018	–	–	–	1,000	1,003	1,000
2019	2,000	–	–	–	2,000	1,995
2020	600	–	–	–	600	598
2021	1,300	1,140[2]	–	–	2,619	2,613
2022	650	–	–	500	1,151	1,148
2023–2027	4,500	1,650	77	750	7,261	7,243
2028 and beyond	2,164	–	–	350	2,515	2,508
Total	**11,214**	**2,790**	**77**	**2,600**	**17,149**	**17,105**

1) Total translated at 30 June 2018 exchange rates.
2) Of the proceeds from these bonds and notes, EUR 850 million have been swapped into US dollars, and therefore in the financial statements the bonds and notes have economic characteristics equivalent to US dollar-denominated bonds and notes.

The Group plans to meet its debt obligations using existing liquid funds as well as cash generated from business operations. In the full year 2017 the free cash flow was CHF 13.4 billion, which included the cash generated from operations, as well as payment of interest and tax. In the first half of 2018 free cash flow was CHF 6.0 billion.

For short-term financing requirements, the Group has a commercial paper program in the US under which it can issue up to USD 7.5 billion of unsecured commercial paper notes and has committed credit lines of USD 7.5 billion available as back-stop lines. Commercial paper notes totalling USD 3.4 billion were outstanding as of 30 June 2018 (31 December 2017: USD 0.8 billion). For longer-term financing the Group maintains strong long-term investment-grade credit ratings of AA by Standard & Poor's and Aa3 by Moody's which should facilitate efficient access to international capital markets.

Further information on the Group's debt is given in Note 11 to the Interim Financial Statements and Note 20 to the 2017 Annual Financial Statements.

Financial risks

As at 30 June 2018 the Group has a net debt position of CHF 11.7 billion (31 December 2017: CHF 7.0 billion). The financial assets of the Group are managed in a conservative way with the objective to meet the Group's financial obligations at all times.

Asset allocation. A considerable portion of the cash and marketable securities the Group currently holds is being held for debt redemptions. Liquid funds are either held as cash or are invested in high-quality, investment-grade fixed income securities with an investment horizon to meet those liquidity requirements.

Cash and marketable securities

	30 June 2018		31 December 2017	
	(CHF m)	(% of total)	(CHF m)	(% of total)
Cash and cash equivalents	5,293	59	4,719	39
Money market instruments	2,549	28	6,107	51
Debt securities	1,130	13	1,161	10
Equity securities	11	0	10	0
Total cash and marketable securities	**8,983**	**100**	**11,997**	**100**

Credit risk. Credit risk arises from the possibility that counterparties to transactions may default on their obligations causing financial losses for the Group. The rating profile of the Group's CHF 9.0 billion of cash and fixed income marketable securities remained strong with 93% being invested in the A-AAA range. The Group has signed netting and collateral agreements with the counterparties in order to mitigate counterparty risk on derivative positions.

The Group has trade receivables of CHF 11.4 billion. Since the beginning of 2010 there have been financial difficulties in Southern European countries, notably Spain, Italy, Greece and Portugal. The Group is a leading supplier to the healthcare sectors in these countries and at 30 June 2018 has trade receivables of EUR 0.5 billion (CHF 0.6 billion) with public customers in these countries. This is a decrease of 0.4% compared to 31 December 2017 in euro terms. The Group uses different measures to improve collections in these countries, including intense communication with customers, factoring, negotiations of payment plans, charging of interest for late payments, and legal actions. Since 2011 the Group's trade receivables balance in Southern Europe has decreased by 60% in euro terms.

Liquidity risk. Liquidity risk arises through a surplus of financial obligations over available financial assets due at any point in time. The Group's approach to liquidity risk is to maintain sufficient readily available reserves in order to meet its liquidity requirements at any point in time. In addition to the current liquidity position, the Group has strong cash generation ability. Those future cash flows will be used to repay debt instruments in the coming years.

Roche enjoys strong long-term investment-grade credit ratings of AA by Standard & Poor's and Aa3 by Moody's. At the same time Roche is rated at the highest available short-term ratings by those agencies. On 8 February 2018 Moody's upgraded Roche's rating from A1 to Aa3. In the event of financing requirements, the ratings and the strong credit of Roche should permit efficient access to international capital markets, including the commercial paper market. The Group has committed credit lines with various financial institutions totalling USD 7.5 billion available as back-stop lines for the commercial paper program. As at 30 June 2018 no debt has been drawn under these credit lines.

Market risk. Market risk arises from changing market prices of the Group's financial assets or financial liabilities. The exposures are predominantly related to changes in interest rates, foreign exchange rates and equity prices. The Group uses Value-at-Risk (VaR) to assess the impact of market risk on its financial instruments. VaR data indicates the value range within which a given financial instrument will fluctuate with a pre-set probability as a result of movements in market prices. The Group's VaR remained stable during the first half of 2018.

Interest rate risk. Interest rate risk arises from movements in interest rates which could affect the Group's financial result or the value of the Group equity. The Group may use interest rate derivatives to manage its interest-rate-related exposure and financial result.

Further information on financial risk management and financial risks and the VaR methodology is included in Note 29 to the 2017 Annual Financial Statements.

International Financial Reporting Standards

The Roche Group has been using International Financial Reporting Standards (IFRS) to report its consolidated results since 1990. In 2018 the Group implemented IFRS 9 'Financial Instruments' and IFRS 15 'Revenue from Contracts with Customers', including any consequential amendments to other standards. The Group has also implemented various minor amendments to existing standards and interpretations, which have no material impact on the Group's overall results and financial position.

New and revised standards applied in 2018

IFRS 9 'Financial Instruments'. The Group has implemented the new standard effective 1 January 2018 and has applied the exemption from full retrospective application for the classification and measurement requirements, including impairment, meaning that the comparative 2017 results have not been restated. The standard deals with the classification, recognition and measurement of financial instruments, the impairment of financial assets, including trade and lease receivables and also introduces a new hedge accounting model.

IFRS 15 'Revenue from Contracts with Customers'. The Group has implemented the new standard effective 1 January 2018 and has applied the full retrospective method for the transition. Since the new standard does not change the amounts of revenue recognised for 2017 no restatements of the comparative 2017 results are necessary. The new standard contains a new set of principles on when and how to recognise and measure revenue as well as new requirements related to presentation. The core principle is that revenue should be recognised dependent on the transfer of promised goods or services to the customer for an amount that reflects the consideration which should be received in exchange for those goods or services.

Neither of these new standards have a material impact on the Group's overall results and financial position. As a result of implementing IFRS 15, the Group has also made a presentational change to the income statement to include a subtotal 'Revenue', and has created a new note to the Interim Financial Statements for 'Revenue'.

See Notes 1 and 3 to the Interim Financial Statements for further details of these matters.

New and revised standards that will be applied in 2019

IFRS 16 'Leases'. The Group will implement the new standard effective 1 January 2019 and will apply the cumulative catch-up method option for the transition, meaning that the comparative 2018 results will not be restated when the new standard is applied. The main impact of the new standard will be to bring operating leases onto the balance sheet. The Group is assessing the potential impact, but currently anticipates that the new standard will result in the carrying value of leased assets being increased by approximately CHF 1.2 billion, with lease liabilities increased by a similar amount at the date of implementation. The application of the new standard will result in part of what is currently reported as operating lease costs being recorded as interest expenses. Given the leases involved and the prevailing low interest rate environment the Group does not currently expect this effect to be material.

See Note 32 to the 2017 Annual Financial Statements for further details.

Roche Group Interim Consolidated Financial Statements

The Interim Consolidated Financial Statements have been reviewed by the Group's auditor and their review report is presented on page 70.

Roche Group consolidated income statement for the six months ended 30 June 2018 in millions of CHF

	Pharmaceuticals	Diagnostics	Corporate	Group
Sales [2, 3]	21,847	6,264	–	28,111
Royalties and other operating income [2, 3]	1,375	41	–	1,416
Revenue [2, 3]	**23,222**	**6,305**	**–**	**29,527**
Cost of sales	(5,061)	(2,985)	–	(8,046)
Marketing and distribution	(3,154)	(1,446)	–	(4,600)
Research and development [2]	(4,862)	(750)	–	(5,612)
General and administration	(835)	(293)	(329)	(1,457)
Operating profit [2]	**9,310**	**831**	**(329)**	**9,812**
Financing costs [4]				(383)
Other financial income (expense) [4]				65
Profit before taxes				**9,494**
Income taxes [5]				(1,978)
Net income				**7,516**
Attributable to				
– Roche shareholders				7,309
– Non-controlling interests				207
Earnings per share and non-voting equity security [14]				
Basic (CHF)				8.56
Diluted (CHF)				8.51

Roche Group consolidated income statement for the six months ended 30 June 2017 in millions of CHF

	Pharmaceuticals	Diagnostics	Corporate	Group
Sales [2, 3]	20,521	5,823	–	26,344
Royalties and other operating income [2, 3]	1,115	89	–	1,204
Revenue [2, 3]	**21,636**	**5,912**	**–**	**27,548**
Cost of sales	(5,917)	(2,835)	–	(8,752)
Marketing and distribution	(3,116)	(1,377)	–	(4,493)
Research and development [2]	(4,943)	(662)	–	(5,605)
General and administration	(447)	(258)	(198)	(903)
Operating profit [2]	**7,213**	**780**	**(198)**	**7,795**
Financing costs [4]				(391)
Other financial income (expense) [4]				59
Profit before taxes				**7,463**
Income taxes [5]				(1,886)
Net income				**5,577**
Attributable to				
– Roche shareholders				5,477
– Non-controlling interests				100
Earnings per share and non-voting equity security [14]				
Basic (CHF)				6.42
Diluted (CHF)				6.37

Roche Group consolidated statement of comprehensive income in millions of CHF

	Six months ended 30 June	
	2018	2017
Net income recognised in income statement	**7,516**	**5,577**
Other comprehensive income (OCI)		
Remeasurements of defined benefit plans	535	611
Fair value changes on equity investments at fair value through OCI	81	n/a
Items that will never be reclassified to the income statement	**616**	**611**
Available-for-sale investments	n/a	(8)
Fair value changes on debt investments at fair value through OCI	(7)	n/a
Cash flow hedges	(3)	(18)
Currency translation of foreign operations	200	(360)
Items that are or may be reclassified to the income statement	**190**	**(386)**
Other comprehensive income, net of tax	**806**	**225**
Total comprehensive income	**8,322**	**5,802**
Attributable to		
– Roche shareholders	8,024	5,788
– Non-controlling interests	298	14
Total	**8,322**	**5,802**

The statement of comprehensive income has been adjusted to reflect the presentational changes required as a result from implementing IFRS 9 'Financial Instruments' as described in Note 1.

Roche Group consolidated balance sheet in millions of CHF

	30 June 2018	31 December 2017
Non-current assets		
Property, plant and equipment	21,230	20,912
Goodwill [8]	11,552	10,077
Intangible assets [9]	10,469	8,368
Deferred tax assets	3,349	3,576
Defined benefit plan assets	808	801
Other non-current assets	1,171	1,370
Total non-current assets	**48,579**	**45,104**
Current assets		
Inventories	7,318	7,407
Accounts receivable	10,440	9,577
Current income tax assets	266	348
Other current assets	2,589	2,243
Marketable securities	3,690	7,278
Cash and cash equivalents	5,293	4,719
Total current assets	**29,596**	**31,572**
Total assets	**78,175**	**76,676**
Non-current liabilities		
Long-term debt [11]	(15,975)	(15,839)
Deferred tax liabilities	(549)	(495)
Defined benefit plan liabilities	(6,668)	(7,421)
Provisions [10]	(1,586)	(1,548)
Other non-current liabilities	(204)	(206)
Total non-current liabilities	**(24,982)**	**(25,509)**
Current liabilities		
Short-term debt [11]	(4,744)	(3,121)
Current income tax liabilities	(3,818)	(3,408)
Provisions [10]	(2,197)	(2,042)
Accounts payable	(2,892)	(3,454)
Other current liabilities	(9,387)	(10,135)
Total current liabilities	**(23,038)**	**(22,160)**
Total liabilities	**(48,020)**	**(47,669)**
Total net assets	**30,155**	**29,007**
Equity		
Capital and reserves attributable to Roche shareholders	27,349	26,441
Equity attributable to non-controlling interests	2,806	2,566
Total equity	**30,155**	**29,007**

Roche Group consolidated statement of cash flows in millions of CHF

	Six months ended 30 June	
	2018	2017
Cash flows from operating activities		
Cash generated from operations [15]	12,711	11,549
(Increase) decrease in net working capital	(2,388)	(1,737)
Payments made for defined benefit plans	(358)	(297)
Utilisation of provisions	(364)	(311)
Disposal of products	307	231
Other operating cash flows	0	(1)
Cash flows from operating activities, before income taxes paid	**9,908**	**9,434**
Income taxes paid	(1,848)	(1,633)
Total cash flows from operating activities	**8,060**	**7,801**
Cash flows from investing activities		
Purchase of property, plant and equipment	(1,713)	(1,615)
Purchase of intangible assets	(259)	(282)
Disposal of property, plant and equipment	20	26
Business combinations [6]	(3,223)	(172)
Divestment of subsidiaries	0	8
Interest and dividends received	9	15
Sales of equity securities and debt securities	389	621
Purchases of equity securities and debt securities	(297)	(210)
Sales (purchases) of money market instruments and time accounts over three months, net	3,582	1,000
Other investing cash flows	184	(16)
Total cash flows from investing activities	**(1,308)**	**(625)**
Cash flows from financing activities		
Proceeds from issue of bonds and notes [11]	0	1,502
Redemption and repurchase of bonds and notes [11]	(1,152)	(1,500)
Increase (decrease) in commercial paper [11]	2,545	(153)
Increase (decrease) in other debt	151	(193)
Hedging and collateral arrangements	24	132
Changes in non-controlling interests	0	0
Equity contribution by non-controlling interests	0	0
Interest paid	(348)	(406)
Dividends paid [15]	(7,178)	(7,070)
Equity-settled equity compensation plans, net of transactions in own equity	(202)	(175)
Other financing cash flows	1	0
Total cash flows from financing activities	**(6,159)**	**(7,863)**
Net effect of currency translation on cash and cash equivalents	(19)	(23)
Increase (decrease) in cash and cash equivalents	**574**	**(710)**
Cash and cash equivalents at beginning of period	4,719	4,163
Cash and cash equivalents at end of period	**5,293**	**3,453**

Roche Group consolidated statement of changes in equity in millions of CHF

	Share capital	Retained earnings	Fair value reserves	Hedging reserves	Translation reserves	Total	Non-controlling interests	Total equity
Six months ended 30 June 2017								
At 1 January 2017	**160**	**31,092**	**185**	**63**	**(7,589)**	**23,911**	**2,491**	**26,402**
Net income recognised in income statement	–	5,477	–	–	–	5,477	100	5,577
Available-for-sale investments	–	–	(9)	–	–	(9)	1	(8)
Cash flow hedges	–	–	–	(10)	–	(10)	(8)	(18)
Currency translation of foreign operations	–	–	(2)	(3)	(276)	(281)	(79)	(360)
Remeasurements of defined benefit plans	–	611	–	–	–	611	0	611
Total comprehensive income	**–**	**6,088**	**(11)**	**(13)**	**(276)**	**5,788**	**14**	**5,802**
Dividends	–	(6,998)	–	–	–	(6,998)	(57)	(7,055)
Equity compensation plans, net of transactions in own equity	–	121	–	–	–	121	9	130
Changes in non-controlling interests	–	(6)	–	–	–	(6)	6	–
At 30 June 2017	**160**	**30,297**	**174**	**50**	**(7,865)**	**22,816**	**2,463**	**25,279**
Six months ended 30 June 2018								
At 1 January 2018	160	33,266	158	61	(7,204)	26,441	2,566	29,007
Implementation of IFRS 9 'Financial Instruments'	–	105	(110)	–	–	(5)	0	(5)
At 1 January 2018 (revised)	**160**	**33,371**	**48**	**61**	**(7,204)**	**26,436**	**2,566**	**29,002**
Net income recognised in income statement	–	7,309	–	–	–	7,309	207	7,516
Net change in fair value – financial assets at fair value through OCI	–	86	(12)	–	–	74	0	74
Cash flow hedges	–	–	–	(1)	–	(1)	(2)	(3)
Currency translation of foreign operations	–	–	1	1	105	107	93	200
Remeasurements of defined benefit plans	–	535	–	–	–	535	0	535
Total comprehensive income	**–**	**7,930**	**(11)**	**–**	**105**	**8,024**	**298**	**8,322**
Dividends	–	(7,094)	–	–	–	(7,094)	(69)	(7,163)
Equity compensation plans, net of transactions in own equity	–	(12)	–	–	–	(12)	6	(6)
Changes in non-controlling interests	–	(5)	–	–	–	(5)	5	–
At 30 June 2018	**160**	**34,190**	**37**	**61**	**(7,099)**	**27,349**	**2,806**	**30,155**

Equity as at 1 January 2018 has been revised following the implementation of IFRS 9 'Financial Instruments' as described in Note 1. In addition, the statement of changes in equity has been adjusted to reflect the presentational changes required by the implementation of this new standard.

Notes to the Roche Group Interim Consolidated Financial Statements

1. Accounting policies

Basis of preparation

These financial statements are the unaudited condensed interim consolidated financial statements (hereafter 'the Interim Financial Statements') of Roche Holding Ltd, a company registered in Switzerland, and its subsidiaries (hereafter 'the Group') for the six months ended 30 June 2018 (hereafter 'the interim period'). These Interim Financial Statements should be read in conjunction with the consolidated financial statements for the year ended 31 December 2017 (hereafter 'the Annual Financial Statements'), as they provide an update of previously reported information. They were approved for issue by the Board of Directors on 24 July 2018.

Statement of compliance

The Interim Financial Statements have been prepared in accordance with IAS 34 'Interim Financial Reporting'. They do not include all of the information required for a complete set of IFRS financial statements. However, selected explanatory notes are included to explain events and transactions that are significant to an understanding of the changes in the Group since the Annual Financial Statements.

Management judgements and estimates

The preparation of the Interim Financial Statements requires management to make judgements, estimates and assumptions that affect the application of accounting policies and the reported amounts of revenues, expenses, assets, liabilities and related disclosures. If in the future such estimates and assumptions, which are based on management's best judgement at the date of the Interim Financial Statements, deviate from the actual circumstances, the original estimates and assumptions will be modified as appropriate in the period in which the circumstances change. The significant judgements made by management in applying the Group's accounting policies and the key sources of estimation uncertainty are the same as those applied in the Annual Financial Statements, except for new significant judgements and key sources of estimation uncertainty related to the application of IFRS 9 and IFRS 15, which are described in the section 'Changes in accounting policies' below.

Seasonality

The Group operates in industries where significant seasonal or cyclical variations in total sales are not experienced during the financial year.

Significant accounting policies

Except as described below, the accounting policies applied in these Interim Financial Statements are the same as those applied in the Annual Financial Statements. Changes in accounting policies will also be reflected in the Group's Consolidated Financial Statements for the year ending 31 December 2018.

Changes in accounting policies

In 2018 the Group implemented the following new standards, including any consequential amendments to other standards, with a date of initial application of 1 January 2018.

- IFRS 9 'Financial Instruments'
- IFRS 15 'Revenue from Contracts with Customers'

The Group has also implemented various other minor amendments to existing standards and interpretations, which have no material impact on the Group's overall results and financial position.

None of the new standards, revised standards, or interpretations have a material impact on the Group's overall results and financial position. The nature and the effects of the changes most relevant to the Group's financial statements are given below.

IFRS 9 'Financial Instruments'

Effective 1 January 2018 the Group has implemented IFRS 9 'Financial Instruments'. The new standard replaces IAS 39 'Financial Instruments: Recognition and Measurement'. The standard deals with the classification, recognition and measurement (including impairment) of financial instruments and also introduces a new hedge accounting model. The new standard results in an increased volume of disclosure information in the Annual Financial Statements.

Classification and measurement of financial instruments. Previously all marketable securities were classified as available-for-sale under IAS 39. Under the new standard, equity securities are classified as fair value through profit and loss, debt securities and money market instruments as fair value through other comprehensive income (OCI) and time accounts over three months as amortised cost. The Group elected to classify certain strategic equity investments as fair value through OCI. When such strategic equity investments are sold, the cumulative amount included in the fair value reserve is transferred to retained earnings.

Impairment of financial assets. On 1 January 2018 the Group changed the methodology of assessing impairment of its financial assets from the incurred loss model (used in IAS 39) to the expected credit loss model (used in IFRS 9). In accordance with the transitional provisions of IFRS 9, the Group has not restated prior periods but it has reassessed the impairment allowances under the new approach as of 1 January 2018.

Hedge accounting. The new standard also introduces a new hedge accounting model which requires hedge accounting relationships to be based upon the Group's own risk management strategy and objectives and to be discontinued only when the relationships no longer qualify for hedge accounting. The Group has applied the revised hedge accounting guidance to its hedging relationships prospectively with effect from 1 January 2018. All hedge accounting relationships designated under the previous IAS 39 guidance have continued to be valid hedge accounting relationships in accordance with IFRS 9.

Transition approach. The Group has applied the exemption from full retrospective application for the classification and measurement requirements, including impairment, meaning that the comparative 2017 results have not been restated. Differences in the carrying amounts of financial assets and reclassification adjustments from the adoption of IFRS 9 are recognised in retained earnings and reserves as at 1 January 2018. Accordingly, the information presented for 2017 does not generally reflect the requirements of IFRS 9 but rather those of IAS 39.

Presentational changes. As a result of implementing IFRS 9, the Group has made a number of presentational changes to the statement of comprehensive income, statement of changes in equity, Note 4 within 'Other financial income (expense)' and Note 16 within 'Fair value hierarchy'.

Impact from the initial application of IFRS 9. The impact from the initial application of IFRS 9 on the Group's consolidated balance sheet and the Group's consolidated equity is as follows:

Revised Roche Group consolidated balance sheet (selected items) in millions of CHF

	Balance at 1 January 2018	Application of IFRS 9	Balance at 1 January 2018 (revised)
Accounts receivable	9,577	(6)	9,571
Deferred tax assets	3,576	1	3,577
Total net assets	**29,007**	**(5)**	**29,002**
Capital and reserves attributable to Roche shareholders	26,441	(5)	26,436
Total equity	**29,007**	**(5)**	**29,002**

Revised Roche Group consolidated equity (selected items) in millions of CHF

	Balance at 1 January 2018	Application of IFRS 9 (net of tax)	Balance at 1 January 2018 (revised)
Retained earnings	33,266	105	33,371
Fair value reserves	158	(110)	48
Total equity	**29,007**	**(5)**	**29,002**

There was a reclassification within equity of CHF 110 million, net of tax, transferred from fair value reserves to retained earnings on 1 January 2018 which related to unrealised gains for equity instruments/investments due to their reclassification as fair value through profit or loss (previously classified as available-for-sale). In addition, there was a decrease of CHF 5 million, net of tax, in retained earnings due to additional bad debt allowance on trade and lease receivables resulting from applying the expected credit loss model (used in IFRS 9).

IFRS 15 'Revenue from Contracts with Customers'

Effective 1 January 2018 the Group has implemented IFRS 15 'Revenue from Contracts with Customers'. The new standard replaces IAS 18 'Revenue' and IAS 11 'Construction Contracts'. IFRS 15 establishes a comprehensive framework for determining whether, how much and when revenue is recognised, and also contains new requirements related to presentation. The core principle in the framework is that revenue should be recognised dependent on the transfer of promised goods or services to the customer for an amount that reflects the consideration which should be received in exchange for those goods or services. The objective of the standard is to provide a five-step approach to revenue recognition that includes identifying contracts with customers, identifying performance obligations, determining transaction prices, allocating transaction prices to performance obligations, and recognising revenue when or as performance obligations are satisfied. Judgement will need to be applied, including making estimates and assumptions, for multiple-element contracts in identifying performance obligations, in constraining estimates of variable consideration and in allocating the transaction price to each performance obligation and to lease components (if any), particularly in the Diagnostics business and for out-licensing agreements. The new standard results in an increased volume of disclosure information in the Annual Financial Statements.

Changes introduced by the standard relevant to the Roche Group. The new standard provides additional requirements and guidance that are relevant to the Group, notably on the following areas:

- Revenue from licences of intellectual property, including sales-based royalties, on constraining estimates of variable consideration such as e.g. development milestones, and on providing a material right to receive additional goods free of charge under certain patient access programmes that may be regarded as a separate performance obligation. There is no material impact from these changes.
- The new standard also clarifies how to allocate sales, including the treatment of discounts, to each element in multiple-elements contracts and when to recognise sales for each of those elements. Such contracts are entered into in the Diagnostics Division and typically include obligations for instruments (including those provided under leasing arrangements), reagents and other consumables, and services. It requires the use of estimates and assumptions and some judgement to apply this guidance in practice. There is no material impact from this guidance.
- Out-licensing contracts in the Pharmaceuticals Division may be entered into with no further obligation or may include commitments to research, late-stage development, regulatory approval, co-marketing or manufacturing. These may be settled by a combination of up-front payments, milestone payments, and reimbursements for services provided. Whether to consider these commitments as a single performance obligation or separate ones, or even being in scope of IFRS 15, is not straightforward and requires some judgement. Depending on the conclusion, this may result in all revenue being calculated at inception and either being recognised at once or spread over the term of a longer performance obligation. The answers under the new standard may be different from those currently used. The new standard provides an exemption for sales-based royalties for licences of intellectual property which will continue to be recognised as revenue as underlying sales are incurred.

Transition approach and use of practical expedients. The Group has applied the full retrospective method for the transition. Certain practical expedients permitted by the standard during the transition have also been used, notably:

- the relief to not restate contracts that began and were completed in 2017 or were completed before 1 January 2017; and
- the relief to not provide in 2018 the disclosure requirement as per IFRS 15 paragraph 120 for the comparative 2017 period ('amount of the transaction price allocated to the remaining performance obligations').

Since the new standard, including the use of practical expedients, has not modified the timing or amounts of revenue recognised for 2017, no restatement has been necessary.

Presentational changes. As a result of implementing IFRS 15, the Group has also made a presentational change to the income statement to include a subtotal 'Revenue', and has created a new note for 'Revenue' as Note 3.

Future new and revised standards

The Group is currently assessing the potential impacts of the various new and revised standards and interpretations that will be mandatory from 1 January 2019, notably IFRS 16 'Leases' as summarised in Note 32 to the Annual Financial Statements.

2. Operating segment information

The Group has two divisions, Pharmaceuticals and Diagnostics. Revenues are primarily generated from the sale of prescription pharmaceutical products and diagnostic instruments, reagents and consumables, respectively. Both divisions also derive revenues from the sale or licensing of products or technology to third parties. Residual operating activities from divested businesses and certain global activities are reported as 'Corporate'. These include the Corporate Executive Committee and global group functions for communications, human resources, finance (including treasury, taxes and pension fund management), legal, safety and environmental services. Subdivisional information for Roche Pharmaceuticals and Chugai, operating segments within the Pharmaceuticals Division, is also presented.

Divisional information in millions of CHF

	Pharmaceuticals		Diagnostics		Corporate		Group	
Six months ended 30 June	2018	2017	2018	2017	2018	2017	2018	2017
Revenue from external customers								
Sales	21,847	20,521	6,264	5,823	–	–	28,111	26,344
Royalties and other operating income	1,375	1,115	41	89	–	–	1,416	1,204
Total	**23,222**	**21,636**	**6,305**	**5,912**	**–**	**–**	**29,527**	**27,548**
Revenue from other operating segments								
Sales	–	–	7	7	–	–	7	7
Royalties and other operating income	–	–	–	–	–	–	–	–
Elimination of interdivisional revenue							(7)	(7)
Total	**–**	**–**	**7**	**7**	**–**	**–**	**–**	**–**
Segment results								
Operating profit	9,310	7,213	831	780	(329)	(198)	9,812	7,795
Capital expenditure								
Business combinations	3,777	0	0	92	–	–	3,777	92
Additions to property, plant and equipment	845	955	553	625	21	1	1,419	1,581
Additions to intangible assets	270	266	2	3	–	–	272	269
Total	**4,892**	**1,221**	**555**	**720**	**21**	**1**	**5,468**	**1,942**
Research and development								
Research and development costs	4,862	4,943	750	662	–	–	5,612	5,605
Other segment information								
Depreciation of property, plant and equipment	556	571	544	494	30	4	1,130	1,069
Amortisation of intangible assets	542	745	86	161	–	–	628	906
Impairment of property, plant and equipment	21	101	0	4	2	0	23	105
Impairment of goodwill	107	0	0	0	–	–	107	0
Impairment of intangible assets	166	1,475	0	0	–	–	166	1,475
Equity compensation plan expenses	188	181	39	35	19	16	246	232

Pharmaceuticals subdivisional information in millions of CHF

Six months ended 30 June	Roche Pharmaceuticals 2018	Roche Pharmaceuticals 2017	Chugai 2018	Chugai 2017	Pharmaceuticals Division 2018	Pharmaceuticals Division 2017
Revenue from external customers						
Sales	20,066	18,750	1,781	1,771	21,847	20,521
Royalties and other operating income	1,132	1,069	243	46	1,375	1,115
Total	**21,198**	**19,819**	**2,024**	**1,817**	**23,222**	**21,636**
Revenue from other operating segments						
Sales	686	686	491	326	1,177	1,012
Royalties and other operating income	37	37	89	96	126	133
Elimination of income within division					(1,303)	(1,145)
Total	**723**	**723**	**580**	**422**	**–**	**–**
Segment results						
Operating profit	8,727	6,901	654	419	9,381	7,320
Elimination of results within division					(71)	(107)
Operating profit	**8,727**	**6,901**	**654**	**419**	**9,310**	**7,213**
Capital expenditure						
Business combinations	3,777	0	0	0	3,777	0
Additions to property, plant and equipment	709	753	136	202	845	955
Additions to intangible assets	263	250	7	16	270	266
Total	**4,749**	**1,003**	**143**	**218**	**4,892**	**1,221**
Research and development						
Research and development costs	4,435	4,588	441	396	4,876	4,984
Elimination of costs within division					(14)	(41)
Total	**4,435**	**4,588**	**441**	**396**	**4,862**	**4,943**
Other segment information						
Depreciation of property, plant and equipment	491	508	65	63	556	571
Amortisation of intangible assets	536	737	6	8	542	745
Impairment of property, plant and equipment	21	101	0	0	21	101
Impairment of goodwill	107	0	0	0	107	0
Impairment of intangible assets	130	1,466	36	9	166	1,475
Equity compensation plan expenses	187	179	1	2	188	181

Net operating assets in millions of CHF

	Assets		Liabilities		Net assets	
	30 June 2018	31 December 2017	30 June 2018	31 December 2017	30 June 2018	31 December 2017
Pharmaceuticals	43,795	39,174	(11,219)	(12,215)	32,576	26,959
Diagnostics	19,944	19,833	(4,131)	(4,390)	15,813	15,443
Corporate	340	133	(530)	(430)	(190)	(297)
Total operating	**64,079**	**59,140**	**(15,880)**	**(17,035)**	**48,199**	**42,105**
Non-operating	14,096	17,536	(32,140)	(30,634)	(18,044)	(13,098)
Group	**78,175**	**76,676**	**(48,020)**	**(47,669)**	**30,155**	**29,007**

Net operating assets – Pharmaceuticals subdivisional information in millions of CHF

	Assets		Liabilities		Net assets	
	30 June 2018	31 December 2017	30 June 2018	31 December 2017	30 June 2018	31 December 2017
Roche Pharmaceuticals	40,322	35,690	(11,143)	(11,930)	29,179	23,760
Chugai	5,141	4,900	(923)	(974)	4,218	3,926
Elimination within division	(1,668)	(1,416)	847	689	(821)	(727)
Pharmaceuticals Division	**43,795**	**39,174**	**(11,219)**	**(12,215)**	**32,576**	**26,959**

3. Revenue

Disaggregated revenue information

Disaggregation of revenue in millions of CHF

	2018			2017		
	Revenue from contracts with customers	Revenue from other sources	Total	Revenue from contracts with customers	Revenue from other sources	Total
Pharmaceuticals Division						
Sales by therapeutic area						
Oncology	13,171	–	13,171	12,995	–	12,995
Immunology	3,928	–	3,928	3,739	–	3,739
Neuroscience	1,383	–	1,383	526	–	526
Ophthalmology	818	–	818	727	–	727
Infectious diseases	684	–	684	779	–	779
Other therapeutic areas	1,863	–	1,863	1,755	–	1,755
Sales – Pharmaceuticals Division	**21,847**	**–**	**21,847**	**20,521**	**–**	**20,521**
Diagnostics Division						
Sales by business area						
Centralised and Point of Care Solutions	3,420	335	3,755	3,150	306	3,456
Diabetes Care	989	2	991	960	2	962
Molecular Diagnostics	926	53	979	878	42	920
Tissue Diagnostics	509	30	539	457	28	485
Sales – Diagnostics Division	**5,844**	**420**	**6,264**	**5,445**	**378**	**5,823**
Total sales	**27,691**	**420**	**28,111**	**25,966**	**378**	**26,344**
Royalty income	843	–	843	802	–	802
Income from out-licensing agreements	121	–	121	73	–	73
Income from disposal of products and other	317	135	452	236	93	329
Total royalties and other operating income	**1,281**	**135**	**1,416**	**1,111**	**93**	**1,204**
Total	**28,972**	**555**	**29,527**	**27,077**	**471**	**27,548**

Sales represent amounts received and receivable for goods supplied and for services as services are performed. Royalties and other operating income are recorded as earned or as services are performed. Other operating income mainly includes milestone and other upfront receipts from licensing agreements as well as the income from product disposals. Revenue from other sources primarily relates to lease rental income and collaboration income for which the counterparty is not considered a customer such as income from profit-sharing arrangements.

In 2018 income from disposal of products included the sale of the worldwide rights for Konakion and Cymevene (excluding Brazil) and the sale of the rights for established products by Chugai. In 2017 income from disposal of products included the divestment of the worldwide rights for Dilatrend and Kytril (excluding Japan).

Revenues from product sales are recorded net of allowances for estimated rebates, chargebacks, cash discounts and estimates of product returns, all of which are established at the time of sale. All product sales allowances are based on estimates of the amounts earned or to be claimed on the related sales. These estimates take into consideration historical experience, current contractual and statutory requirements, specific known market events and trends such as competitive pricing and new product introductions, estimated inventory levels, and the shelf life of products. If actual future results vary, these estimates are adjusted and may have an effect on sales and earnings in the period of the adjustment.

Gross-to-net-sales reconciliation for the Pharmaceuticals Division

The gross-to-net sales reconciliation for the Pharmaceuticals Division is shown in the table below. The companies in the Diagnostics Division have similar reconciling items, but at much lower amounts.

Pharmaceuticals Division sales gross-to-net reconciliation in millions of CHF

	Six months ended 30 June	
	2018	2017
Gross sales	26,359	24,518
Government and regulatory mandatory price reductions	(2,934)	(2,616)
Contractual price reductions	(1,133)	(1,017)
Cash discounts	(176)	(202)
Customer returns reserves	(155)	(68)
Others	(114)	(94)
Net sales	**21,847**	**20,521**

Government and regulatory mandatory price reductions. These consist of mandatory price reductions. The major elements are 340B Drug Discount Program, Medicaid, and other plans in the US, which totalled USD 2.8 billion equivalent to CHF 2.7 billion (six months ended 30 June 2017: USD 2.3 billion equivalent to CHF 2.3 billion).

Contractual price reductions. These include rebates and chargebacks that are the result of contractual agreements that are primarily volume-based and performance-based.

Cash discounts. These include credits offered to wholesalers for remitting payment on their purchases within contractually defined incentive periods.

Customer returns reserves. These are allowances established for expected product returns.

Sales reductions that are expected to be withheld by the customer upon settlement, such as contractual price reductions and cash discounts, are recorded in the balance sheet as a deduction from trade receivables. Sales reductions that are separately payable to customers, governmental health authorities or healthcare regulatory authorities are recorded in the balance sheet as accrued liabilities. Provisions for sales returns are recorded in the balance sheet as other provisions.

4. Net financial expense

Upon transition to IFRS 9 the Group has elected not to restate comparative information. As a result the comparative information provided below is on IAS 39 basis and information for the current period is on IFRS 9 basis.

Financing costs in millions of CHF

	Six months ended 30 June	
	2018	2017
Interest expense	(293)	(307)
Amortisation of debt discount [11]	(5)	(7)
Net gains (losses) on redemption and repurchase of bonds and notes [11]	0	0
Discount unwind	(14)	(5)
Net interest cost of defined benefit plans	(71)	(72)
Total financing costs	**(383)**	**(391)**

Other financial income (expense) in millions of CHF

	Six months ended 30 June	
	2018	2017
Net gains (losses) on sale of equity securities (IAS 39)	n/a	107
Net gains (losses) on equity investments / securities at fair value through profit or loss (IFRS 9)	117	n/a
Net gains (losses) on equity security derivatives	0	0
Dividend income (available-for-sale equity securities – IAS 39)	n/a	1
Dividend income (equity investments / securities at fair value through profit or loss – IFRS 9)	0	n/a
Write-downs and impairments of equity securities (IAS 39)	n/a	(12)
Net income from equity securities	**117**	**96**
Interest income (available-for-sale debt securities and amortised cost – IAS 39)	n/a	16
Interest income (fair value through OCI debt securities and amortised cost – IFRS 9)	15	n/a
Net gains (losses) on sale of debt securities (available-for-sale securities and amortised costs – IAS 39)	n/a	3
Net gains (losses) on sale of debt securities (fair value through OCI – IFRS 9)	5	n/a
Net gains (losses) on sale of debt securities (fair value through profit or loss – IFRS 9)	0	n/a
Write-downs and impairments of debt securities	0	0
Net interest income and income from debt securities	**20**	**19**
Net foreign exchange gains (losses)	(124)	(149)
Net gains (losses) on foreign currency derivatives	39	94
Foreign exchange gains (losses)	**(85)**	**(55)**
Net other financial income (expense)	(3)	(1)
Associates [13]	16	0
Total other financial income (expense)	**65**	**59**

Other financial income (expense) has been adjusted to reflect the presentational changes required as a result from implementing IFRS 9 'Financial Instruments' as described in Note 1.

Net financial expense in millions of CHF

	Six months ended 30 June	
	2018	2017
Financing costs	(383)	(391)
Other financial income (expense)	65	59
Net financial expense	**(318)**	**(332)**
Financial result from Treasury management	(263)	(260)
Financial result from Pension management	(71)	(72)
Associates [13]	16	0
Net financial expense	**(318)**	**(332)**

5. Income taxes

Income tax expense is recognised based upon management's best estimate of the weighted average annual income tax rate expected for the full financial year multiplied by the pre-tax income for the six months ended 30 June 2018.

Income tax expenses in millions of CHF

	Six months ended 30 June	
	2018	2017
Current income taxes	(2,299)	(2,843)
Deferred taxes	321	957
Total income tax (expense)	**(1,978)**	**(1,886)**

The Group's effective tax rate for the six months ended 30 June 2018 decreased to 20.8% (six months ended 30 June 2017: 25.3%). The main driver for the decrease was the impact from the US tax reform which was partially offset by the deferred tax impact in respect of equity compensation plans, which varies according to the price of the underlying equities.

6. Business combinations

Acquisitions – 2018

Ignyta, Inc. On 8 February 2018 the Group acquired a 100% controlling interest in Ignyta, Inc. ('Ignyta'), a publicly owned US company based in San Diego, California, that had been listed on Nasdaq. With the acquisition, the Group obtained rights to Ignyta's lead product candidate, entrectinib, an orally bioavailable, CNS-active tyrosine kinase inhibitor that is currently in pivotal phase 2 clinical trial for patients who have tumours that harbour ROS1 or NTRK fusions. Ignyta is reported in the Pharmaceuticals Division. The total consideration was USD 1,949 million, which was paid in cash.

Flatiron Health, Inc. On 5 April 2018 the Group acquired a 100% controlling interest in Flatiron Health, Inc. ('Flatiron Health'), a US privately owned company based in New York City. Flatiron Health is a market leader in the curation and development of real-world evidence for cancer research as well as in oncology-specific electronic health record software. Flatiron Health is reported in the Pharmaceuticals Division. The total consideration was USD 1,616 million, which was paid in cash.

The identifiable assets acquired and liabilities assumed are set out in the table below. The amounts are provisional based on preliminary information and valuations of the assets and liabilities and subject to adjustment during the second half of 2018.

Acquisitions – 2018: net assets acquired in millions of CHF

	Ignyta	Flatiron Health	Total
Intangible assets			
– Product intangibles: in use [9]	–	608	608
– Product intangibles: not available for use [9]	1,684	–	1,684
– Marketing intangibles: in use [9]	–	87	87
Deferred tax assets	112	33	145
Cash and cash equivalents	164	21	185
Deferred tax liabilities	(370)	(160)	(530)
Other net assets (liabilities)	(18)	76	58
Net identifiable assets	**1,572**	**665**	**2,237**
Fair value of previously held interest	–	(240)	(240)
Goodwill [8]	267	1,128	1,395
Total consideration	**1,839**	**1,553**	**3,392**
Cash	1,839	1,553	3,392
Total consideration	**1,839**	**1,553**	**3,392**

The fair value of Ignyta's intangible asset and Flatiron Health's technology platform was determined using an excess earning method that is based on management forecasts and observable market data for discount rates, tax rates and foreign exchange rates. The present value was calculated using a risk-adjusted discount rate of 9.3% for Ignyta and 10.4% for Flatiron Health. The valuations were performed by independent valuers.

The Flatiron Health accounts receivable is comprised of gross contractual amounts due of CHF 30 million which were all expected to be collectable at the date of the acquisition.

For Ignyta the goodwill represents a control premium, the acquired work force and the synergies that can be expected from integrating the acquired company into the Group's existing business. None of the goodwill is expected to be deductible for income tax purposes.

For Flatiron Health the goodwill represents the value of accelerating progress towards data-driven personalised healthcare in cancer and to advance the use of real-world evidence to set new industry standards for oncology research and development. It also represents a control premium, the acquired work force and expected synergies. None of the goodwill is expected to be deductible for income tax purposes.

The Group recognised a financial gain of CHF 78 million for fair valuing the 12% interest in Flatiron Health held by the Group prior to the transaction. This gain is included in the statement of changes in equity within the line item 'Net change in fair value – financial assets at fair value through OCI' during the six months ended 30 June 2018 and has been transferred to 'Retained earnings' upon obtaining control.

Directly attributable transaction costs of CHF 9 million were reported in the Pharmaceuticals operating segment within general and administration expenses.

In the five months to 30 June 2018 Ignyta contributed no revenue and a net loss (after tax) of CHF 45 million to the results reported for the Pharmaceuticals Division and the Group. In the three months to 30 June 2018 Flatiron Health contributed revenue of CHF 12 million and a net loss (after tax) of CHF 47 million to the results reported for the Pharmaceuticals Division and the Group. If the acquisitions had occurred on 1 January 2018 management estimates that both acquisitions combined would have contributed revenue of CHF 34 million and a net loss (after tax) of CHF 115 million during the six months ended 30 June 2018. This information is provided for illustrative purposes only and is not necessarily indicative of the results of the Group that would have occurred had Ignyta and Flatiron Health actually been acquired at the beginning of the year, or indicative of the future results of the Group.

Foundation Medicine transaction

Foundation Medicine, Inc. On 18 June 2018 the Group entered into a merger agreement with Foundation Medicine, Inc. ('FMI') to acquire the outstanding shares of FMI's common stock not already owned by the Group at a price of USD 137.00 per share in cash. This corresponds to a total transaction value of USD 2.4 billion on a fully diluted basis. Previously, on 7 April 2015 the Group had acquired a 61.3% controlling interest in FMI, which has been treated as a fully consolidated subsidiary of the Group since that date. At 30 June 2018 the Group's interest in FMI was 56.6%. The common stock of FMI is publicly traded and is listed on the Nasdaq under the stock code 'FMI'. The merger agreement has been approved by the board of Roche and a Special Committee of the independent directors of FMI and by its full board of directors. A tender offer was launched on 2 July 2018 and the closing of the transaction is expected to take place in the second half of 2018, subject to a majority of FMI's outstanding shares not already held by the Group being tendered and other customary conditions. All current members of the FMI board have indicated that they intend to tender their FMI shares in the tender offer. Upon closing the transaction will be accounted for in full as an equity transaction.

Acquisitions – 2017

mySugr GmbH. On 29 June 2017 the Group acquired a 100% controlling interest in mySugr GmbH ('mySugr'), a private company based in Vienna, Austria. mySugr is reported in the Diagnostics operating segment as part of the Diabetes Care business. The total cash consideration was EUR 64 million.

Cash flows from business combinations

Acquisitions: net cash outflow in millions of CHF

	Six months ended 30 June 2018			Six months ended 30 June 2017		
	Pharmaceuticals	Diagnostics	Total	Pharmaceuticals	Diagnostics	Total
Cash consideration paid	(3,392)	0	(3,392)	0	(70)	(70)
Deferred consideration paid	0	(1)	(1)	0	0	0
Contingent consideration paid [16]	(10)	(5)	(15)	(5)	(97)	(102)
Cash in acquired company	185	0	185	0	0	0
Total net cash outflow	**(3,217)**	**(6)**	**(3,223)**	**(5)**	**(167)**	**(172)**

During the six months ended 30 June 2018 directly attributable transaction costs for business combinations and other acquisitions amounted to CHF 9 million (six months ended 30 June 2017: CHF 0 million) and are included in the cash flow from operating activities.

7. Global restructuring plans

During the six months ended 30 June 2018 the Group continued with the implementation of various resourcing flexibility plans initiated in 2017 in its Pharmaceuticals Division to address various future challenges including biosimilar competition. The areas of the plans include biologics manufacturing, commercial operations and product development/strategy. The Group also continued with the implementation of several major global restructuring plans initiated in prior years, notably the strategic realignment of the Pharmaceuticals Division's manufacturing network, and programmes to address long-term strategy in the Diagnostics Division.

Global restructuring plans: costs incurred in millions of CHF

	Diagnostics [1]	Site consolidation [2]	Other plans [3]	Total
Six months ended 30 June 2018				
Global restructuring costs				
– Employee-related costs	61	82	118	261
– Site closure costs	16	46	5	67
– Divestment of products and businesses	(2)	0	0	(2)
– Other reorganisation expenses	37	7	57	101
Total global restructuring costs	**112**	**135**	**180**	**427**
Additional costs				
– Impairment of goodwill	0	0	0	0
– Impairment of intangible assets	0	0	0	0
– Legal and environmental cases	6	14	0	20
Total costs	**118**	**149**	**180**	**447**
Six months ended 30 June 2017				
Global restructuring costs				
– Employee-related costs	53	(68)	7	(8)
– Site closure costs	5	157	0	162
– Divestment of products and businesses	0	94	0	94
– Other reorganisation expenses	43	3	27	73
Total global restructuring costs	**101**	**186**	**34**	**321**
Additional costs				
– Impairment of goodwill	0	0	0	0
– Impairment of intangible assets	0	0	0	0
– Legal and environmental cases	0	0	0	0
Total costs	**101**	**186**	**34**	**321**

1) Includes strategy plans in the Diagnostics Division.
2) Includes the Pharmaceuticals Division's strategic realignment of its manufacturing network and resourcing flexibility in biologics manufacturing network.
3) Includes plans for outsourcing of IT and other functions to shared service centres and external providers.

Diagnostics Division

During the six months ended 30 June 2018 strategy plans in the Diagnostics Division that were launched in 2016 incurred costs of CHF 62 million mainly for employee-related costs. Spending on other smaller plans within the division was CHF 56 million and included costs related to a reorganisation in the Molecular Diagnostics business.

Site consolidation

On 12 November 2015 the Pharmaceuticals Division announced a strategic realignment of its manufacturing network. Costs from this plan during the six months ended 30 June 2018 were CHF 81 million and mainly related to the exit from the manufacturing site at Clarecastle, Ireland. The expected costs of the environmental remediation at the Clarecastle site were reassessed and resulted in an increase in the provisions. Other plans include the resourcing flexibility in the biologics manufacturing network with costs of CHF 46 million.

Other global restructuring plans

During the six months ended 30 June 2018 the major item was CHF 73 million for plans for the outsourcing of IT and other functions to shared service centres and external providers. Other plans include the resourcing flexibility in the Pharmaceuticals Division, with costs of CHF 55 million and other IT plans totalling CHF 39 million.

Global restructuring plans: summary of costs incurred in millions of CHF

	Six months ended 30 June	
	2018	2017
Termination costs	231	(28)
Defined benefit plans	(10)	0
Other employee-related costs	40	20
Total employee-related costs	**261**	**(8)**
Impairment of property, plant and equipment	(2)	116
Accelerated depreciation of property, plant and equipment	20	22
(Gains) losses on disposal of property, plant and equipment	3	0
Other site closure costs	46	24
Total site closure costs	**67**	**162**
(Gains) losses on divestment of products	(2)	0
Loss on divestment of subsidiary	0	94
Total costs on divestment of products and businesses	**(2)**	**94**
Other reorganisation expenses	101	73
Total global restructuring costs	**427**	**321**

Global restructuring plans: classification of costs in millions of CHF

	Six months ended 30 June 2018			Six months ended 30 June 2017		
	Depreciation, amortisation and impairment	Other	Total	Depreciation, amortisation and impairment	Other	Total
Royalties and other operating income						
– Pharmaceuticals	–	0	0	–	0	0
– Diagnostics	–	(2)	(2)	–	0	0
Cost of sales						
– Pharmaceuticals	13	100	113	134	(53)	81
– Diagnostics	5	59	64	1	29	30
Marketing and distribution						
– Pharmaceuticals	0	20	20	1	5	6
– Diagnostics	0	15	15	0	40	40
Research and development						
– Pharmaceuticals	0	40	40	0	(1)	(1)
– Diagnostics	0	26	26	0	15	15
General and administration						
– Pharmaceuticals	0	40	40	0	118	118
– Diagnostics	0	15	15	2	14	16
– Corporate	0	116	116	0	16	16
Total	**18**	**429**	**447**	**138**	**183**	**321**
Total by operating segment						
– Roche Pharmaceuticals	13	200	213	135	69	204
– Chugai	–	–	–	–	–	–
– Diagnostics	5	113	118	3	98	101
– Corporate	0	116	116	0	16	16
Total	**18**	**429**	**447**	**138**	**183**	**321**

8. Goodwill

Goodwill: movements in carrying value of assets in millions of CHF

Six months ended 30 June 2018	
At 1 January 2018	10,077
Business combinations [6]	1,395
Impairment charge	(107)
Currency translation effects	187
At 30 June 2018	**11,552**
Allocated by operating segment	
Roche Pharmaceuticals	6,201
Chugai	100
Diagnostics	5,251
Total Group	**11,552**

Impairment charges – 2018

During 2018 impairment charges totalling CHF 107 million were recorded which related to:

- A charge of CHF 107 million in the Pharmaceuticals Division for the full write-off of goodwill from the Trophos acquisition in 2015 which is deemed to have been disposed of.

Impairment charges – 2017

There were no impairments of goodwill during the first six months ended 30 June 2017.

9. Intangible assets

Intangible assets: movements in carrying value of assets in millions of CHF

	Product intangibles: in use	Product intangibles: not available for use	Marketing intangibles: in use	Technology intangibles: in use	Total
Six months ended 30 June 2018					
At 1 January 2018	5,419	2,672	70	207	8,368
Business combinations [6]	608	1,684	87	0	2,379
Additions	24	205	7	36	272
Transfers	16	(16)	–	–	–
Amortisation charge	(577)	–	(14)	(37)	(628)
Impairment charge	(6)	(160)	0	0	(166)
Currency translation effects	93	143	5	3	244
At 30 June 2018	**5,577**	**4,528**	**155**	**209**	**10,469**
Allocated by operating segment					
Roche Pharmaceuticals	4,257	3,909	84	148	8,398
Chugai	25	24	32	0	81
Diagnostics	1,295	595	39	61	1,990
Total Group	**5,577**	**4,528**	**155**	**209**	**10,469**

Classification of intangible asset amortisation and impairment expenses in millions of CHF

	Amortisation		Impairment	
Six months ended 30 June	2018	2017	2018	2017
Cost of sales				
– Pharmaceuticals	(472)	(678)	0	(978)
– Diagnostics	(75)	(156)	0	0
Marketing and distribution				
– Pharmaceuticals	(12)	(3)	0	0
– Diagnostics	(2)	0	0	0
Research and development				
– Pharmaceuticals	(58)	(64)	(166)	(497)
– Diagnostics	(9)	(5)	0	0
Total	**(628)**	**(906)**	**(166)**	**(1,475)**

Impairment charges – 2018

Pharmaceuticals Division. Impairment charges totalling CHF 166 million were recorded related to:

- A charge of CHF 100 million due to the decision to stop the development of the compound acquired as part of the Trophos acquisition. The asset concerned, which was not yet being amortised, was fully written down.
- A charge of CHF 36 million following a clinical data assessment. The asset concerned, which was not yet being amortised, was fully written down.
- A charge of CHF 24 million due to the decision to stop the development of one compound with an alliance partner. The asset concerned, which was not yet being amortised, was fully written down.
- A charge of CHF 6 million due to the decision to not opt into the development of one compound with an alliance partner. The asset concerned, which was being amortised, was fully written down.

Impairment charges – 2017

Pharmaceuticals Division. Impairment charges totalling CHF 1,475 million were recorded which related to:

- A charge of CHF 978 million for the partial impairment of the product intangible in use acquired as part of the InterMune acquisition. The asset concerned was written down to its estimated recoverable value of CHF 3,961 million as at 30 June 2017. The main factor leading to this was lower-than-expected sales of Esbriet in the first half of 2017 relative to the most recent long-term forecasts. In the meantime the intangible asset continues to be amortised over its remaining estimated useful life of four years.
- A charge of CHF 195 million due to the launch of a competitor product for the compound acquired as part of the Trophos acquisition. The asset concerned, which was not yet being amortised, was written down to its estimated recoverable value of CHF 99 million.
- A charge of CHF 149 million due to the decision to stop development of one compound with an alliance partner following an assessment of clinical and non-clinical data. The asset concerned, which was not yet being amortised, was fully written down.
- A charge of CHF 74 million due to the decision to stop development of one compound acquired as part of the Dutalys acquisition. The asset concerned, which was not yet being amortised, was fully written down.
- A charge of CHF 47 million due to the decision to stop development of one compound acquired as part of the Santaris acquisition following a clinical data assessment. The asset concerned, which was not yet being amortised, was fully written down.
- A charge of CHF 23 million due to the decision to stop development of one compound with an alliance partner. The asset concerned, which was not yet being amortised, was fully written down.
- A charge of CHF 9 million following a clinical data assessment. The asset concerned, which was not yet being amortised, was fully written down.

10. Provisions and contingent liabilities

Provisions in millions of CHF

	30 June 2018	31 December 2017
Legal provisions	524	485
Environmental provisions	513	523
Restructuring provisions	922	822
Contingent consideration provisions [16]	515	591
Other provisions	1,309	1,169
Total provisions	**3,783**	**3,590**
Current	2,197	2,042
Non-current	1,586	1,548
Total provisions	**3,783**	**3,590**

During the six months ended 30 June 2018 CHF 380 million of provisions were utilised (six months ended 30 June 2017: CHF 413 million), of which CHF 364 million (six months ended 30 June 2017: CHF 311 million) are included in the cash flow from operating activities and mainly related to the utilisation of restructuring, environmental and other provisions, and CHF 16 million (six months ended 30 June 2017: CHF 102 million) are included in the cash flows from business combinations for payments made from deferred and contingent consideration arrangements (see Note 6).

During the six months ended 30 June 2018 there was CHF 75 million of income from the release of contingent consideration provisions, net, mainly due to the reversal of the remaining provision related to the Trophos acquisition from 2015. Further information on the contingent consideration provisions is disclosed in Note 16.

As part of the regular review of litigation matters, management has reassessed the provisions recorded for certain litigation matters. Based on the development of the various litigations, there was an increase in provisions of CHF 41 million which was a major element in the legal expenses of CHF 48 million during the six months ended 30 June 2018 (six months ended 30 June 2017: net income of CHF 166 million). The expected costs of environmental remediation matters were reassessed and accordingly the environmental provisions were increased by CHF 20 million, mainly for the environmental remediation at the Clarecastle site. Environmental expenses of CHF 20 million were incurred during the six months ended 30 June 2018 (six months ended 30 June 2017: expenses of CHF 1 million).

Other than as described below, no significant changes in the Group's contingent liabilities or provisions for legal cases have occurred since the approval of the Annual Financial Statements by the Board of Directors.

Accutane. The litigation related to Accutane is described in Note 19 to the Annual Financial Statements. On 23 April 2018 the New Jersey Supreme Court heard oral argument on Hoffmann-La Roche Inc.'s petitions for review on the issues of the adequacy of the post-2002 label and the standard for expert admissibility. A decision is expected in the second half of 2018. At 30 June 2018 Hoffmann-La Roche Inc. was defending approximately 2,500 actions involving approximately 2,500 plaintiffs brought in various state courts throughout the US for personal injuries allegedly resulting from their use of Accutane. In addition, there are approximately 3,618 cases on appeal. If any cases survive the appeals, additional trials may be scheduled. Individual trial results depend on a variety of factors, including many that are unique to the particular case and therefore the trial results to date may not be predictive of future trial results. The Group continues to defend vigorously the remaining personal injury cases and claims.

In addition, the matters listed below do not currently have provisions recorded, but there are potential future obligations which will be confirmed only by the occurrence or non-occurrence of uncertain future events, or present obligations which cannot be measured with sufficient reliability.

Hemlibra (emicizumab) litigation. On 4 May 2017 Baxalta Inc. and Baxalta GmbH (both together 'Baxalta'), subsidiaries of Shire plc., filed a patent infringement and declaratory judgment of patent infringement suit in the US District Court for the District of Delaware, alleging that Genentech, Inc. and Chugai Pharmaceutical Co., Ltd. currently or imminently would manufacture, use, sell, offer for sale, or import into the US Hemlibra (emicizumab), which would infringe Baxalta's US Patent No. 7,033,590. Baxalta is seeking a judgment of infringement, injunctive and monetary relief, attorneys' fees, costs and expenses. On 11 May 2017 Genentech was served with the complaint. Genentech's response and counterclaims to the complaint were filed on 30 June 2017. On 19 June 2017 Chugai waived service. On 13 September 2017 Chugai filed a motion to dismiss the complaint for lack of personal jurisdiction. On 16 November 2017 the Food and Drug Administration ('FDA') approved Hemlibra (emicizumab) for haemophilia A with inhibitors for use in the US. On 14 December 2017 Baxalta filed a request for a preliminary injunction against Genentech only, in which some inhibitor patients would not be subject to any injunction. A hearing was held in the US District Court for the District of Delaware on 13 and 14 June 2018 and during that hearing Baxalta withdrew its request for a preliminary injunction as to the inhibitor patients. On 25 June 2018 Baxalta submitted a new proposed preliminary injunction order, in which Genentech would be permitted to sell Hemlibra to all inhibitor patients, all non-inhibitor patients currently on Hemlibra whether through clinical trials or not, and selected non-inhibitor patients who have an additional 'medically diagnosed condition' which rendered Factor VIII therapies impracticable. Approval by the FDA in the non-inhibitor population is expected to be no later than 4 October 2018. On 28 March 2018, in the case brought by Baxalta against Chugai in Japan, the Tokyo District Court ruled in favour of Chugai, notably that Hemlibra does not infringe Baxalta's patent. On 10 May 2018 Baxalta appealed this decision. The outcome of these matters cannot be determined at this time.

There have been certain procedural developments in the other significant litigation matters described in Note 19 to the Annual Financial Statements. These do not significantly affect the assessment of the Group's management concerning the adequacy of the total provisions recorded for legal matters.

11. Debt

Debt: movements in carrying value of recognised liabilities in millions of CHF

Six months ended 30 June 2018	
At 1 January 2018	**18,960**
Proceeds from issue of bonds and notes	0
Redemption and repurchase of bonds and notes	(1,152)
Increase (decrease) in commercial paper	2,545
Increase (decrease) in other debt	151
Changes from financing cash flows	**1,544**
Net (gains) losses on redemption and repurchase of bonds and notes [4]	0
Amortisation of debt discount [4]	5
Financing costs	**5**
Net foreign currency transaction (gains) losses	(41)
Currency translation effects	272
Changes in foreign exchange rates	**231**
Changes in fair values of hedging instruments	(21)
Other changes	0
At 30 June 2018	**20,719**
Bonds and notes	16,970
Commercial paper	3,415
Amounts due to banks and other financial institutions	326
Finance lease obligations	5
Other borrowings	3
Total debt	**20,719**
Long-term debt	15,975
Short-term debt	4,744
Total debt	**20,719**

Issuance of bonds and notes – 2018

During the six months ended 30 June 2018 the Group did not issue any bonds or notes.

Issuance of bonds and notes – 2017

On 23 March 2017 the Group completed an offering of CHF 1.5 billion fixed rate bonds issued in three tranches, of which CHF 400 million for bonds with a zero coupon which will mature on 23 September 2018, CHF 750 million for bonds with a 0.10% coupon which will mature on 23 September 2024, and CHF 350 million for bonds with a 0.45% coupon which will mature on 23 March 2029. These bonds are listed at the SIX Swiss Exchange. The Group received CHF 1,502 million aggregate net proceeds from the issuance and sale of these fixed rate bonds.

Redemption and repurchase of bonds and notes – 2018

Redemption of Euro bonds. On the due date of 25 June 2018 the Group redeemed the 2.00% fixed rate bonds with a principal amount of EUR 1.0 billion. The cash outflow was CHF 1,152 million, plus accrued interest. The effective interest rate of these bonds was 2.07%.

Redemption and repurchase of bonds and notes – 2017

Redemption of Swiss franc bonds. On the due date of 23 March 2017 the Group redeemed the 4.50% fixed rate bonds with a principal amount of CHF 1.5 billion. The cash outflow was CHF 1,500 million, plus accrued interest. The effective interest rate of these bonds was 4.77%.

Cash flows from issuance, redemption and repurchase of bonds and notes

Cash inflows from issuance of bonds and notes in millions of CHF

	Six months ended 30 June	
	2018	2017
Euro Medium Term Note programme – Euro notes	0	0
US dollar notes	0	0
Swiss franc bonds	0	1,502
Total cash inflows from issuance of bonds and notes	**0**	**1,502**

Cash outflows from redemption and repurchase of bonds and notes in millions of CHF

	Six months ended 30 June	
	2018	2017
Euro Medium Term Note programme – Euro notes	(1,152)	0
US dollar notes	0	0
Swiss franc bonds	0	(1,500)
Total cash outflows from redemption and repurchase of bonds and notes	**(1,152)**	**(1,500)**

Commercial paper

Roche Holdings, Inc. commercial paper program. Roche Holdings, Inc. has an established commercial paper program under which it can issue up to USD 7.5 billion of unsecured commercial paper notes guaranteed by Roche Holding Ltd. A committed credit line of USD 7.5 billion is available as a back-stop line. The maturity of the notes under the program cannot exceed 365 days from the date of issuance. At 30 June 2018 unsecured commercial paper notes with a principal amount of USD 3.4 billion and an average interest rate of 1.98% were outstanding.

Movements in commercial paper obligations in millions of CHF

Six months ended 30 June 2018	
At 1 January 2018	774
Net cash proceeds (payments)	2,545
Currency translation effects	96
At 30 June 2018	**3,415**

12. Equity attributable to Roche shareholders

Share capital and non-voting equity securities *(Genussscheine)*

The authorised and issued share capital of the Group and the number of issued non-voting equity securities have not changed during the first half of 2018. The weighted average number of shares and non-voting equity securities in issue during the six months ended 30 June 2018 was 854 million (six months ended 30 June 2017: 853 million).

Dividends

On 13 March 2018 the shareholders approved the distribution of a dividend of CHF 8.30 per share and non-voting equity security (2017: CHF 8.20) in respect of the 2017 business year. The distribution to holders of outstanding shares and non-voting equity securities totalled CHF 7,094 million (2017: CHF 6,998 million) and has been recorded against retained earnings in the six months ended 30 June 2018.

Own equity instruments

Holdings of own equity instruments in equivalent number of non-voting equity securities

	30 June 2018 (millions)	31 December 2017 (millions)
Shares	0	0.1
Non-voting equity securities	8.4	8.6
Total	**8.4**	**8.7**

Own equity instruments are held for the Group's potential conversion obligations that may arise from the Group's equity compensation plans (described in Note 26 to the Annual Financial Statements).

Retained earnings

In addition to net income attributable to Roche shareholders of CHF 7,309 million (six months ended 30 June 2017: CHF 5,477 million) and the dividend payments described above, retained earnings also include gains on remeasurements of defined benefit plans of CHF 535 million, after tax (2017: gains of CHF 611 million, after tax). These were based on updated actuarial calculations for major plans and the gains were mainly due to changes in discount rates since the end of 2017.

13. Subsidiaries and associates

Chugai

Chugai is a fully consolidated subsidiary of the Group and at 30 June 2018 the Group's interest in Chugai was 61.3% (31 December 2017: 61.3%). The common stock of Chugai is publicly traded and is listed on the Tokyo Stock Exchange under the stock code 'TSE:4519'. Chugai prepares financial statements in accordance with International Financial Reporting Standards (IFRS) that are filed on a quarterly basis with the Tokyo Stock Exchange.

The dividends distributed to third parties holding Chugai shares during the six months ended 30 June 2018 totalled CHF 62 million (six months ended 30 June 2017: CHF 49 million) and have been recorded against non-controlling interests. Dividends paid by Chugai to Roche are eliminated on consolidation as intercompany items.

Foundation Medicine, Inc.

On 18 June 2018 the Group entered into a merger agreement with Foundation Medicine, Inc. ('FMI') to acquire the outstanding shares of FMI's common stock not already owned by the Group at a price of USD 137.00 per share in cash. This corresponds to a total transaction value of USD 2.4 billion on a fully diluted basis. On 7 April 2015 the Group acquired a 61.3% controlling interest in FMI which has been treated as a fully consolidated subsidiary of the Group since that date. At 30 June 2018 the Group's interest in FMI was 56.6% (31 December 2017: 57.5%). The common stock of FMI is publicly traded and is listed on the Nasdaq under the stock code 'FMI'. FMI prepares financial statements in accordance with US GAAP that are filed on a quarterly basis with the SEC. Upon closing, which is expected to take place in the second half of 2018, the transaction will be accounted for in full as an equity transaction.

14. Earnings per share and non-voting equity security

Basic earnings per share and non-voting equity security

	Six months ended 30 June	
	2018	2017
Net income attributable to Roche shareholders (CHF millions)	**7,309**	**5,477**
Number of shares (millions)	160	160
Number of non-voting equity securities (millions)	703	703
Weighted average number of own shares and non-voting equity securities held (millions)	(9)	(10)
Weighted average number of shares and non-voting equity securities in issue (millions)	**854**	**853**
Basic earnings per share and non-voting equity security (CHF)	**8.56**	**6.42**

Diluted earnings per share and non-voting equity security

	Six months ended 30 June	
	2018	2017
Net income attributable to Roche shareholders (CHF millions)	7,309	5,477
Increase in non-controlling interests' share of Group net income, assuming all outstanding Chugai stock options exercised (CHF millions)	(1)	0
Net income used to calculate diluted earnings per share (CHF millions)	**7,308**	**5,477**
Weighted average number of shares and non-voting equity securities in issue (millions)	854	853
Adjustment for assumed exercise of equity compensation plans, where dilutive (millions)	5	7
Weighted average number of shares and non-voting equity securities in issue used to calculate diluted earnings per share (millions)	**859**	**860**
Diluted earnings per share and non-voting equity security (CHF)	**8.51**	**6.37**

15. Statement of cash flows

Cash generated from operations in millions of CHF

	Six months ended 30 June 2018	2017
Net income	7,516	5,577
Add back non-operating (income) expense		
– Financing costs [4]	383	391
– Other financial (income) expense [4]	(65)	(59)
– Income taxes [5]	1,978	1,886
Operating profit	**9,812**	**7,795**
Depreciation of property, plant and equipment [2]	1,130	1,069
Amortisation of intangible assets [2]	628	906
Impairment of goodwill [2]	107	0
Impairment of intangible assets [2]	166	1,475
Impairment of property, plant and equipment [2]	23	105
Operating (income) expense for defined benefit plans	231	272
Operating expense for equity-settled equity compensation plans	234	223
Net (income) expense for provisions	539	(317)
Bad debt (reversal) expense	32	7
Inventory write-downs	133	155
Net (gain) loss on disposal of products	(307)	(231)
Other adjustments	(17)	90
Cash generated from operations	**12,711**	**11,549**

Dividends paid in millions of CHF

	Six months ended 30 June 2018	2017
Dividends to Roche Group shareholders	(7,094)	(6,998)
Dividends to non-controlling shareholders – Chugai	(62)	(49)
Dividends to non-controlling shareholders – Other	(7)	(8)
Increase (decrease) in dividends payable	8	6
Dividend withholding tax	(23)	(21)
Total	**(7,178)**	**(7,070)**

16. Financial risk management

The Group's financial risk management objectives and policies are consistent with those disclosed in Note 29 to the Annual Financial Statements.

Fair value hierarchy

The table below analyses financial instruments carried at fair value, by valuation method. The different levels have been defined as follows:

- Level 1 – quoted prices (unadjusted) in active markets for identical assets and liabilities.
- Level 2 – observable inputs other than quoted prices in active markets for identical assets and liabilities.
- Level 3 – unobservable inputs.

Fair value hierarchy of financial instruments in millions of CHF

	Level 1	Level 2	Level 3	Total
At 30 June 2018 (IFRS 9)				
Marketable securities:				
– Equity securities at fair value through profit or loss	11	–	–	11
– Debt securities at fair value through OCI	1,058	72	–	1,130
– Money market instruments	75	1,176	–	1,251
Derivative financial instruments	–	180	–	180
Equity investments/securities designated at fair value through OCI	–	93	–	93
Equity investments/securities at fair value through profit or loss	22	212	–	234
Financial assets recognised at fair value	**1,166**	**1,733**	**–**	**2,899**
Derivative financial instruments	–	(148)	–	(148)
Contingent consideration	–	–	(515)	(515)
Financial liabilities recognised at fair value	**–**	**(148)**	**(515)**	**(663)**

The fair value hierarchy has been adjusted to reflect the presentational changes required as a result from implementing IFRS 9 'Financial Instruments' as described in Note 1.

At 30 June 2018 Level 1 financial assets consist of bonds, treasury bills and quoted shares. Level 2 financial assets consist primarily of commercial paper, certificates of deposit and derivative financial instruments.

The Group determines Level 2 fair values using the following valuation techniques:

- Marketable securities and derivative financial instruments are based on valuation models that use observable market data for interest rates, yield curves, foreign exchange rates and implied volatilities for similar instruments at the measurement date.
- Financial assets at fair value through OCI (previously available-for-sale investments) are based on a valuation model derived from the most recently published observable financial prices.

The Group recognises transfers between levels of the fair value hierarchy at the end of the reporting period during which the transfer has occurred. There were no significant transfers between Level 1 and Level 2 during the six months ended 30 June 2018.

Time accounts over three months are accounted for at amortised cost under IFRS 9 and as a result are no longer included in the fair value hierarchy analysis for 2018 (they were accounted for as available for sale under IAS 39 and therefore were included in the fair value hierarchy in 2017).

Level 3 fair values

Details of the determination of Level 3 fair value measurements are set out below.

Contingent consideration arrangements in millions of CHF

Six months ended 30 June 2018	
At 1 January 2018	(591)
Utilised for settlements [6]	15
Total unrealised gains and losses included in the income statement	
– Unused amounts reversed – recorded within general and administration	78
– Additional amounts created – recorded within general and administration	(3)
– Discount unwind included in financing costs	(8)
Total gains and losses included in other comprehensive income	
– Currency translation effects	(6)
At 30 June 2018	**(515)**

During the six months ended 30 June 2018 contingent consideration provisions decreased mainly due to the reversal of some of the provisions and to the payment of milestones. There was CHF 75 million of income, net, mainly from the reversal of the remaining provision related to the Trophos acquisition from 2015. Payments of CHF 15 million were made for milestones related to the Dutalys and other acquisitions.

Contingent consideration arrangements

The Group is party to certain contingent consideration arrangements arising from business combinations. The fair values are determined considering the expected payments, discounted to present value using risk-adjusted average discount rate of 3.2% at 30 June 2018 (31 December 2017: 3.1%). The expected payments are determined by considering the possible scenarios of forecast sales and other performance criteria, the amount to be paid under each scenario, and the probability of each scenario. The significant unobservable inputs are the forecast sales, other performance criteria and the risk-adjusted discount rate. The estimated fair value would increase if the forecast sales or other performance criteria rates were higher or the risk-adjusted discount rate was lower. At 30 June 2018 the total potential payments under contingent consideration arrangements could be up to CHF 1.0 billion (31 December 2017: CHF 1.4 billion).

Carrying value and fair value

At 30 June 2018 the carrying value of bonds and notes is CHF 17.0 billion compared to a fair value of CHF 17.7 billion and the carrying value of total debt is CHF 20.7 billion compared to a fair value of CHF 21.4 billion. The carrying values of financial assets are a reasonable approximation of the fair values at 30 June 2018.

KPMG

Independent Auditor's Report on the Review of Interim Consolidated Financial Statements

To the Board of Directors of Roche Holding Ltd, Basel

Introduction

We have been engaged to review the accompanying consolidated balance sheet of Roche Holding Ltd as at 30 June 2018 and the related consolidated statements of income, comprehensive income, cash flows and changes in equity for the six-month period then ended, and selected explanatory notes (the interim consolidated financial statements) on pages 38 to 69. The Board of Directors is responsible for the preparation and presentation of these interim consolidated financial statements in accordance with International Accounting Standard 34 'Interim Financial Reporting'. Our responsibility is to express a conclusion on these interim consolidated financial statements based on our review.

Scope of Review

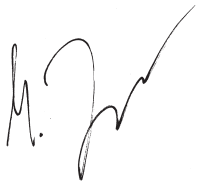
We conducted our review in accordance with the International Standard on Review Engagements 2410, 'Review of Interim Financial Information Performed by the Independent Auditor of the Entity'. A review of interim financial information consists of making inquiries, primarily of persons responsible for financial and accounting matters, and applying analytical and other review procedures. A review is substantially less in scope than an audit conducted in accordance with International Standards on Auditing and consequently does not enable us to obtain assurance that we would become aware of all significant matters that might be identified in an audit. Accordingly, we do not express an audit opinion.

Conclusion

Based on our review, nothing has come to our attention that causes us to believe that the accompanying interim consolidated financial statements as at 30 June 2018 are not prepared, in all material respects, in accordance with International Accounting Standard 34 'Interim Financial Reporting'.

KPMG AG

Mark Baillache
Licensed Audit Expert
Auditor in Charge



Marc Ziegler
Licensed Audit Expert

Basel, 24 July 2018

KPMG AG, Viaduktstrasse 42, PO Box 3456, CH-4002 Basel

Supplementary Information

Alternative Performance Measures

The financial information included in the Financial Review includes certain Alternative Performance Measures (APMs) which are not accounting measures as defined by IFRS, in particular, the core results, net working capital, net operating assets, free cash flow and constant exchange rates. These APMs should not be used instead of, or considered as alternatives to, the Group's consolidated interim financial results based on IFRS. These APMs may not be comparable to similarly titled measures disclosed by other companies. All APMs presented in the Financial Review relate to the performance of the current reported period and comparative periods.

Core results

Core results allow for an assessment of both the Group's actual results as defined by IFRS and the underlying performance of the business. The core results concept, which is used in the internal management of the business, is based on the IFRS results, with the following adjustments:

- Global restructuring plans (see Note 7) are excluded.
- Amortisation and impairment of intangible assets (see Note 9) and impairment of goodwill (see Note 8) are excluded.
- Acquisition accounting and other one-time impacts from alliance arrangements and business combinations (see Financial Review) are excluded.
- Discontinued operations (currently none) are excluded.
- Legal and environmental cases (see Financial Review) are excluded.
- Global issues outside the healthcare sector beyond the Group's control are excluded.
- Material treasury items such as major debt restructurings (currently none) are excluded.
- Pension plan settlements are excluded.
- The tax benefit recorded under IFRS in respect of Equity Compensation Plans (ECPs), which varies according to the price of the underlying equity, is replaced by a normalised tax benefit, being the IFRS 2 expense multiplied by the applicable tax rate (see Note 5).

The core results concept was further described on 22 October 2010 at an Investor Update teleconference, which is available for download at: http://www.roche.com/investors/ir_agenda/csr_151010.htm

The Group's IFRS results, including the divisional breakdown, are reconciled to the core results in the tables below. The calculation of Core EPS is also given in the tables below. Additional commentary to the adjustment items is given in the Financial Review.

Core results reconciliation – Six months ended 30 June 2018 in millions of CHF

	IFRS	Global restructuring	Intangibles amortisation	Intangibles impairment	Alliances & business combinations	Legal & environmental	Pension plan settlements	Normalisation of ECP tax benefit	Core
Sales	28,111	–	–	–	–	–	–	–	28,111
Royalties and other operating income	1,416	(2)	–	–	–	–	–	–	1,414
Cost of sales	(8,046)	177	547	0	–	–	0	–	(7,322)
Marketing and distribution	(4,600)	35	14	0	–	–	0	–	(4,551)
Research and development	(5,612)	66	67	166	–	–	0	–	(5,313)
General and administration	(1,457)	151	–	107	(46)	68	0	–	(1,177)
Operating profit	**9,812**	**427**	**628**	**273**	**(46)**	**68**	**0**	**–**	**11,162**
Financing costs	(383)	1	–	–	8	5	–	–	(369)
Other financial income (expense)	65	–	–	–	0	–	–	–	65
Profit before taxes	**9,494**	**428**	**628**	**273**	**(38)**	**73**	**0**	**–**	**10,858**
Income taxes	(1,978)	(73)	(106)	(39)	(7)	(12)	0	36	(2,179)
Net income	**7,516**	**355**	**522**	**234**	**(45)**	**61**	**0**	**36**	**8,679**
Attributable to									
– Roche shareholders	7,309	355	512	224	(45)	60	0	36	8,451
– Non-controlling interests	207	–	10	10	–	1	–	–	228

Core results reconciliation – Six months ended 30 June 2017 in millions of CHF

	IFRS	Global restructuring	Intangibles amortisation	Intangibles impairment	Alliances & business combinations	Legal & environmental	Pension plan settlements	Normalisation of ECP tax benefit	Core
Sales	26,344	–	–	–	–	–	–	–	26,344
Royalties and other operating income	1,204	0	–	–	–	–	–	–	1,204
Cost of sales	(8,752)	111	834	978	–	–	0	–	(6,829)
Marketing and distribution	(4,493)	46	3	0	–	–	0	–	(4,444)
Research and development	(5,605)	14	69	497	–	–	0	–	(5,025)
General and administration	(903)	150	–	0	(197)	(165)	0	–	(1,115)
Operating profit	**7,795**	**321**	**906**	**1,475**	**(197)**	**(165)**	**0**	**–**	**10,135**
Financing costs	(391)	1	–	–	2	2	–	–	(386)
Other financial income (expense)	59	–	–	–	(7)	–	–	–	52
Profit before taxes	**7,463**	**322**	**906**	**1,475**	**(202)**	**(163)**	**0**	**–**	**9,801**
Income taxes	(1,886)	(40)	(250)	(503)	3	59	0	3	(2,614)
Net income	**5,577**	**282**	**656**	**972**	**(199)**	**(104)**	**0**	**3**	**7,187**
Attributable to									
– Roche shareholders	5,477	282	649	969	(199)	(104)	0	3	7,077
– Non-controlling interests	100	–	7	3	–	0	–	–	110

Divisional core results reconciliation – Six months ended 30 June 2018 in millions of CHF

	IFRS	Global restruc-turing	Intangibles amorti-sation	Intangibles impairment	Alliances & business combi-nations	Legal & environ-mental	Pension plan settlements	Core
Pharmaceuticals								
Sales	21,847	–	–	–	–	–	–	21,847
Royalties and other operating income	1,375	0	–	–	–	–	–	1,375
Cost of sales	(5,061)	113	472	0	–	–	0	(4,476)
Marketing and distribution	(3,154)	20	12	0	–	–	0	(3,122)
Research and development	(4,862)	40	58	166	–	–	0	(4,598)
General and administration	(835)	26	–	107	(41)	18	0	(725)
Operating profit	**9,310**	**199**	**542**	**273**	**(41)**	**18**	**0**	**10,301**
Diagnostics								
Sales	6,264	–	–	–	–	–	–	6,264
Royalties and other operating income	41	(2)	–	–	–	–	–	39
Cost of sales	(2,985)	64	75	0	–	–	0	(2,846)
Marketing and distribution	(1,446)	15	2	0	–	–	0	(1,429)
Research and development	(750)	26	9	0	–	–	0	(715)
General and administration	(293)	9	–	0	(5)	50	0	(239)
Operating profit	**831**	**112**	**86**	**0**	**(5)**	**50**	**0**	**1,074**
Corporate								
General and administration	(329)	116	–	–	–	0	0	(213)
Operating profit	**(329)**	**116**	**–**	**–**	**–**	**0**	**0**	**(213)**

Divisional core results reconciliation – Six months ended 30 June 2017 in millions of CHF

	IFRS	Global restruc-turing	Intangibles amorti-sation	Intangibles impairment	Alliances & business combi-nations	Legal & environ-mental	Pension plan settlements	Core
Pharmaceuticals								
Sales	20,521	–	–	–	–	–	–	20,521
Royalties and other operating income	1,115	0	–	–	–	–	–	1,115
Cost of sales	(5,917)	81	678	978	–	–	0	(4,180)
Marketing and distribution	(3,116)	6	3	0	–	–	0	(3,107)
Research and development	(4,943)	(1)	64	497	–	–	0	(4,383)
General and administration	(447)	118	–	0	(186)	(194)	0	(709)
Operating profit	**7,213**	**204**	**745**	**1,475**	**(186)**	**(194)**	**0**	**9,257**
Diagnostics								
Sales	5,823	–	–	–	–	–	–	5,823
Royalties and other operating income	89	0	–	–	–	–	–	89
Cost of sales	(2,835)	30	156	0	–	–	0	(2,649)
Marketing and distribution	(1,377)	40	–	0	–	–	0	(1,337)
Research and development	(662)	15	5	0	–	–	0	(642)
General and administration	(258)	16	–	0	(11)	28	0	(225)
Operating profit	**780**	**101**	**161**	**0**	**(11)**	**28**	**0**	**1,059**
Corporate								
General and administration	(198)	16	–	–	–	1	0	(181)
Operating profit	**(198)**	**16**	**–**	**–**	**–**	**1**	**0**	**(181)**

Core EPS (basic)

	Six months ended 30 June	
	2018	2017
Core net income attributable to Roche shareholders (CHF millions)	8,451	7,077
Weighted average number of shares and non-voting equity securities in issue (millions) [14]	854	853
Core earnings per share (basic) (CHF)	**9.89**	**8.30**

Core EPS (diluted)

	Six months ended 30 June	
	2018	2017
Core net income attributable to Roche shareholders (CHF millions)	8,451	7,077
Increase in non-controlling interests' share of core net income, assuming all outstanding Chugai stock options exercised (CHF millions)	(1)	0
Net income used to calculate diluted earnings per share (CHF millions)	**8,450**	**7,077**
Weighted average number of shares and non-voting equity securities in issue used to calculate diluted earnings per share (millions) [14]	**859**	**860**
Core earnings per share (diluted) (CHF)	**9.84**	**8.23**

Free cash flow

Free cash flow is used to assess the Group's ability to generate the cash required to conduct and maintain its operations. It also indicates the Group's ability to generate cash to finance dividend payments, repay debt and to undertake merger and acquisition activities. The free cash flow concept is used in the internal management of the business.

Operating free cash flow is calculated based on the IFRS operating profit and adjusted for certain cash items, movements in net working capital and capital expenditures (investments in property, plant and equipment and intangible assets). Operating free cash flow is different from cash flows from operating activities as defined by IAS 7 in that it includes capital expenditures (which is within the responsibility of divisional management) and excludes income taxes paid (which is not within the responsibility of divisional management). Cash outflows from defined benefit plans are allocated to the operating free cash flow based on the current service cost with the residual allocated to treasury activities.

Free cash flow is calculated as the operating free cash flow adjusted for treasury activities and taxes paid. Free cash flow is different from total cash flows as defined by IAS 7 in that it excludes dividend payments, cash inflows/outflows from financing activities such as issuance/repayment of debt, purchase/sale of marketable securities and cash inflows/outflows from mergers, acquisitions and divestments.

Operating free cash flow and free cash flow are calculated as shown in the tables below. Additional commentary to the adjustment items is given in the Financial Review.

Operating free cash flow reconciliation in millions of CHF

	Six months ended 30 June	
	2018	2017
Cash flows from operating activities (IFRS basis in accordance with IAS 7)	**8,060**	**7,801**
Add back		
– Income taxes paid	1,848	1,633
Deduct		
– Investments in property, plant and equipment	(1,713)	(1,615)
– Investments in intangible assets	(259)	(282)
– Disposal of property, plant and equipment	20	26
– Disposal of intangible assets	0	0
Pensions and other post-employment benefits		
– Add back total payments for defined benefit plans	358	297
– Deduct allocation of payments to operating free cash flow	(284)	(272)
Acquisition-related items, including transaction costs	12	0
Other operating items	0	1
Operating free cash flow	**8,042**	**7,589**

Free cash flow reconciliation in millions of CHF

	Six months ended 30 June	
	2018	2017
Cash flows from operating activities (IFRS basis in accordance with IAS 7)	**8,060**	**7,801**
Deduct		
– Investments in property, plant and equipment	(1,713)	(1,615)
– Investments in intangible assets	(259)	(282)
– Disposal of property, plant and equipment	20	26
– Disposal of intangible assets	0	0
– Interest paid	(348)	(406)
Other operating items, including acquisition-related items	12	1
Other treasury items	194	80
Free cash flow	**5,966**	**5,605**

Supplementary information used to calculate the divisional operating free cash flow is shown in the table below.

Divisional operating free cash flow information in millions of CHF

Six months ended 30 June	Pharmaceuticals 2018	Pharmaceuticals 2017	Diagnostics 2018	Diagnostics 2017	Corporate 2018	Corporate 2017	Group 2018	Group 2017
Depreciation, amortisation and impairments								
Depreciation of property, plant and equipment	556	571	544	494	30	4	1,130	1,069
Amortisation of intangible assets	542	745	86	161	–	–	628	906
Impairment of property, plant and equipment	21	101	0	4	2	0	23	105
Impairment of goodwill	107	0	0	0	–	–	107	–
Impairment of intangible assets	166	1,475	0	0	–	–	166	1,475
Total	**1,392**	**2,892**	**630**	**659**	**32**	**4**	**2,054**	**3,555**
Other adjustments								
Add back								
– Expenses for equity-settled equity compensation plans	181	175	35	32	18	16	234	223
– Net (income) expense for provisions	307	(375)	146	55	86	3	539	(317)
– Net (gain) loss from disposals	(298)	(138)	(1)	5	–	–	(299)	(133)
– Non-cash working capital and other items	29	104	83	51	(15)	(1)	97	154
Deduct								
– Utilisation of provisions	(285)	(209)	(46)	(65)	(31)	(37)	(362)	(311)
– Proceeds from disposals	307	234	20	23	–	–	327	257
Total	**241**	**(209)**	**237**	**101**	**58**	**(19)**	**536**	**(127)**
Operating profit cash adjustments	**1,633**	**2,683**	**867**	**760**	**90**	**(15)**	**2,590**	**3,428**

EBITDA

The Group does not use Earnings Before Interest, Tax, Depreciation and Amortisation (EBITDA) in either its internal management reporting or its external communications. In the opinion of the Group's management, operating free cash flow gives a more useful and consistent measurement of 'cash earnings' than EBITDA, which includes many non-cash items such as provisions, allowances for trade receivables and inventories, and certain non-cash entries arising from acquisition accounting and pension accounting.

For the convenience of those readers that do use EBITDA, this is provided in the table below. As the starting point this uses the core results, which already exclude the amortisation and impairment of goodwill and intangible assets.

EBITDA (using core results) in millions of CHF

Six months ended 30 June	Pharmaceuticals 2018	Pharmaceuticals 2017	Diagnostics 2018	Diagnostics 2017	Corporate 2018	Corporate 2017	Group 2018	Group 2017
EBITDA								
Core operating profit	10,301	9,257	1,074	1,059	(213)	(181)	11,162	10,135
Depreciation and impairment of property, plant and equipment – Core basis	564	537	539	495	32	4	1,135	1,036
EBITDA	**10,865**	**9,794**	**1,613**	**1,554**	**(181)**	**(177)**	**12,297**	**11,171**
– margin, % of sales	49.7	47.7	25.8	26.7	–	–	43.7	42.4

Net operating assets

Net operating assets allow for an assessment of the Group's operating performance of the business independently from financing and tax activities. Net operating assets are calculated as property, plant and equipment, goodwill, intangible assets, net working capital and long-term net operating assets minus provisions.

The calculation of the net operating assets disclosed in Note 2 is shown in the table below.

Net operating assets to balance sheet reconciliation – 30 June 2018 in millions of CHF

	Pharmaceuticals	Diagnostics	Corporate	Taxation and Treasury	Group
Property, plant and equipment	14,590	6,381	259	–	21,230
Goodwill	6,301	5,251	–	–	11,552
Intangible assets	8,479	1,990	–	–	10,469
Inventories	4,903	2,414	1	–	7,318
Provisions	(2,478)	(949)	(356)	–	(3,783)
Current income tax net liabilities	–	–	–	(3,552)	(3,552)
Deferred tax net assets	–	–	–	2,800	2,800
Defined benefit plan net liabilities	–	–	–	(5,860)	(5,860)
Marketable securities	–	–	–	3,690	3,690
Cash and cash equivalents	–	–	–	5,293	5,293
Debt	–	–	–	(20,719)	(20,719)
Other net assets (liabilities)					
– Net working capital	300	754	(91)	–	963
– Long-term net operating assets	481	(28)	(3)	–	450
– Other	–	–	–	304	304
Total net assets	**32,576**	**15,813**	**(190)**	**(18,044)**	**30,155**

Net debt

Net debt is used to monitor the Group's overall short- and long-term liquidity. Net debt is calculated as the sum of total debt (long-term and short-term) less marketable securities, cash and cash equivalents.

Net debt calculations, including details of movements during the current reported period, are shown in the table on page 33 in the Financial Review.

Net working capital

Net working capital is used to assess the Group's efficiency in utilising assets and short-term liquidity. Net trade working capital is calculated as trade receivables and inventories minus trade payables. Net working capital is calculated as net trade working capital adjusted for other receivables and other payables.

Net working capital and net trade working capital calculations are shown in the tables on page 21 (Pharmaceuticals Division), page 26 (Diagnostics Division) and page 28 (Corporate) in the Financial Review.

Constant exchange rates

Certain percentage changes in the Financial Review have been calculated using constant exchange rates (CER) which allow for an assessment of the Group's financial performance with the effects of exchange rate fluctuations eliminated. The percentage changes at constant exchange rates are calculated using simulations by reconsolidating both the current reported period and the prior period numbers at constant currency exchange rates, equalling the average exchange rates for the prior year. For example, a CER change between a 2018 line item and its 2017 equivalent is calculated using the average exchange rate for the year ended 31 December 2017 for both the 2018 line item and the 2017 line item and subsequently calculating the change in percent with respect to the two recalculated numbers.

Foreign exchange gains and losses are excluded from the calculation of CER growth rates in the earning per share calculations. In countries where there is a significant devaluation in the local currency in the current reported period, the simulations use the average exchange rate of the current reported period instead of the prior period to avoid that CER growth rates are artificially inflated.

Roche Securities

Number of shares and non-voting equity securities[a]

	30 June 2018	31 December 2017
Number of shares (nominal value: CHF 1.00)	160,000,000	160,000,000
Number of non-voting equity securities *(Genussscheine)* (no nominal value)	702,562,700	702,562,700
Total	**862,562,700**	**862,562,700**
Number of own shares and non-voting equity securities *(Genussscheine)* held	(8,389,133)	(8,712,977)
Total in issue	**854,173,567**	**853,849,723**

Data per share and non-voting equity security in CHF

		Six months ended 30 June 2018	2017
Earnings (basic)		8.56	6.42
Earnings (diluted)		8.51	6.37
Core earnings (basic)		9.89	8.30
Core earnings (diluted)		9.84	8.23
Stock price of share[b]	Opening	246.20	238.00
	High	254.20	271.75
	Low	211.60	233.90
	Period end	224.00	247.00
Stock price of non-voting equity security *(Genussscheine)*[b]	Opening	246.50	232.60
	High	252.20	272.60
	Low	207.70	231.40
	Period end	220.55	244.20

Market capitalisation in millions of CHF

	30 June 2018	31 December 2017	30 June 2017
Period end	188,940	210,426	208,823

a) Each non-voting equity security *(Genussschein)* confers the same rights as any of the shares to participate in the available earnings and any remaining proceeds from liquidation following repayment of the nominal value of the shares and the participation certificate capital (if any). Shares and non-voting equity securities are listed on the SIX Swiss Exchange. Roche Holding Ltd has no restrictions as to ownership of its shares or non-voting equity securities.

b) All stock price data reflect daily closing prices.

Published by
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The statement regarding earnings per share growth is not a profit forecast and should not be interpreted to mean that Roche's earnings or earnings per share for 2018 or any subsequent period will necessarily match or exceed the historical published earnings or earnings per share of Roche.

The Roche Half-Year Report is published in German and English. In case of doubt or differences of interpretation, the English version shall prevail over the German text.

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