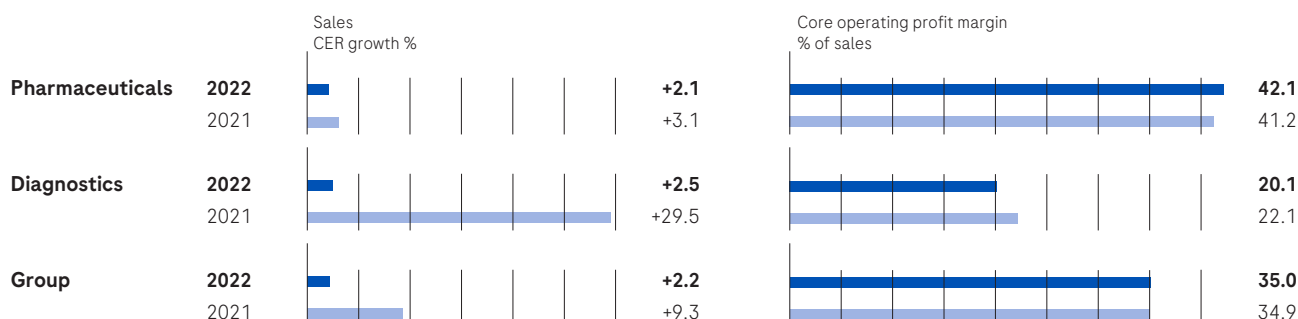




Finance in Brief

Key results



	2022 (CHF m)	2021 (CHF m)	(CHF)	% change (CER)	2022	% of sales 2021
IFRS results						
Sales	63,281	62,801	+1	+2		
Operating profit	17,476	18,155	-4	-1	27.6	28.9
Net income	13,531	14,935	-9	-6	21.4	23.8
Net income attributable to Roche shareholders	12,421	13,930	-11	-8	19.6	22.2
Diluted EPS (CHF)	15.37	16.20	-5	-1		
Dividend per share (CHF)	9.50 ^{a)}	9.30	+2			
Core results						
Research and development	14,053	13,708	+3	+3	22.2	21.8
Core operating profit	22,173	21,897	+1	+3	35.0	34.9
Core EPS (CHF)	20.30	19.81	+2	+5		
Free cash flow						
Operating free cash flow	17,673	19,411	-9	-8	27.9	30.9
Free cash flow	13,041	15,691	-17	-16	20.6	25.0

	2022 (CHF m)	2021 (CHF m)	(CHF)	% change (CER)
Net debt	(15,584)	(18,167)	-14	-18
Capitalisation	57,366	59,543	-4	0
- Debt	25,351	31,198	-19	-19
- Equity	32,015	28,345	+13	+19

a) Proposed by the Board of Directors.

CER (Constant Exchange Rates): The percentage changes at constant exchange rates are calculated using simulations by reconsolidating both the 2022 and 2021 results at constant exchange rates (the average rates for the year ended 31 December 2021). For the definition of CER see page 171.

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 164–167 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 167–169 and reconciliations between the IFRS cash flow and free cash flow are given there.

Finance – 2022 in Brief

Roche in 2022

The **Roche Group** reported good overall results in 2022. Sales grew by 2% at constant exchange rates (CER). IFRS net income decreased by 6% (CER) and core earnings per share increased by 5% (CER). The **appreciation of the Swiss franc** had an adverse impact on the results expressed in Swiss francs.

Sales

Group sales increased by 2% (CER) to CHF 63.3 billion (1% increase in CHF terms). **Pharmaceuticals sales** increased by 2% (CER) driven by the growing demand for newer medicines, including Ocrevus, Hemlibra, Vabysmo, Evrysdi and Tecentriq. **Diagnostics sales** showed growth of 3% (CER), with growth in routine testing more than compensating for lower sales of COVID-19-related products.

Operating results

Core operating profit increased by 3% (CER) to CHF 22.2 billion (1% increase in CHF terms). **Research and development** expenditure grew by 3% (CER) to CHF 14.1 billion on a core basis, with oncology remaining the primary area and the cancer immunotherapy portfolio being a key driver. Neuroscience, immunology and ophthalmology also represented significant areas of spending in the Pharmaceuticals Division. Research and development costs represented 22.2% of Group sales. **IFRS operating results** were 1% lower (CER) and included non-core expenses of CHF 2.8 billion for intangible asset impairment charges in the Pharmaceuticals Division.

Non-operating results

Financing costs (IFRS) increased by 56% at CER to CHF 0.7 billion due to the issuance of debt in December 2021, February, March and September 2022 as well as an increase in interest rates. **Income tax expenses** (IFRS) increased by 19% at CER to CHF 2.8 billion. The effective core tax rate for 2022 increased to 16.4% mainly due to the impact from the resolution of several tax disputes which reduced the Group's effective core tax rate by 1.5 percentage points in 2022 compared to 3.3 percentage points in 2021.

Net income

IFRS net income was CHF 13.5 billion, a decrease of 6% at CER (decrease of 9% in CHF terms). This decrease is due to higher impairment of intangible assets and higher interest costs and income taxes. **Core earnings per share** increased by 5% at CER to CHF 20.30 (+2% in CHF terms). The repurchase of shares from Novartis and the consequent additional financing costs had an accretive effect, net of tax, of approximately 4 percentage points on IFRS EPS and approximately 5 percentage points on Core EPS.

Cash flows

Operating free cash flow remained strong at CHF 17.7 billion. The decrease of 8% at CER (decrease of 9% in CHF terms) was due to increased net working capital. **Free cash flow** decreased by 16% at CER (decrease of 17% in CHF terms) to CHF 13.0 billion, driven by lower operating free cash flow and the higher tax payments.

Financial position

Net working capital increased driven by higher trade receivables in the Pharmaceuticals Division and higher inventories for both divisions. **Net debt** decreased by CHF 2.6 billion to CHF 15.6 billion as the free cash flow exceeded the dividend payments. **Credit ratings** remained strong: AA by Standard & Poor's, Aa2 by Moody's and AA by Fitch.

Shareholder return

A proposal will be made to **increase dividends** by 2% to CHF 9.50 per share and non-voting equity security. This would represent the 36th consecutive year of dividend growth and would result in a pay-out ratio of 46.8%, subject to AGM approval. **Total Shareholder Return (TSR)** was minus 19.6% representing the combined performance of share and non-voting equity security. The development of the Roche share price during 2022 was influenced by negative news flow on the research and development pipeline and an expected decline in COVID-19-related sales.

Roche Group

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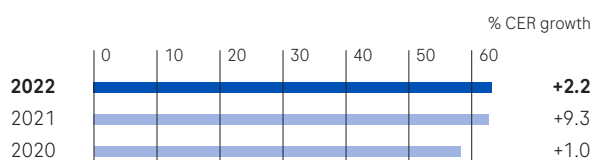
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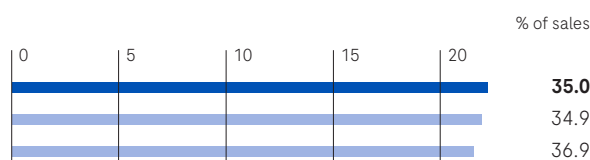
Financial Review

Roche Group results

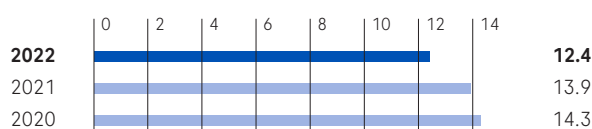
Sales in billions of CHF



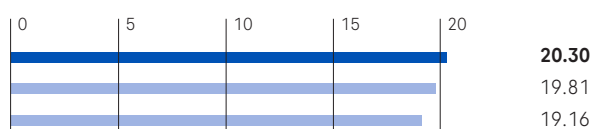
Core operating profit in billions of CHF



Net income attributable to Roche shareholders in billions of CHF



Core EPS in CHF



In 2022 the Roche Group achieved sales growth of 2% at constant exchange rates (CER) and core operating profit growth of 3%. IFRS net income decreased by 6% (CER) while Core EPS increased by 5% (CER). There was an adverse impact on the results expressed in Swiss francs compared to constant exchange rates of 1 percentage point on sales, 2 percentage points on core operating profit and 3 percentage points on IFRS net income and Core EPS.

In the Pharmaceuticals Division sales were higher by 2% due to the continuing uptake of newer medicines despite the negative impact from biosimilar competition and lower sales of Actemra/RoActemra for COVID-19. In the Diagnostics Division growth in routine testing of 7% more than compensated for a drop in demand for COVID-19-related products. The core operating profit growth of 3% reflected the sales growth and also the income from the Ultomiris patent settlement, offset by lower Ronapreve profit-share income from Regeneron.

IFRS net income decreased by 6% and Core EPS increased by 5%. The IFRS net income includes impairments of intangible assets of CHF 2.8 billion which were driven by reduced sales expectations and the latest research data. The Core EPS increase included a positive impact of approximately 5 percentage points from the share repurchase from Novartis, net of additional financing costs and tax. The Ultomiris patent settlement had a positive impact of approximately 2 percentage points on Core EPS, while the lower Ronapreve profit-share income had a negative impact of approximately 3 percentage points on Core EPS, both net of tax.

Operating free cash flow remained strong at CHF 17.7 billion. The decrease of 8% was due to increased net working capital. The free cash flow was CHF 13.0 billion, a decrease of 16%, as a result of the lower operating free cash flow and higher tax payments.

Divisional operating results for 2022

	Pharmaceuticals (CHF m)	Diagnostics (CHF m)	Corporate (CHF m)	Group (CHF m)
Sales	45,551	17,730	-	63,281
Core operating profit	19,172	3,556	(555)	22,173
- Margin, % of sales	42.1	20.1	-	35.0
Operating profit	14,814	3,324	(662)	17,476
- Margin, % of sales	32.5	18.7	-	27.6
Operating free cash flow	15,753	2,561	(641)	17,673
- Margin, % of sales	34.6	14.4	-	27.9

Divisional operating results – Development of results compared to 2021

	Pharmaceuticals	Diagnostics	Corporate	Group
Sales				
- % change at CER	+2	+3	-	+2
Core operating profit				
- % change at CER	+5	-5	+4	+3
- Margin: percentage point change	+1.3	-1.7	-	+0.4
Operating profit				
- % change at CER	-2	+5	+2	-1
- Margin: percentage point change	-1.2	+0.4	-	-0.8
Operating free cash flow				
- % change at CER	-4	-21	+14	-8
- Margin: percentage point change	-2.4	-4.5	-	-3.1

Sales in the Pharmaceuticals Division were CHF 45.6 billion (2021: CHF 45.0 billion), an increase of 2% at CER, driven by growing demand for Ocrevus, Hemlibra, Vabysmo, Evrysdi and Tecentriq, which together contributed an additional CHF 3.2 billion (CER) of sales. Sales of MabThera/Rituxan, Herceptin and Avastin decreased by a combined CHF 1.9 billion (CER), as the impact of biosimilar competition continued, but at a lower rate than in previous years. COVID-19-related sales declined due to sales of Actemra/RoActemra being 22% lower, while for Ronapreve higher sales in Japan compensated for lower sales in Europe.

The Diagnostics Division reported sales of CHF 17.7 billion, an increase of 3% at CER. The sales growth was driven by increased routine testing across all regions, partly offset by lower sales from COVID-19-related products. Sales in the division's base business increased by 7% at CER, with the immunodiagnostics business being the main growth driver. Total sales of COVID-19-related tests, notably the SARS-CoV-2 Rapid Antigen tests, were 10% (CER) lower at CHF 4.1 billion (2021: CHF 4.7 billion).

The Pharmaceuticals Division's core operating profit increased by 5% (CER), above the sales increase of 2%. The CHF 0.7 billion of income from the Ultomiris patent settlement was largely offset by a reduction of CHF 0.6 billion from Ronapreve profit-share income from Regeneron. Cost of sales decreased by 2% mainly due to lower manufacturing costs, driven by higher costs in 2021 in response to the COVID-19 pandemic. There was also a favourable product mix impact in 2022. Marketing and distribution costs increased by 2% driven by higher spending on digital customer solutions and on launch and pre-launch activities. Research and development costs were CHF 12.1 billion, with oncology remaining the primary area and the cancer immunotherapy portfolio being a key driver. Neuroscience, immunology and ophthalmology also represented significant areas of spending. The increase of 1% in research and development costs was driven by investments in gene therapy, Chugai and early research and development.

In the Diagnostics Division core operating profit decreased by 5% (CER) to CHF 3.6 billion, despite the sales growth of 3%. Cost of sales increased by 4%, ahead of the sales growth, because of an unfavourable product mix impact from COVID-19-related tests and higher costs for freight. Marketing and distribution expenses increased by 1% at CER as a result of higher distribution costs related to SARS-CoV-2 Rapid Antigen tests, partly offset by lower personnel expenses. Research and development costs increased by 12%, with digital solutions being the main growth driver. In addition, investments continued for projects in sequencing, cardiac disease and mass spectrometry.

The IFRS operating profit decreased by 2% (CER) in the Pharmaceuticals Division, in contrast to the 5% growth in core operating profit, because of higher intangible assets impairment. In the Diagnostics Division, IFRS operating profit increased by 5% (CER) due to the base effect of the significant spending on restructuring activities in 2021. The 2022 results for the Group include CHF 2.8 billion for the impairment of intangible assets, CHF 0.9 billion for intangible asset amortisation and CHF 1.0 billion of expenses from global restructuring plans.

Financing core costs increased by 64% (CER) to CHF 0.7 billion due to the additional interest expense from the new debt issued to finance the share repurchase from Novartis and also increases in interest rates which affected short-term borrowing costs. Other financial income (expense) contributed CHF 0.2 billion less on a core basis due to higher net foreign exchange losses and higher losses on the net monetary position in hyperinflationary economies in Argentina and Türkiye. The Group's effective core tax rate increased to 16.4% compared to 14.5% in 2021. The increase was mainly due to the impact from the resolution of several tax disputes which reduced the Group's effective core tax rate by 1.5 percentage points in 2022 compared to 3.3 percentage points in 2021.

Net income decreased by 6% (CER) on an IFRS basis to CHF 13.5 billion and decreased by 1% (CER) on a core basis to CHF 17.5 billion. The amount of net income attributable to non-controlling interests increased by 20% on an IFRS basis, and by 19% on a core basis, due to the impact of the Ultomiris patent settlement at Chugai.

Operating free cash flow was CHF 17.7 billion, a decrease of 8% at CER, due to the increase in net working capital. The free cash flow of CHF 13.0 billion, a decrease of 16% at CER, was a result of the lower operating free cash flow and the higher tax payments.

Income statement

	2022 (CHF m)	2021 (CHF m)	% change (CHF)	% change (CER)
IFRS results				
Sales	63,281	62,801	+1	+2
Royalties and other operating income	3,145	3,049	+3	+3
Revenue	66,426	65,850	+1	+2
Cost of sales	(20,397)	(19,647)	+4	+5
Marketing and distribution	(9,639)	(9,920)	-3	-2
Research and development	(16,023)	(14,799)	+8	+8
General and administration	(2,891)	(3,329)	-13	-11
Operating profit	17,476	18,155	-4	-1
Financing costs	(665)	(418)	+59	+56
Other financial income (expense)	(484)	(339)	+43	+50
Profit before taxes	16,327	17,398	-6	-3
Income taxes	(2,796)	(2,463)	+14	+19
Net income	13,531	14,935	-9	-6
Attributable to				
- Roche shareholders	12,421	13,930	-11	-8
- Non-controlling interests	1,110	1,005	+10	+20
EPS - Basic (CHF)	15.52	16.38	-5	-1
EPS - Diluted (CHF)	15.37	16.20	-5	-1
Core results^{a)}				
Sales	63,281	62,801	+1	+2
Royalties and other operating income	3,145	3,049	+3	+3
Revenue	66,426	65,850	+1	+2
Cost of sales	(18,075)	(18,138)	0	+1
Marketing and distribution	(9,546)	(9,444)	+1	+2
Research and development	(14,053)	(13,708)	+3	+3
General and administration	(2,579)	(2,663)	-3	0
Operating profit	22,173	21,897	+1	+3
Financing costs	(686)	(412)	+67	+64
Other financial income (expense)	(528)	(339)	+56	+63
Profit before taxes	20,959	21,146	-1	+1
Income taxes	(3,429)	(3,075)	+12	+15
Net income	17,530	18,071	-3	-1
Attributable to				
- Roche shareholders	16,401	17,038	-4	-2
- Non-controlling interests	1,129	1,033	+9	+19
Core EPS - Basic (CHF)	20.49	20.04	+2	+5
Core EPS - Diluted (CHF)	20.30	19.81	+2	+5

a) See pages 164-167 for the definition of core results and Core EPS.

Impact of the COVID-19 pandemic

In the Pharmaceuticals Division Actemra/RoActemra has received US FDA approval for the treatment of COVID-19 in hospitalised adults and retains Emergency Use Authorization for children aged between 2 and 18. Sales in 2022 were CHF 2.7 billion, a decline of 22% at CER due to lower demand from such patients. Sales of Ronapreve, a neutralising antibody combination developed with Regeneron, were CHF 1.7 billion, with higher sales in Japan offsetting lower sales in Europe. There was a decline of CHF 0.6 billion in profit-share income from Regeneron relating to US sales of Ronapreve. The Diagnostics Division's portfolio of COVID-19 tests, notably the SARS-CoV-2 Rapid Antigen test, generated sales of CHF 4.1 billion (2021: CHF 4.7 billion), a decline of 10% at CER due to the lower demand for COVID-19-related products.

Competition from biosimilar and generic medicines

The Group's pharmaceutical products are generally protected by patent rights, which are intended to provide the Group with exclusive marketing rights in various countries. However, patent rights are of varying scope and duration, and the Group may be required to enter into costly litigation to enforce its patent and other intellectual property rights. Loss of market exclusivity for one or more major products – either due to patent expiration, challenges from generic medicines, biosimilars and non-comparable biologics or other reasons – could have a material adverse effect on the Group's business, results of operations or financial condition. The introduction of a generic, biosimilar or non-comparable biologic version of the same or a similar medicine usually results in a significant reduction in net sales for the relevant product, as other manufacturers typically offer their versions at lower prices.

Patents and their expiry are, and always have been, an integral part of the Group's business model and future growth will remain driven by innovation. The latest information from clinical studies is included in the Annual Report and details of the Group's product development portfolio are available for download at:

http://www.roche.com/research_and_development/who_we_are_how_we_work/pipeline.htm

MabThera/Rituxan, Herceptin and Avastin. The Group's basic, primary patents for these three products have expired worldwide. The in-licensed Halozyme patent rights for subcutaneous formulations of MabThera/Rituxan and Herceptin begin to expire in 2024. Sales, including regional breakdowns, for MabThera/Rituxan, Herceptin and Avastin are disclosed in the Pharmaceuticals Division's operating results and are summarised in the table below. The year-on-year movements were also driven by regular price and volume changes. Biosimilar competition is only one factor in the overall picture.

Total MabThera/Rituxan, Herceptin and Avastin sales

	2022 (CHF m)	2021 (CHF m)	% change (CER)	% divisional sales (2022)	% divisional sales (2021)
United States	2,426	3,110	-25	5.3	6.9
Europe	819	1,242	-29	1.8	2.8
Japan	573	798	-18	1.3	1.8
International	2,521	3,165	-19	5.5	7.0
Total sales	6,339	8,315	-23	13.9	18.5

The first biosimilar versions of Herceptin and Avastin were launched in the US from mid-2019 and the first biosimilar versions of MabThera/Rituxan in late 2019. In Europe the first biosimilar versions of MabThera/Rituxan and Herceptin were launched from mid-2017 and from mid-2018, respectively, and are now marketed in most EU countries. The first biosimilar versions of Avastin came to market in Europe from mid-2020. The first biosimilar versions of MabThera/Rituxan and Herceptin were launched in Japan in 2018. Biosimilar versions of Avastin were launched in late 2019 in the colorectal cancer indication, in 2020 in the non-small cell lung cancer indication and in 2022 in the breast cancer indication. Sales of these three products in Japan were impacted by government price cuts as well as biosimilar competition. In the International region, biosimilar versions of all three products have been launched in many countries and this, together with the impacts of regular price and volume changes, has led to the decline in sales.

Lucentis. The Group's basic, primary patents have expired in the US. The first biosimilar version of Lucentis with a restricted label has come to market in the US at the beginning of the third quarter of 2022. US sales of Lucentis were CHF 1,012 million (2021: CHF 1,353 million), a decline of 28% at CER (as reported in US dollars) due to competitive pressure.

Esbriet. Following a negative decision from the US District Court for the District of Delaware in March 2022, the first generic versions of Esbriet came to market in the US in the second quarter of 2022. US sales of Esbriet were CHF 455 million (2021: CHF 732 million), a decline of 41% at CER (as reported in US dollars).

Actemra/RoActemra. The Group's basic, primary patents have expired in the US and EU. Based on publicly available information from competitor companies, the Group currently anticipates that the first biosimilar versions of Actemra/RoActemra could come to market in the US and the EU in the second half of 2023. Global sales of Actemra/RoActemra were CHF 2,701 million (2021: CHF 3,562 million), a decline of 22% at CER, driven by lower demand from hospitalised patients with COVID-19.

Mergers and acquisitions

Asset acquisitions. On 26 September 2022 the Group acquired a 100% controlling interest in Good Therapeutics, Inc. ('Good Therapeutics'), a privately owned US company based in Seattle, Washington. With the acquisition, the Group gained access to Good Therapeutics' PD-1-regulated IL-2 programme. Good Therapeutics is reported in the Pharmaceuticals Division. The cash consideration paid at the acquisition date was USD 0.2 billion. Additional contingent payments may be made based upon the achievement of performance-related milestones. This transaction did not qualify as business combination under IFRS 3 and has been accounted for as addition to intangible assets.

Further details are given in Note 6 to the Annual Financial Statements.

Alliance transactions

In 2022 in-licensing and alliance transactions resulted in intangible assets of CHF 0.9 billion (2021: CHF 1.0 billion) being recognised.

Global restructuring plans

During 2022 the Pharmaceuticals Division initiated a portfolio prioritisation programme and the Group continued the implementation of various global restructuring plans initiated in prior years.

Global restructuring plans: costs incurred in millions of CHF

	2022	2021
Global restructuring costs		
– Employee-related costs	127	876
– Site closure costs	323	276
– Divestment of products and businesses	0	0
– Other reorganisation expenses	519	210
Total global restructuring costs	969	1,362

The business process transformation to simplify system landscapes and streamline process complexity incurred employee-related costs of CHF 135 million (2021: CHF 85 million) and other reorganisation expenses of CHF 198 million (2021: CHF 116 million). The transformation is a multi-year cross-divisional programme to drive efficiency gains.

The manufacturing network strategy review in the Pharmaceuticals Division incurred site closure costs of CHF 178 million (2021: CHF 18 million) related to sites in the US, Switzerland and Germany. Additionally, the Pharmaceuticals Division's portfolio prioritisation programme incurred costs of CHF 221 million (2021: none) mainly related to the closure of studies.

In 2021 the major items of global restructuring costs were for employee-related costs from business transformation initiatives in the Pharmaceuticals Division, strategy plans in the Diagnostics Division, notably in Diabetes Care, and site development at the Basel/Kaiseraugst site in Switzerland.

Further details are given in Note 7 to the Annual Financial Statements.

Impairment of goodwill and intangible assets

Pharmaceuticals Division. The Pharmaceuticals Division recorded impairment charges to intangible assets of CHF 2.8 billion which were driven by reduced sales expectations and the latest research data. The major items were a charge of CHF 0.7 billion for the impairment of the in-licensed Gavreto intangible assets and a charge of CHF 0.5 billion for the partial impairment of the intangible asset SPK-8011, a novel gene therapy for the treatment of haemophilia A that was acquired as part of the Spark Therapeutics acquisition. There were also impairment charges of CHF 0.4 billion for PRM-151, a novel anti-fibrotic immunomodulator for the treatment of idiopathic pulmonary fibrosis that was acquired as part of the Promedior acquisition, CHF 0.3 billion for Flatiron's technology and CHF 0.3 billion for Rozlytrek, acquired as part of the Ignyta acquisition.

Diagnostics Division. There were no impairments of goodwill or intangible assets.

In 2021 there were impairment charges of CHF 0.7 billion in the Pharmaceuticals Division and none in the Diagnostics Division. Further details are given in Notes 9 and 10 to the Annual Financial Statements.

Legal and environmental cases

There were no significant developments in 2022. Further details are given in Note 20 to the Annual Financial Statements.

Share repurchase

On 6 December 2021, the Roche Group repurchased 53.3 million Roche shares held by Novartis for a total consideration of CHF 19.0 billion. The repurchased shares were reported as treasury shares as at 31 December 2021. Upon the cancellation of these shares in February 2022 the share capital of Roche Holding Ltd, which is the Group's parent company, decreased by CHF 53.3 million from CHF 160.0 million to CHF 106.7 million. The CHF 19.0 billion bridge loan facility drawn in 2021 to finance the share repurchase was fully repaid by May 2022, partly from the proceeds from new debt issuances and partly from internal cash generation. Further details are given in Notes 21 and 22 to the Annual Financial Statements.

Net income and earnings per share

IFRS net income decreased by 6% while Core EPS increased by 5%. The repurchase of shares from Novartis and the consequent additional financing costs had an accretive effect, net of tax, of approximately 4 percentage points on IFRS EPS and approximately 5 percentage points on Core EPS. The Ultimiris patent settlement had an accretive impact, net of tax, of approximately 2 percentage points on Core EPS, while the reduction in Ronapreve profit-share income had a dilutive impact, net of tax, of approximately 3 percentage points on Core EPS. The core basis excludes non-core items such as global restructuring costs, amortisation and impairment of goodwill and intangible assets, and mergers and acquisitions and alliance transactions. The amount of net income attributable to non-controlling interests increased by 20% on an IFRS basis, and by 19% on a core basis, due to the impact of the Ultimiris patent settlement at Chugai.

Net income

	2022 (CHF m)	2021 (CHF m)	% change (CHF)	% change (CER)
IFRS net income	13,531	14,935	-9	-6
Reconciling items (net of tax)				
- Global restructuring plans	776	1,095	-29	-29
- Intangible asset amortisation	853	1,351	-37	-38
- Goodwill and intangible asset impairment	2,402	540	+345	+329
- Mergers and acquisitions and alliance transactions	(66)	47	-	-
- Legal and environmental cases	(34)	107	-	-
- Normalisation of equity compensation plan tax benefit	68	(4)	-	-
Core net income	17,530	18,071	-3	-1

Supplementary net income and EPS information is given on pages 164 to 167. This includes calculations of Core EPS and reconciles the core results to the Group's published IFRS results.

Financial position

Financial position

	2022 (CHF m)	2021 (CHF m)	% change (CHF)	% change (CER)
Pharmaceuticals				
Net working capital	3,791	2,405	+58	+75
Long-term net operating assets	28,765	31,010	-7	-6
Diagnostics				
Net working capital	3,268	3,030	+8	+14
Long-term net operating assets	13,250	13,030	+2	+4
Corporate				
Net working capital	(337)	(314)	+7	+10
Long-term net operating assets	182	116	+57	+61
Net operating asset	48,919	49,277	-1	+2
Net debt	(15,584)	(18,167)	-14	-18
Lease liabilities	(1,193)	(1,354)	-12	-9
Pensions	(3,604)	(4,605)	-22	-19
Income taxes	2,908	2,273	+28	+33
Other non-operating assets, net	569	921	-38	-42
Total net assets	32,015	28,345	+13	+19

Compared to the start of the year the Swiss franc appreciated significantly against the Japanese yen and also against the euro, which had a negative translation effect on the Group's net operating assets. The exchange rates used are given on page 31.

Net working capital increased in both divisions. In the Pharmaceuticals Division, net working capital was higher by 75% at CER mainly due to the increase in trade receivables driven by Ronapreve sales in Japan in December 2022 as well as the increase in inventories to ensure supply resilience, notably for Actemra/RoActemra and the ramp-up of launch products with Vabysmo and Phesgo being the main drivers. In the Diagnostics Division, net working capital was higher by 14% at CER, driven by higher inventories, which increased by 15% to support growth in the division's base business and due to the increased inbound shipments of instruments towards the end of year.

The decrease in net debt was due to the free cash flow of CHF 13.0 billion partly offset by the dividend payments of CHF 7.8 billion. The CHF 19.0 billion bridge loan facility drawn in 2021 to finance the share repurchase from Novartis was fully repaid by May 2022, partly from the proceeds from the new debt issuances and partly from internal cash generation. Lease liabilities decreased to CHF 1.2 billion due to the regular payments. The net pension liability was 19% lower at CER following increases in discount rates. The net asset position for income taxes increased mainly due to taxes paid exceeding the income tax expenses, partially offset by the deferred tax effects of the pension and equity compensation plans.

Free cash flow

Free cash flow

	2022 (CHF m)	2021 (CHF m)	% change (CHF)	% change (CER)
Pharmaceuticals	15,753	16,639	-5	-4
Diagnostics	2,561	3,370	-24	-21
Corporate	(641)	(598)	+7	+14
Operating free cash flow	17,673	19,411	-9	-8
Treasury activities	(530)	(377)	+41	+39
Taxes paid	(4,102)	(3,343)	+23	+26
Free cash flow	13,041	15,691	-17	-16

See pages 167–169 for the definition of free cash flow and a detailed breakdown.

The Group's operating free cash flow for 2022 was CHF 17.7 billion, a decrease of 8% at CER. This was due to increased net working capital, in particular for trade receivables in the Pharmaceuticals Division and inventories in both divisions. The free cash flow of CHF 13.0 billion, a decrease of 16% at CER, was a result of the lower operating free cash flow, higher short-term borrowing costs due to increased interest rates and higher tax payments, notably in the US and Japan.

Pharmaceuticals Division operating results

Pharmaceuticals Division operating results

	2022 (CHF m)	2021 (CHF m)	% change (CHF)	% change (CER)
IFRS results				
Sales	45,551	45,041	+1	+2
Royalties and other operating income	3,077	2,969	+4	+3
Revenue	48,628	48,010	+1	+2
Cost of sales	(11,397)	(10,634)	+7	+7
Marketing and distribution	(6,725)	(6,874)	-2	-2
Research and development	(14,060)	(12,993)	+8	+8
General and administration	(1,632)	(1,979)	-18	-17
Operating profit	14,814	15,530	-5	-2
- Margin, % of sales	32.5	34.5	-2.0	-1.2
Core results^{a)}				
Sales	45,551	45,041	+1	+2
Royalties and other operating income	3,077	2,969	+4	+3
Revenue	48,628	48,010	+1	+2
Cost of sales	(9,262)	(9,449)	-2	-2
Marketing and distribution	(6,657)	(6,517)	+2	+2
Research and development	(12,096)	(11,952)	+1	+1
General and administration	(1,441)	(1,544)	-7	-6
Core operating profit	19,172	18,548	+3	+5
- Margin, % of sales	42.1	41.2	+0.9	+1.3
Financial position				
Net working capital	3,791	2,405	+58	+75
Long-term net operating assets	28,765	31,010	-7	-6
Net operating assets	32,556	33,415	-3	0
Free cash flow^{b)}				
Operating free cash flow	15,753	16,639	-5	-4
- Margin, % of sales	34.6	36.9	-2.3	-2.4

a) See pages 164-167 for the definition of core results.

b) See pages 167-169 for the definition of free cash flow.

Sales overview

Pharmaceuticals Division – Sales by therapeutic area

	2022 (CHF m)	2021 (CHF m)	% change (CER)	% of sales (2022)	% of sales (2021)
Oncology	19,995	20,467	-1	43.9	45.4
Neuroscience	7,817	6,275	+23	17.2	13.9
Immunology	7,181	8,373	-14	15.8	18.6
Haemophilia A	3,823	3,022	+27	8.4	6.7
Infectious diseases	2,161	2,226	+7	4.7	4.9
Ophthalmology	1,605	1,355	+14	3.5	3.0
Other therapeutic areas	2,969	3,323	-11	6.5	7.5
Total sales	45,551	45,041	+2	100	100

Sales in the Pharmaceuticals Division were CHF 45.6 billion (2021: CHF 45.0 billion), an increase of 2% at CER. There was continued growing demand for Ocrevus, Hemlibra, Vabysmo, Evrysdi and Tecentriq, which together contributed an additional CHF 3.2 billion (CER) of sales. The demand for Ocrevus remained strong in both indications, with a sales increase of 17% to CHF 6.0 billion. Hemlibra continued to show a significant uptake, with sales reaching CHF 3.8 billion, an increase of 27%. Vabysmo was approved in the US in January 2022 and showed a high initial uptake with sales of CHF 0.6 billion. Evrysdi sales continued to show a strong uptake across all regions, driven by Europe and the International region, with a sales growth of 87%. Tecentriq sales grew by 14% to CHF 3.7 billion, driven by the US and Europe.

Sales in the oncology therapeutic area decreased by 1% at CER, due to the biosimilar competition for MabThera/Rituxan, Herceptin and Avastin, partially compensated by the growth of Tecentriq, Phesgo, Polivy, Alecensa, Perjeta and Kadcyla. Tecentriq sales grew mostly due to higher demand in the US and France. Phesgo continued to show a considerable uptake predominantly in Europe and in the US, with total sales of CHF 0.7 billion. Sales of Alecensa grew across all regions, with China and the US being the main drivers. Kadcyla showed growth primarily in the International region followed by Europe. Sales growth was driven by the usage of Kadcyla in the early breast cancer setting. Perjeta sales grew, notably in the International region with higher demand in China in both early and metastatic breast cancer settings. This was partly offset by a decline in Perjeta sales in Europe following the launch of Phesgo in 2020.

Sales in neuroscience grew by 23% at CER mainly due to Ocrevus. Evrysdi was also a growth driver, with sales of CHF 1.1 billion following a high uptake in Europe and the International region. Sales in immunology decreased by 14%, following a decrease in Actemra/RoActemra sales of 22% due to lower demand from hospitalised patients with COVID-19. Sales of Esbriet were 31% lower as a result of generic competition in the US. These declines in immunology sales were partly offset by higher sales of Xolair in the US driven by steady growth in the chronic spontaneous urticaria indication. Within the Infectious diseases therapeutic area, sales for Ronapreve increased due to higher sales in Japan whereas sales for Rocephin declined mainly in China. Sales in ophthalmology increased by 14% driven by the initial uptake of Vabysmo, partially compensated by the fall in Lucentis sales of 28% in the US due to competitive pressure. In other therapeutic areas, sales of Activase/TNKase were 14% lower, mainly due to the unwinding of temporary stockpiling in the US by distributors and customers at the end of 2021.

Product sales

Pharmaceuticals Division – Sales

	2022 (CHF m)	2021 (CHF m)	% change (CER)	% of sales (2022)	% of sales (2021)
Oncology					
Perjeta	4,087	3,955	+5	9.0	8.8
Tecentriq	3,717	3,315	+14	8.2	7.4
Herceptin	2,142	2,694	-19	4.7	6.0
Avastin	2,122	3,056	-28	4.7	6.8
Kadcyla	2,080	1,982	+7	4.6	4.4
MabThera/Rituxan ^{a)}	1,599	1,999	-21	3.5	4.4
Alecensa	1,513	1,356	+15	3.3	3.0
Phesgo	740	340	+121	1.6	0.8
Gazyva/Gazyvaro	730	678	+9	1.6	1.5
Polivy	437	247	+85	1.0	0.5
Erivedge	271	269	+1	0.6	0.6
Others	557	576	0	1.1	1.2
Total Oncology	19,995	20,467	-1	43.9	45.4
Neuroscience					
Ocrevus	6,036	5,055	+17	13.3	11.2
Evrysdi	1,119	602	+87	2.5	1.3
Madopar	379	394	-2	0.8	0.9
Others	283	224	+32	0.6	0.5
Total Neuroscience	7,817	6,275	+23	17.2	13.9
Immunology					
Actemra/RoActemra	2,701	3,562	-22	5.9	7.9
Xolair	2,208	1,942	+9	4.8	4.3
Esbriet	718	1,039	-31	1.6	2.3
Pulmozyme	543	566	-5	1.2	1.3
CellCept	503	592	-11	1.1	1.3
MabThera/Rituxan ^{a)}	476	566	-18	1.0	1.3
Others	32	106	-66	0.2	0.2
Total Immunology	7,181	8,373	-14	15.8	18.6
Haemophilia A					
Hemlibra	3,823	3,022	+27	8.4	6.7
Total Haemophilia A	3,823	3,022	+27	8.4	6.7
Infectious diseases					
Ronapreve	1,679	1,630	+17	3.7	3.6
Rocephin	152	244	-37	0.3	0.5
Others	330	352	-5	0.7	0.8
Total Infectious diseases	2,161	2,226	+7	4.7	4.9
Ophthalmology					
Lucentis	1,012	1,353	-28	2.2	3.0
Vabysmo	591	0	-	1.3	0.0
Others	2	2	+80	0.0	0.0
Total Ophthalmology	1,605	1,355	+14	3.5	3.0

Pharmaceuticals Division – Sales (continued)

	2022 (CHF m)	2021 (CHF m)	% change (CER)	% of sales (2022)	% of sales (2021)
Other therapeutic areas					
Activase/TNKase	1,177	1,312	-14	2.6	2.9
Mircera	408	435	-5	0.9	1.0
Others	1,384	1,576	-9	3.0	3.6
Total other therapeutic areas	2,969	3,323	-11	6.5	7.5
Total sales	45,551	45,041	+2	100	100

a) Total MabThera/Rituxan sales of CHF 2,075 million (2021: CHF 2,565 million) split between oncology and immunology therapeutic areas.

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

Ocrevus regional sales

	2022 (CHF m)	2021 (CHF m)	% change (CER)	% of sales (2022)	% of sales (2021)
United States	4,487	3,777	+14	74.3	74.7
Europe	1,075	916	+25	17.8	18.1
International	474	362	+35	7.9	7.2
Total sales	6,036	5,055	+17	100	100

There was continuously growing demand in both indications in the US. The growth there was driven both by new and returning patients, with a higher proportion of sales coming from returning patients. In Europe and the International region, Ocrevus continued to show high uptake, notably in Germany, Italy, Spain and Canada.

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

Perjeta regional sales

	2022 (CHF m)	2021 (CHF m)	% change (CER)	% of sales (2022)	% of sales (2021)
United States	1,533	1,416	+4	37.5	35.8
Europe	871	1,112	-16	21.3	28.1
Japan	234	268	0	5.7	6.8
International	1,449	1,159	+27	35.5	29.3
Total sales	4,087	3,955	+5	100	100

Herceptin regional sales

	2022 (CHF m)	2021 (CHF m)	% change (CER)	% of sales (2022)	% of sales (2021)
United States	476	636	-28	22.2	23.6
Europe	422	544	-17	19.7	20.2
Japan	51	82	-28	2.4	3.0
International	1,193	1,432	-15	55.7	53.2
Total sales	2,142	2,694	-19	100	100

Kadcyla regional sales

	2022 (CHF m)	2021 (CHF m)	% change (CER)	% of sales (2022)	% of sales (2021)
United States	820	813	-3	39.4	41.0
Europe	671	687	+5	32.3	34.7
Japan	131	130	+16	6.3	6.6
International	458	352	+34	22.0	17.7
Total sales	2,080	1,982	+7	100	100

Phesgo regional sales

	2022 (CHF m)	2021 (CHF m)	% change (CER)	% of sales (2022)	% of sales (2021)
United States	304	151	+93	41.1	44.4
Europe	367	163	+142	49.6	47.9
International	69	26	+156	9.3	7.7
Total sales	740	340	+121	100	100

Sales in the HER2 franchise increased by 3% to CHF 9.0 billion. Sales of Perjeta grew by 5%, notably in the International region with higher demand in China in both early and metastatic breast cancer settings. In the US, sales of Perjeta increased by 4% due to growth in the adjuvant setting being largely offset by a reduction in sales volume following the launch of Phesgo. Herceptin sales were 19% lower as a result of biosimilar erosion. Kadcyla sales increased by 7% driven by the usage in the early breast cancer setting, with notable growth in Japan and Italy. The decrease of 3% in sales of Kadcyla in the US was due to competitive pressure. Phesgo sales continued to show a strong uptake in Europe, notably in France and the UK, and in the US.

Hemlibra. For haemophilia A.

Hemlibra regional sales

	2022 (CHF m)	2021 (CHF m)	% change (CER)	% of sales (2022)	% of sales (2021)
United States	2,316	1,815	+22	60.6	60.1
Europe	741	609	+30	19.4	20.2
Japan	377	365	+18	9.9	12.1
International	389	233	+65	10.1	7.6
Total sales	3,823	3,022	+27	100	100

Sales growth continued, especially in the US and Europe in the non-inhibitor segment. Sales in the International region grew across major markets. Sales in Japan were higher due to further market penetration.

Tecentriq. For advanced bladder cancer, advanced lung cancer, initial therapy of non-squamous non-small cell lung cancer (NSCLC), extensive-stage small cell lung cancer (SCLC), PD-L1-positive triple-negative breast cancer (TNBC) and unresectable or metastatic hepatocellular carcinoma (HCC).

Tecentriq regional sales

	2022 (CHF m)	2021 (CHF m)	% change (CER)	% of sales (2022)	% of sales (2021)
United States	1,975	1,688	+12	53.1	50.9
Europe	794	713	+20	21.4	21.5
Japan	443	518	-2	11.9	15.6
International	505	396	+30	13.6	12.0
Total sales	3,717	3,315	+14	100	100

Sales increased by 14% with growth mainly in the US and Europe. In the US, sales were higher driven by the new indications for NSCLC and HCC. In Europe the growth was mainly driven by the SCLC and TNBC indications, notably in France and Germany. In Japan, sales declined by 2% following government price cuts, partly offset by growth in the HCC indication.

Actemra/RoActemra. For rheumatoid arthritis, forms of juvenile idiopathic arthritis, giant cell arteritis, CAR T-cell-induced severe or life-threatening cytokine release syndrome and COVID-19.

Actemra/RoActemra regional sales

	2022 (CHF m)	2021 (CHF m)	% change (CER)	% of sales (2022)	% of sales (2021)
United States	1,196	1,761	-35	44.3	49.4
Europe	802	915	-6	29.7	25.7
Japan	342	382	+2	12.7	10.7
International	361	504	-28	13.3	14.2
Total sales	2,701	3,562	-22	100	100

Sales decreased by 22%, mainly in the US and International region, driven by lower demand from hospitalised patients with COVID-19 in 2022.

Avastin. For advanced colorectal, breast, lung, kidney, cervical and ovarian cancer, relapsed glioblastoma and liver cancer in combination with Tecentriq.

Avastin regional sales

	2022 (CHF m)	2021 (CHF m)	% change (CER)	% of sales (2022)	% of sales (2021)
United States	634	922	-34	29.9	30.2
Europe	193	430	-52	9.1	14.1
Japan	490	674	-17	23.1	22.1
International	805	1,030	-20	37.9	33.6
Total sales	2,122	3,056	-28	100	100

Sales decreased across all regions, mainly in the US and Europe due to the continuing impact of biosimilars. In the International region, the main driver in the sales decline was biosimilar competition in China.

Xolair. For chronic spontaneous urticaria and allergic asthma.

Xolair regional sales

	2022 (CHF m)	2021 (CHF m)	% change (CER)	% of sales (2022)	% of sales (2021)
United States	2,208	1,942	+9	100	100
Total sales	2,208	1,942	+9	100	100

Sales increased by 9% driven by growth in the chronic spontaneous urticaria indication. Xolair remains the market leader in the larger allergic asthma indication.

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

MabThera/Rituxan regional sales

	2022 (CHF m)	2021 (CHF m)	% change (CER)	% of sales (2022)	% of sales (2021)
United States	1,316	1,552	-19	63.4	60.5
Europe	204	268	-19	9.8	10.4
Japan	32	42	-14	1.5	1.6
International	523	703	-24	25.3	27.5
Total sales	2,075	2,565	-20	100	100

Sales were 20% lower due to biosimilar erosion across all regions and in both the oncology and immunology segments.

Alecensa. For ALK-positive non-small cell lung cancer (NSCLC).

Alecensa regional sales

	2022 (CHF m)	2021 (CHF m)	% change (CER)	% of sales (2022)	% of sales (2021)
United States	453	366	+18	29.9	27.0
Europe	292	297	+5	19.3	21.9
Japan	228	247	+6	15.1	18.2
International	540	446	+23	35.7	32.9
Total sales	1,513	1,356	+15	100	100

The global uptake continued with a 15% increase in sales. The International region, notably China, and the US were the main drivers.

Ronapreve. For the treatment of recently diagnosed high-risk patients with mild to moderate COVID-19.

Ronapreve regional sales

	2022 (CHF m)	2021 (CHF m)	% change (CER)	% of sales (2022)	% of sales (2021)
Europe	101	727	-85	6.0	44.6
Japan	1,480	645	+163	88.1	39.6
International	98	258	-62	5.9	15.8
Total sales	1,679	1,630	+17	100	100

Roche is collaborating with Regeneron Pharmaceuticals, Inc. ('Regeneron') to develop, manufacture and distribute Ronapreve, a neutralising antibody combination. Under the terms of the agreement, Regeneron is responsible for distribution in the US and Roche is responsible for distribution outside the US. Sales for Ronapreve increased by 17% driven by sales in Japan.

Activase/TNKase. For acute ischaemic stroke (AIS) and acute myocardial infarction (AMI).

Activase/TNKase regional sales

	2022 (CHF m)	2021 (CHF m)	% change (CER)	% of sales (2022)	% of sales (2021)
United States	1,114	1,255	-15	94.6	95.7
International	63	57	+9	5.4	4.3
Total sales	1,177	1,312	-14	100	100

Sales were 14% lower mainly due to temporary stockpiling in the US by distributors and customers at the end of 2021.

Evrysdi. For spinal muscular atrophy (SMA).

Evrysdi regional sales

	2022 (CHF m)	2021 (CHF m)	% change (CER)	% of sales (2022)	% of sales (2021)
United States	470	365	+23	42.0	60.6
Europe	353	113	+236	31.5	18.8
Japan	84	19	+406	7.5	3.2
International	212	105	+89	19.0	17.4
Total sales	1,119	602	+87	100	100

Evrysdi continued to show a strong uptake across all regions, driven by Europe and the International region.

Lucentis. For neovascular or ‘wet’ age-related macular degeneration (nAMD), macular oedema following retinal vein occlusion (RVO), diabetic macular oedema (DME) and diabetic retinopathy (DR).

Lucentis regional sales

	2022 (CHF m)	2021 (CHF m)	% change (CER)	% of sales (2022)	% of sales (2021)
United States	1,012	1,353	-28	100.0	100
Total sales	1,012	1,353	-28	100	100

Sales decreased by 28%, due to competitive pressure. The first biosimilar version of Lucentis with a restricted label came to market in the US at the beginning of the third quarter of 2022.

Esbriet. For idiopathic pulmonary fibrosis (IPF).

Esbriet regional sales

	2022 (CHF m)	2021 (CHF m)	% change (CER)	% of sales (2022)	% of sales (2021)
United States	455	732	-41	63.4	70.5
Europe	234	269	-7	32.6	25.9
International	29	38	-15	4.0	3.6
Total sales	718	1,039	-31	100	100

Sales declined by 31% driven by the launch of the first US generic versions in the second quarter of 2022 and by a reduced share of new patient prescriptions.

Vabysmo. For neovascular or ‘wet’ age-related macular degeneration (nAMD) and diabetic macular oedema (DME).

Vabysmo regional sales

	2022 (CHF m)	2021 (CHF m)	% change (CER)	% of sales (2022)	% of sales (2021)
United States	517	0	-	87.5	0.0
Europe	22	0	-	3.7	0.0
Japan	47	0	-	8.0	0.0
International	5	0	-	0.8	0.0
Total sales	591	0	-	100	0

Sales of this new eye medicine showed a strong uptake following its approval in the US in January 2022.

Pharmaceuticals Division – Sales by region

	2022 (CHF m)	2021 (CHF m)	% change (CER)	% of sales (2022)	% of sales (2021)
United States	23,322	22,505	-1	51.2	50.0
Europe	8,143	8,876	-2	17.8	19.7
Japan	4,949	4,506	+26	10.9	10.0
International	9,137	9,154	+1	20.1	20.3
– of which China	3,039	3,276	-7	6.7	7.3
Total sales	45,551	45,041	+2	100	100

United States. Sales declined by 1% driven by a combined 25% fall in total MabThera/Rituxan, Herceptin and Avastin sales and by lower sales of Actemra/RoActemra, Lucentis and Esbriet, partly offset by increased sales of Ocrevus, Vabysmo, Hemlibra and Tecentriq. Vabysmo showed a high initial uptake, with both new patients and patients switching from other medications, and achieved CHF 0.5 billion of sales in the US since its launch. Ocrevus sales increased by 14% driven by both new and returning patient demand. Hemlibra continued to show growth in the non-inhibitor segment with a sales growth of 22%. Tecentriq sales increased by 12% due to continued growth in new indications. Xolair sales increased by 9%, with growth in the chronic spontaneous urticaria indication. Sales of Phesgo continued to show a strong uptake since the launch in 2020. Evrysdi showed a continued uptake since its launch, with a sales growth of 23%. Actemra/RoActemra sales decreased by 35% due to lower demand from hospitalised patients with COVID-19 in 2022. Esbriet sales declined mainly due to the launch of the first US generic versions in the second quarter of 2022. Lucentis sales decreased due to competitive pressure.

Europe. Sales declined by 2% mainly driven by the base effect of Ronapreve in 2021. Excluding Ronapreve, sales grew by 6% at CER, with sales of new products more than offsetting the impacts of biosimilar competition. The latter led to a combined sales decline of 29% for MabThera/Rituxan, Herceptin and Avastin. Evrysdi showed high uptake mainly in Germany, the UK and Italy. Phesgo reported strong momentum across all countries with France and the UK being key growth drivers. There was a sales growth of 25% of Ocrevus, notably in Germany, Italy and Spain.

Japan. Sales increased by 26%, mainly as a result of Ronapreve sales of CHF 1.5 billion, supported by sales growth for recently launched products including Evrysdi, Polivy, Hemlibra and Enspryng. This more than offset the impact of biosimilars and government price cuts. There was a combined 18% fall in sales of MabThera/Rituxan, Herceptin and Avastin arising from biosimilar competition. Price cuts in Japan had an impact across the portfolio.

International. Sales increased by 1% with a sales growth of 5% in Brazil and 4% in Canada. Sales in China were 7% lower mainly driven by the biosimilar erosion for MabThera/Rituxan, Herceptin and Avastin and lower sales of Rocephin, partially offset by continued sales growth of Alecensa, Gazyva/Gazyvaro and Perjeta. The COVID-19 restrictions in China had a certain negative impact on sales across the product portfolio. Excluding China, sales in the International region increased by 6% mainly driven by higher demand for Perjeta, Hemlibra, Ocrevus and Kadcyła.

Operating results

Pharmaceuticals Division – Royalties and other operating income

	2022 (CHF m)	2021 (CHF m)	% change (CER)
Royalty income	924	1,064	-15
Income from out-licensing agreements	842	111	Over +500
Income from disposal of products, profit-sharing agreements and other	1,311	1,794	-29
Total – IFRS and Core basis	3,077	2,969	+3

Royalties and other operating income increased by 3% at CER. Royalty income was 15% lower due to lower royalty income from Lucentis. Income from out-licensing agreements increased as a result of income from the Ultomiris patent settlement. Effective 17 March 2022 Chugai and Alexion Pharmaceuticals, Inc. ('Alexion'), a fully-owned subsidiary of AstraZeneca PLC, entered into a settlement agreement resolving all patent disputes between the two companies related to Ultomiris (ravulizumab). Under the terms of the agreement, Alexion made a single payment of USD 775 million to Chugai. No further amounts are payable by either party. The agreement includes the granting by Chugai to Alexion of a worldwide, non-exclusive, fully paid-up licence in respect of Ultomiris. Accordingly, this revenue of CHF 726 million has been presented as 'Income from out-licensing agreements' in the Roche Group's financial statements, and in accordance with Roche's established core results concept, has been treated as part of core net income. Income from product disposals included the sale of rights for Rocaltrol for China for CHF 272 million, the sale of the global rights for Valcyte for CHF 185 million and the sale of the global rights for Xeloda excluding China and Japan for CHF 150 million. Profit-share income was lower due to a reduction of CHF 0.6 billion from the profit-sharing agreement with Regeneron relating to US sales of Ronapreve. The profit-share income from sales of Venclexta/Venclyxto in the US increased by 13% to CHF 452 million.

Pharmaceuticals Division – Cost of sales

	2022 (CHF m)	2021 (CHF m)	% change (CER)
Manufacturing cost of goods sold and period costs	(5,538)	(6,030)	-7
Royalty expenses	(1,614)	(1,342)	+18
Collaboration and profit-sharing agreements	(2,076)	(2,189)	-4
Amortisation of commercial software intangible assets	(3)	0	-
Impairment of property, plant and equipment and right-of-use assets	(31)	112	-
Cost of sales – Core basis	(9,262)	(9,449)	-2
Global restructuring plans	(251)	(1)	Over +500
Amortisation of intangible assets	(412)	(1,083)	-63
Impairment of intangible assets	(1,472)	(101)	Over +500
Total – IFRS basis	(11,397)	(10,634)	+7

Core costs decreased by 2% at CER, primarily due to lower manufacturing costs, driven by a favourable product mix impact in 2022. There were base effects in 2021 of incremental production costs of CHF 575 million arising from the response to the COVID-19 pandemic and income of CHF 184 million from the reversal of an idle-plant impairment. As a percentage of sales, cost of sales decreased by 0.7 percentage points to 20.3%. Royalty expenses were 18% higher driven by increased sales of certain royalty-bearing products, notably Ocrevus and Evrysdi. Collaboration and profit-sharing expenses decreased by 4% mainly due to lower sales of MabThera/Rituxan in the US. Impairment charges for intangible assets for marketed products were CHF 1.5 billion. The main items were CHF 0.7 billion for the Gavreto intangible asset due to lower sales expectations. In addition there were impairment charges of CHF 0.3 billion relating to Flatiron's technology and CHF 0.3 billion for Rozlytrek from the Ignyta acquisition. The decrease in amortisation charges of intangible assets was primarily attributable to the Esbriet intangible asset becoming fully amortised in late 2021. Global restructuring costs are mainly related to the manufacturing network strategy review impacting various sites including in the US, Switzerland and Germany.

Pharmaceuticals Division – Marketing and distribution

	2022 (CHF m)	2021 (CHF m)	% change (CER)
Marketing and distribution – Core basis	(6,657)	(6,517)	+2
Global restructuring plans	(55)	(324)	-82
Amortisation of intangible assets	(13)	(18)	-24
Impairment of intangible assets	0	(15)	0
Total – IFRS basis	(6,725)	(6,874)	-2

Core costs increased by 2% at CER. As a percentage of sales, they increased to 14.6% from 14.5% in the comparative period. Major marketing and distribution activities included investments in digital customer support and in ongoing launches, notably Vabysmo. There was also spending on Ocrevus and Tecentriq, and on pre-launch activities. On an IFRS basis, costs decreased mainly due to the restructuring costs in 2021 from transformation initiatives in sales affiliates.

Pharmaceuticals Division – Research and development

	2022 (CHF m)	2021 (CHF m)	% change (CER)
Research and development – Core basis	(12,096)	(11,952)	+1
Global restructuring plans	(263)	(209)	+25
Amortisation of intangible assets	(336)	(297)	+10
Impairment of intangible assets	(1,365)	(535)	+146
Total – IFRS basis	(14,060)	(12,993)	+8

Core costs increased by 1% at CER and represented 26.6% as a percentage of sales. Oncology remained the primary area of research and development with the cancer immunotherapy portfolio being a key driver. Neuroscience, immunology and ophthalmology represent significant areas of spending. The growth in 2022 was mostly driven by higher investments in Spark Therapeutics to support the investigational programmes such as haemophilia A and B and studies relating to Pompe disease. Chugai also showed an increase in spending driven by late-stage investments in oncology. There were continued investments in research and development activities in China. This was offset by a decline in late-stage portfolio investments, with significantly lower COVID-19-related spending for the co-development of Regeneron, which was CHF 163 million in 2021. Intangible asset impairment charges for assets still in the research and development stage totalled CHF 1.4 billion. The major items were a charge of CHF 0.5 billion for the partial impairment of the intangible asset SPK-8011, a novel gene therapy for the treatment of haemophilia A that was acquired as part of the Spark Therapeutics acquisition, and a charge of CHF 0.4 billion for the full impairment of the intangible asset PRM-151, a novel anti-fibrotic immunomodulator for the treatment of idiopathic pulmonary fibrosis that was acquired as part of the Promedior acquisition. Restructuring costs from the research and development portfolio prioritisation programme are mainly related to study closure costs.

Additionally, in-licensing transactions, business combinations and asset acquisitions resulted in intangible assets of CHF 1.2 billion (2021: CHF 1.1 billion) being recognised. See the above sections on ‘Mergers and acquisitions’ and ‘Alliance transactions’ for further details.

Pharmaceuticals Division – General and administration

	2022 (CHF m)	2021 (CHF m)	% change (CER)
Administration	(1,378)	(1,410)	-2
Pensions – past service costs	4	16	-75
Gains (losses) on disposal of property, plant and equipment and right-of-use assets	5	(1)	-
Business taxes and capital taxes	(160)	(209)	-19
Other general items	88	60	+39
General and administration – Core basis	(1,441)	(1,544)	-6
Global restructuring plans	(213)	(326)	-35
Mergers and acquisitions and alliance transactions	6	(23)	-
Legal and environmental cases	16	(86)	-
Total – IFRS basis	(1,632)	(1,979)	-17

Core costs decreased by 6% at CER and, as a percentage of sales, decreased to 3.2% from 3.4%. Administration costs were lower mainly due to lower legal expenses. Business taxes and capital taxes decreased as a result of lower excise tax expense in 2022 in the US. Restructuring costs were lower than 2021, which included costs for the Basel/Kaiseraugst site. In 2022 income from legal and environmental cases was due to a partial release of certain legal provisions based on the latest developments.

Roche Pharmaceuticals and Chugai subdivisional operating results

Pharmaceuticals subdivisional operating results in millions of CHF

	Roche Pharmaceuticals			Chugai	Pharmaceuticals Division	
	2022	2021	2022	2021	2022	2021
Sales						
– External customers	40,602	40,535	4,949	4,506	45,551	45,041
– Within division	3,384	2,190	2,602	2,179	5,986	4,369
Core operating profit	15,617	15,523	4,052	3,621	19,172	18,548
– Margin, % of sales to external customers	38.5	38.3	81.9	80.4	42.1	41.2
Operating profit	11,323	12,601	3,988	3,525	14,814	15,530
– Margin, % of sales to external customers	27.9	31.1	80.6	78.2	32.5	34.5
Operating free cash flow	13,374	14,088	2,359	2,539	15,753	16,639
– Margin, % of sales to external customers	32.9	34.8	47.7	56.3	34.6	36.9

Pharmaceuticals Division total core operating profit and operating profit both include the elimination of CHF minus 497 million of unrealised intercompany gains between Roche Pharmaceuticals and Chugai (2021: CHF minus 596 million).

The increase in the exchange rate of the Japanese yen has an adverse impact of approximately 11 percentage points 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 increased by 26%, driven by sales of Ronapreve, while sales within the division increased by 37% due to higher sales of Hemlibra by Chugai to Roche Pharmaceuticals. Chugai's core operating profit increased by 23% as a result of the income from the Ultomiris patent settlement and higher gross profit from sales to external customers and within the division. This was partially offset by lower royalty income from Roche Pharmaceuticals and higher research and development costs. Operating free cash flow at Chugai decreased by 2% mainly as a result of an increase in trade receivables due to Ronapreve sales in December 2022, partially offset by the Ultomiris patent settlement and the underlying operating performance.

Financial position

Pharmaceuticals Division – Net operating assets

	2022 (CHF m)	2021 (CHF m)	% change (CHF)	% change (CER)	Movement: Transactions (CHF m)	Movement: CTA and other (CHF m)
Trade receivables	8,617	7,478	+15	+22	1,525	(386)
Inventories	5,259	4,728	+11	+15	731	(200)
Trade payables	(2,363)	(2,421)	-2	+1	1	57
Net trade working capital	11,513	9,785	+18	+24	2,257	(529)
Other receivables (payables)	(7,722)	(7,380)	+5	+7	(531)	188
Net working capital	3,791	2,405	+58	+75	1,726	(340)
Property, plant and equipment	15,788	16,055	-2	+1	124	(391)
Right-of-use assets	845	916	-8	-6	(53)	(18)
Goodwill and intangible assets	13,676	15,987	-14	-15	(2,451)	140
Provisions	(2,392)	(2,704)	-12	-11	274	38
Other long-term assets, net	848	756	+12	+16	109	(17)
Long-term net operating assets	28,765	31,010	-7	-6	(1,997)	(248)
Net operating assets	32,556	33,415	-3	0	(271)	(588)

The absolute amount of the movement between the 2022 and 2021 consolidated balances reported in Swiss francs is split between actual 2022 transactions (translated at average rates for 2021) and the currency translation adjustment (CTA) that arises on consolidation. The 2022 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 46 of the Annual Financial Statements, and a reconciliation between that balance sheet and the information given above is on page 170.

Currency translation effects on balance sheet amounts. Compared to the start of the year the Swiss franc appreciated significantly against the Japanese yen. This was partially compensated by the depreciation of the Swiss franc against the US dollar. This resulted in a net negative translation impact. The exchange rates used are given on page 31.

Net working capital. Net working capital increased by 75% at CER, with trade receivables being the main driver. The increase in trade receivables of 22% was driven by Ronapreve sales in Japan in December 2022 and by the extended payment terms in the US for certain products. The increase was also due to Ocrevus sales growth in US, as well as the timing of US collections generally. The increase in inventories of 15% was driven by ensuring supply resilience, notably for Actemra/RoActemra after significant depletion of inventory levels due to previously high demand from COVID-19 patients, and also for critical raw materials given global supply scarcity. The ramp-up of launch products, notably Vabysmo and Phesgo, was also a driver in the growth of inventories. The net liability position for other receivables/payables increased due to lower receivables for the Regeneron profit-share income.

Long-term net operating assets. Overall long-term net operating assets decreased by 6% at CER mainly due to lower intangible assets and slightly offset by a decrease in provisions. Intangible assets decreased as a result of impairment charges, as explained in the section 'Impairment of goodwill and intangible assets' above. Provisions decreased due to the recording of restructuring provisions at the end of 2021 and the utilisation of these restructuring provisions in 2022. Capital expenditure included manufacturing investments in Japan, the US, Switzerland and Germany as well as site developments in Switzerland, South San Francisco and at Chugai's research facilities in Yokohama.

Free cash flow

Pharmaceuticals Division – Operating free cash flow

	2022 (CHF m)	2021 (CHF m)	% change (CHF)	% change (CER)
Operating profit	14,814	15,530	-5	-2
Depreciation, amortisation and impairment	5,306	3,458	+53	+50
Provisions	(248)	661	-	-
Equity compensation plans	571	513	+11	+7
Other	150	308	-51	-49
Operating profit cash adjustments	5,779	4,940	+17	+14
Operating profit, net of operating cash adjustments	20,593	20,470	+1	+2
(Increase) decrease in net working capital	(1,745)	(745)	+134	+154
Investments in property, plant and equipment	(1,744)	(2,008)	-13	-11
Principal portion of lease liabilities paid	(274)	(255)	+7	+10
Investments in intangible assets	(1,077)	(823)	+31	+29
Operating free cash flow	15,753	16,639	-5	-4
- as % of sales	34.6	36.9	-2.3	-2.4

See pages 167–169 for the definition of free cash flow and a detailed breakdown.

The Pharmaceuticals Division's operating free cash flow decreased by 4% at CER to CHF 15.8 billion. The cash generation of the business, measured by the operating profit, net of operating cash adjustments, increased by 2%, while core operating profit increased by 5%. This difference was mainly due to increased provisions in 2021. Net working capital absorbed an additional CHF 1.7 billion of cash, driven by the increase in trade receivables and the increase in inventories, for the reasons described above in the 'Financial position' section. Capital expenditure was 11% lower in comparison with 2021, with the major items also as described above in the 'Financial Position' section. Investments in intangible assets were 29% higher than in 2021. They included payments for intangible assets acquired at the end of 2021.

Diagnostics Division operating results

Diagnostics Division operating results

	2022 (CHF m)	2021 (CHF m)	% change (CHF)	% change (CER)
IFRS results				
Sales	17,730	17,760	0	+3
Royalties and other operating income	68	80	-15	-13
Revenue	17,798	17,840	0	+2
Cost of sales	(9,000)	(9,013)	0	+3
Marketing and distribution	(2,914)	(3,046)	-4	-2
Research and development	(1,963)	(1,806)	+9	+9
General and administration	(597)	(656)	-9	-6
Operating profit	3,324	3,319	0	+5
- Margin, % of sales	18.7	18.7	0	+0.4
Core results^{a)}				
Sales	17,730	17,760	0	+3
Royalties and other operating income	68	80	-15	-13
Revenue	17,798	17,840	0	+2
Cost of sales	(8,813)	(8,689)	+1	+4
Marketing and distribution	(2,889)	(2,927)	-1	+1
Research and development	(1,957)	(1,756)	+11	+12
General and administration	(583)	(543)	+7	+10
Core operating profit	3,556	3,925	-9	-5
- Margin, % of sales	20.1	22.1	-2.0	-1.7
Financial position				
Net working capital	3,268	3,030	+8	+14
Long-term net operating assets	13,250	13,030	+2	+4
Net operating assets	16,518	16,060	+3	+6
Free cash flow^{b)}				
Operating free cash flow	2,561	3,370	-24	-21
- Margin, % of sales	14.4	19.0	-4.6	-4.5

a) See pages 164-167 for the definition of core results.

b) See pages 167-169 for the definition of free cash flow.

Sales

The Diagnostics Division reported sales of CHF 17.7 billion, an increase of 3% at CER. There was growth in routine testing, which more than compensated for the sales decrease from the lower demand for COVID-19-related products in 2022. Sales in the division's base business increased by 7% across all regions, with immunodiagnostics being the main growth driver. The sales of COVID-19-related tests in 2022 decreased by 10% at CER to CHF 4.1 billion (2021: CHF 4.7 billion) due to lower demand for COVID-19-related products, with the SARS-CoV-2 Rapid Antigen test accounting for approximately 56% of the COVID-19-related sales.

The SARS-CoV-2 Rapid Antigen test was the main growth driver in the Point of Care customer area while growth in routine testing was the main contributor to the increased sales in the Core Lab and Pathology Lab customer areas. Sales in the Molecular Lab customer area decreased due to lower COVID-19-related sales of SARS-CoV-2 assays on the cobas 6800/8800 range. Diabetes Care sales decreased by 2%, driven by the base effect from the resolution of a rebate dispute in 2021.

Diagnostics Division – Sales by customer area

	2022 (CHF m)	2021 ^{a)} (CHF m)	% change (CER)	% of sales (2022)	% of sales ^{a)} (2021)
Core Lab	7,775	7,560	+6	43.9	42.6
Point of Care	3,589	3,134	+17	20.2	17.6
Molecular Lab	3,450	4,174	-15	19.5	23.5
Diabetes Care	1,598	1,690	-2	9.0	9.5
Pathology Lab	1,318	1,202	+11	7.4	6.8
Total sales	17,730	17,760	+3	100	100

a) In 2022 sales in the Point of Care customer area included sales from the Liat business (POC molecular) and sales in the Core Lab customer area included sales from the Life Science Alliances business. These were both previously shown as part of the Molecular Lab customer area. The comparative information for 2021 has been restated accordingly. Sales for 2021 were: POC molecular CHF 551 million, Life Science Alliances CHF 87 million.

Core Lab. This customer area focuses on central labs and provides diagnostics solutions in the areas of immunoassays, clinical chemistry and custom biotech. Sales increased by 6% due to the 7% growth in immunodiagnostics products, such as cardiac and oncology tests, and the 9% growth in the clinical chemistry business. Sales in the custom biotech business were 7% lower. Sales grew across all regions, with the largest contribution coming from the Asia-Pacific and EMEA regions, which grew by 8% and 6%, respectively.

Point of Care. This customer area provides diagnostics solutions immediately at the point of care such as in emergency rooms, general practitioners' practices and directly with patients, and includes blood gas and electrolyte (BGE) tests. Sales of the SARS-CoV-2 Rapid Antigen test are reported in this customer area and these were the main driver of the 17% sales growth. Sales of these tests were concentrated in the Asia-Pacific and North America regions.

Molecular Lab. This customer area focuses on molecular labs and provides diagnostics solutions for the detection and monitoring of pathogens, donor screening, sexual health and genomics. Sales declined by 15% due to lower COVID-19-related sales of SARS-CoV-2 assays on the cobas 6800/8800 range, partly offset by growth in the base business across the portfolio.

Diabetes Care. This customer area provides diagnostics solutions for patients and healthcare professionals enabling integrated personalised diabetes management. Sales decreased by 2% due to the base effect of the resolution of a rebate dispute in 2021. Excluding this, sales remained stable. The continued contraction of the blood glucose monitoring market due to patients switching to continuous glucose monitoring systems, in particular in the US and major European markets, was offset by higher demand in emerging markets.

Pathology Lab. This customer area focuses on pathology labs and provides diagnostics solutions for tissue biopsies and companion diagnostics. These are targeted diagnostics to aid in the choice of specific therapies for each patient. Sales increased by 11% due to growth in the advanced staining and the companion diagnostics businesses.

Diagnostics Division – Sales by region

	2022 (CHF m)	2021 (CHF m)	% change (CER)	% of sales (2022)	% of sales (2021)
Europe, Middle East and Africa (EMEA)	5,888	7,537	-16	33.2	42.4
North America	5,141	4,369	+13	29.0	24.6
– of which US	4,518	3,941	+10	25.5	22.2
Asia-Pacific	5,639	4,756	+23	31.8	26.8
– of which China	2,580	2,430	+6	14.6	13.7
Latin America	1,062	1,098	-1	6.0	6.2
Total sales	17,730	17,760	+3	100	100

Sales in the EMEA region decreased by 16% due to the significant reduction of COVID-19-related sales compared to the previous year, partly offset by growth in the immunoassay business. In North America the 13% sales growth was driven by the sales of the SARS-CoV-2 Rapid Antigen test. Asia-Pacific sales were 23% higher as a result of increased sales of the SARS-CoV-2 Rapid Antigen test and due to growth in the immunoassays business.

Operating results

Diagnostics Division – Royalties and other operating income

	2022 (CHF m)	2021 (CHF m)	% change (CER)
Royalty income	61	43	+46
Income from out-licensing agreements	0	18	-100
Income from disposal of products and other	7	19	-66
Total – IFRS and Core basis	68	80	-13

Royalties and other operating income decreased by 13% at CER driven by the base effect from an out-licensing agreement in Diabetes Care in 2021.

Diagnostics Division – Cost of sales

	2022 (CHF m)	2021 (CHF m)	% change (CER)
Manufacturing cost of goods sold and period costs	(8,680)	(8,478)	+5
Royalty expenses	(130)	(116)	+11
Amortisation of commercial software intangible assets	(2)	0	–
Impairment of property, plant and equipment and right-of-use assets	(1)	(95)	-99
Cost of sales – Core basis	(8,813)	(8,689)	+4
Global restructuring plans	(44)	(191)	-76
Amortisation of intangible assets	(143)	(122)	+16
Mergers and acquisitions and alliance transactions	0	(11)	-100
Total – IFRS basis	(9,000)	(9,013)	+3

Core costs increased by 4% at CER. This increase was above the sales growth of 3% and arose from the product mix driven by increased sales volumes of SARS-CoV-2 Rapid Antigen tests and lower volumes of SARS-CoV-2 PCR tests. There were also higher freight costs. In 2021 impairments on property, plant and equipment were incurred in connection with the at-risk manufacturing ramp-up and rollout of COVID-19-related products. The core cost of sales ratio increased by 0.8 percentage points to 49.7%. Global restructuring costs decreased due to restructuring activities in Diabetes Care in the prior period.

Diagnostics Division – Marketing and distribution

	2022 (CHF m)	2021 (CHF m)	% change (CER)
Marketing and distribution – Core basis	(2,889)	(2,927)	+1
Global restructuring plans	(4)	(100)	-96
Amortisation of intangible assets	(21)	(19)	+12
Total – IFRS basis	(2,914)	(3,046)	-2

Core costs increased by 1% at CER, as a result of higher distribution costs related to SARS-CoV-2 Rapid Antigen tests, partly offset by lower personnel expenses. On a core basis, marketing and distribution costs as a percentage of sales decreased to 16.3% compared to 16.5% in 2021. Global restructuring costs decreased due to restructuring activities in the prior period, notably in Diabetes Care.

Diagnostics Division – Research and development

	2022 (CHF m)	2021 (CHF m)	% change (CER)
Research and development – Core basis	(1,957)	(1,756)	+12
Global restructuring plans	2	(33)	-
Amortisation of intangible assets	(8)	(17)	-55
Total – IFRS basis	(1,963)	(1,806)	+9

Core costs increased by 12% at CER, with digital solutions being the main growth driver. In addition, investments continued for projects in sequencing, cardiac disease and mass spectrometry. As a percentage of sales, research and development core costs increased to 11.0% from 9.9% in 2021.

Diagnostics Division – General and administration

	2022 (CHF m)	2021 (CHF m)	% change (CER)
Administration	(606)	(598)	+4
Pensions – past service costs	0	9	-100
Gains (losses) on disposal of property, plant and equipment and right-of-use assets	0	(1)	-
Gains (losses) on divestment of subsidiaries	1	4	-68
Business taxes and capital taxes	(23)	(20)	+19
Other general items	45	63	-31
General and administration – Core basis	(583)	(543)	+10
Global restructuring plans	(30)	(63)	-50
Mergers and acquisitions and alliance transactions	14	(21)	-
Legal and environmental cases	2	(29)	-
Total – IFRS basis	(597)	(656)	-6

Core costs increased by 10% at CER, driven by the base effect in other general items from a sales tax refund in the prior year and due to higher administration costs from the shift of the reporting lines of certain support functions. As a percentage of sales, core costs increased to 3.3% from 3.1% in 2021. Mergers and acquisitions and alliance transaction costs included income of CHF 27 million from the release of contingent consideration provisions in 2022.

Financial position

Diagnostics Division – Net operating assets

	2022 (CHF m)	2021 (CHF m)	% change (CHF)	% change (CER)	Movement: Transactions (CHF m)	Movement: CTA and other (CHF m)
Trade receivables	3,108	3,454	-10	-5	(202)	(144)
Inventories	3,346	2,987	+12	+15	455	(96)
Trade payables	(1,282)	(1,250)	+3	+6	(70)	38
Net trade working capital	5,172	5,191	0	+4	183	(202)
Other receivables (payables)	(1,904)	(2,161)	-12	-10	218	39
Net working capital	3,268	3,030	+8	+14	401	(163)
Property, plant and equipment	7,016	6,852	+2	+6	414	(250)
Right-of-use assets	239	273	-12	-8	(22)	(12)
Goodwill and intangible assets	6,829	6,939	-2	-1	(96)	(14)
Provisions	(832)	(1,062)	-22	-20	221	9
Other long-term assets, net	(2)	28	-107	-115	(35)	5
Long-term net operating assets	13,250	13,030	+2	+4	482	(262)
Net operating assets	16,518	16,060	+3	+6	883	(425)

The absolute amount of the movement between the 2022 and 2021 consolidated balances reported in Swiss francs is split between actual 2022 transactions (translated at average rates for 2021) and the currency translation adjustment (CTA) that arises on consolidation. The 2022 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 46 of the Annual Financial Statements, and a reconciliation between that balance sheet and the information given above is on page 170.

Currency translation effects on balance sheet amounts. Compared to the start of the year the Swiss franc appreciated against the euro having a negative effect on the net operating assets of the Diagnostics Division. This resulted in a negative net translation impact. The exchange rates used are given on page 31.

Net working capital. Net working capital increased by 14% at CER driven by the 15% increase in inventories. The increase was in part to support the growth of the division's base business notably in the Core Lab customer area. In addition, there were increased inbound shipments of instruments towards the end of year due to the recovery from a supply backlog. The 5% decrease in trade receivables was due to the lower demand for COVID-19-related tests in the last quarter of 2022 compared to 2021. The decrease in net liability for other receivables/payables came from higher employee-related accruals in 2021.

Long-term net operating assets. Overall long-term net operating assets increased by 4% at CER. Property, plant and equipment increased as a result of instrument placements as well as site investments in Germany and the US. Goodwill and intangible assets decreased by 1% at CER following the regular amortisation charges, partly offset by contingent payments for asset acquisitions previously closed. Provisions were lower due to the utilisation and release of restructuring provisions and the release of contingent consideration provisions.

Free cash flow

Diagnostics Division – Operating free cash flow

	2022 (CHF m)	2021 (CHF m)	% change (CHF)	% change (CER)
Operating profit	3,324	3,319	0	+5
Depreciation, amortisation and impairment	1,434	1,568	-9	-6
Provisions	(225)	125	-	-
Equity compensation plans	106	98	+8	+6
Other	391	371	+5	+8
Operating profit cash adjustments	1,706	2,162	-21	-19
Operating profit, net of operating cash adjustments	5,030	5,481	-8	-5
(Increase) decrease in net working capital	(706)	(342)	+106	+120
Investments in property, plant and equipment	(1,619)	(1,621)	0	+4
Principal portion of lease liabilities paid	(118)	(115)	+3	+6
Investments in intangible assets	(26)	(33)	-21	-20
Operating free cash flow	2,561	3,370	-24	-21
- as % of sales	14.4	19.0	-4.6	-4.5

For the definition of free cash flow and a detailed breakdown see pages 167–169.

The operating free cash flow of the Diagnostics Division decreased by 21% at CER to CHF 2.6 billion from CHF 3.4 billion in 2021. The cash generation of the business, measured by the operating profit, net of operating cash adjustments, decreased by 5%, in line with the core operating profit decrease of 5%. Net working capital absorbed CHF 0.7 billion of cash in 2022 which was attributable to higher inventories as described above in the 'Financial position' section. Capital expenditure increased by 4% due to instrument placements as well as site investments in Germany and the US.

Corporate operating results

Corporate operating results summary

	2022 (CHF m)	2021 (CHF m)	% change (CER)
Administration	(546)	(536)	+2
Business taxes and capital taxes	(9)	(9)	-9
Other general items	0	(31)	-100
General and administration costs – Core basis^{a)}	(555)	(576)	+4
Global restructuring plans	(111)	(115)	-2
Legal and environmental cases	4	(3)	-
Total costs – IFRS basis	(662)	(694)	+2
Financial position			
Net working capital	(337)	(314)	+10
Long-term net operating assets	182	116	+61
Net operating assets	(155)	(198)	-20
Free cash flow^{b)}			
Operating free cash flow	(641)	(598)	+14

a) See pages 164–167 for the definition of core results.

b) See pages 167–169 for the definition of free cash flow and a detailed breakdown.

Administration costs were higher by 2%, which was related to cost transfers into corporate functions. Other general items decreased mainly due to lower IT project costs within the overall net amount. Net working capital was lower due to increased payables. The change in long-term net operating assets was due to the utilisation of provisions for ongoing environmental remediation activities at Nutley in the US and at Grenzach in Germany. Corporate operating free cash flow showed an increased outflow, driven by movements in the net working capital and increased 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 CHF)

	2022	% change (CER) 2021	2022	% change (CHF) 2021
Pharmaceuticals Division				
Sales	+2	+3	+1	+1
Core operating profit	+5	-2	+3	-5
Diagnostics Division				
Sales	+3	+29	0	+29
Core operating profit	-5	+54	-9	+53
Group				
Sales	+2	+9	+1	+8
Core operating profit	+3	+4	+1	+2

Exchange rates against the Swiss franc

	31 December 2022	Average 2022	31 December 2021	Average 2021
1 USD	0.92	0.95	0.91	0.91
1 EUR	0.98	1.00	1.03	1.08
100 JPY	0.69	0.73	0.79	0.83

In 2022 compared to 2021, the Swiss franc was weaker against the US dollar, but was stronger against the euro and the Japanese yen. The net impact expressed in Swiss francs compared to constant exchange rates was 1 percentage point on sales, 2 percentage points on core operating profit and 3 percentage points on IFRS net income and 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 2022 is shown in the table below.

Currency sensitivities

Impact of 1% increase in average exchange rate versus the Swiss franc	Sales (CHF m)	Core operating profit (CHF m)
US dollar	288	102
Euro	93	34
Japanese yen	59	57
All other currencies	175	92

The Group's revenues are primarily generated from sales of products to customers. Such revenues are mainly received in the local currency of the customer's home market, although in certain emerging markets invoicing is made in major international currencies such as the US dollar and euro. Cost of sales, marketing and some administration costs follow the same currency pattern as sales. The majority of research and development activities are incurred at the Group's global research facilities, and therefore the costs are mainly concentrated in US dollars, Swiss francs and euros. General and administration costs tend to be incurred mainly at central locations in the US, Switzerland and Germany. Chugai's revenues and costs are denominated in Japanese yen.

Treasury and taxation results

Treasury and taxation results

	2022 (CHF m)	2021 (CHF m)	% change (CHF)	% change (CER)
IFRS results				
Operating profit	17,476	18,155	-4	-1
Financing costs	(665)	(418)	+59	+56
Other financial income (expense)	(484)	(339)	+43	+50
Profit before taxes	16,327	17,398	-6	-3
Income taxes	(2,796)	(2,463)	+14	+19
Net income	13,531	14,935	-9	-6
Attributable to				
– Roche shareholders	12,421	13,930	-11	-8
– Non-controlling interests	1,110	1,005	+10	+20
Core results^{a)}				
Operating profit	22,173	21,897	+1	+3
Financing costs	(686)	(412)	+67	+64
Other financial income (expense)	(528)	(339)	+56	+63
Profit before taxes	20,959	21,146	-1	+1
Income taxes	(3,429)	(3,075)	+12	+15
Net income	17,530	18,071	-3	-1
Attributable to				
– Roche shareholders	16,401	17,038	-4	-2
– Non-controlling interests	1,129	1,033	+9	+19
Financial position				
Net debt	(15,584)	(18,167)	-14	-18
Lease liabilities	(1,193)	(1,354)	-12	-9
Pensions	(3,604)	(4,605)	-22	-19
Income taxes	2,908	2,273	+28	+33
Equity investments	671	738	-9	-18
Derivatives, net	(459)	(73)	Over +500	Over +500
Collateral, net	180	(17)	-	-
Interest payable	(140)	(102)	+37	+37
Associated companies and other, net	317	375	-15	+5
Total net assets (liabilities)	(16,904)	(20,932)	-19	-22
Free cash flow^{b)}				
Treasury activities	(530)	(377)	+41	+39
Taxes paid	(4,102)	(3,343)	+23	+26
Total	(4,632)	(3,720)	+25	+27

a) See pages 164–167 for the definition of core results.

b) See pages 167–169 for the definition of free cash flow.

Financing costs

Core financing costs were CHF 686 million, an increase of 64% at CER compared to 2021. Interest expenses on debt increased by 81% at CER to CHF 588 million due to the issuance of debt in December 2021, February, March and September 2022 as well as increases in interest rates which affected the cost of short-term borrowings, such as commercial paper. A full analysis of financing costs is given in Note 4 to the Annual Financial Statements.

Other financial income (expense)

Core other financial income (expense) was a net expense of CHF 528 million compared to a net expense of CHF 339 million in 2021. Core net income from equity securities, which reflects the fair value changes in the Roche Venture Fund investments, was a net loss of CHF 123 million (2021: net loss of CHF 87 million). The net foreign exchange results, which reflect hedging costs and gains and losses on unhedged positions, were net losses of CHF 278 million (2021: net losses of CHF 232 million). Losses on the net monetary positions in hyperinflationary economies in Argentina and Türkiye were CHF 70 million (2021: losses of CHF 20 million). A full analysis of other financial income (expense) is given in Note 4 to the Annual Financial Statements.

Income taxes

The Group's effective core tax rate increased by 1.9 percentage points to 16.4% in 2022. The increase was mainly due to the impact from the resolution of several tax disputes, which reduced the Group's effective core tax rate by 1.5 percentage points in 2022 compared to 3.3 percentage points in 2021.

The IFRS results saw the effective tax rate increase by 2.9 percentage points. In addition to the core impacts mentioned above, the impairments of intangible assets that are not tax deductible further increased the IFRS tax rate.

Further details of the Group's income tax expenses and related balance sheet positions are given in Note 5 to the Annual Financial Statements.

Analysis of the Group's effective tax rate

	2022			2021		
	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	20,959	(3,429)	16.4	21,146	(3,075)	14.5
Global restructuring plans	(969)	193	19.9	(1,362)	267	19.6
Goodwill and intangible assets	(3,770)	515	13.7	(2,207)	316	14.3
Mergers and acquisitions and alliance transactions	65	1	–	(57)	10	17.5
Legal and environmental cases	42	(8)	19.0	(122)	15	12.3
Pension plan settlements	0	0	–	0	0	–
Normalisation of equity compensation plan tax benefit	0	(68)	–	0	4	–
Group's effective tax rate – IFRS basis	16,327	(2,796)	17.1	17,398	(2,463)	14.2

Financial position

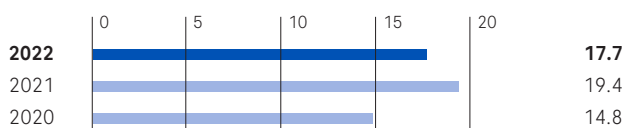
The decrease in net debt was due to the free cash flow of CHF 13.0 billion, partly offset by the dividend payments of CHF 7.8 billion. The CHF 19.0 billion bridge loan facility drawn in 2021 to finance the share repurchase from Novartis was fully repaid by May 2022, partly from the proceeds from the new debt issuances and partly from internal cash generation. The new debt issued to refinance the bridge loan facility was USD 6.0 billion issued in December 2021, CHF 3.0 billion issued in February 2022 and USD 5.0 billion issued in March 2022. Further debt of CHF 0.8 billion was issued in September 2022. Lease liabilities decreased to CHF 1.2 billion due to the regular payments. The net pension liability was lower following increases in discount rates. The net tax assets increased mainly due to taxes paid exceeding the income tax expenses, partially offset by the deferred tax effects of the pension and equity compensation plans. At 31 December 2022 the Group held equity investments with a market value of CHF 0.7 billion, which consist mostly of holdings in biotechnology and other pharmaceuticals companies which were acquired as part of licensing transactions and scientific collaborations or as investments of the Roche Venture Fund. The net derivative liabilities increased to CHF 0.5 billion as a result of interest rate and exchange rate movements.

Free cash flow

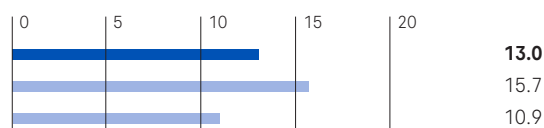
The net cash outflow from treasury activities was CHF 0.5 billion compared to an outflow of CHF 0.4 billion in 2021. This was mainly due to higher interest payments following increases in interest rates that affected the cost of short-term borrowings. Total taxes paid were CHF 4.1 billion, an increase of 26% at CER, with higher payments in the US due to tax requirements on the mandatory capitalisation of research and development expenses becoming effective in 2022, and higher payments in Japan.

Cash flows and net debt

Operating free cash flow in billions of CHF



Free cash flow in billions of CHF



Free cash flow in millions of CHF

	Pharmaceuticals	Diagnostics	Corporate	Group
2022				
Operating profit – IFRS basis	14,814	3,324	(662)	17,476
Operating profit cash adjustments	5,779	1,706	87	7,572
Operating profit, net of operating cash adjustments	20,593	5,030	(575)	25,048
(Increase) decrease in net working capital	(1,745)	(706)	33	(2,418)
Investments in property, plant and equipment	(1,744)	(1,619)	(86)	(3,449)
Principal portion of lease liabilities paid	(274)	(118)	(13)	(405)
Investments in intangible assets	(1,077)	(26)	0	(1,103)
Operating free cash flow	15,753	2,561	(641)	17,673
Treasury activities				(530)
Taxes paid				(4,102)
Free cash flow				13,041
2021				
Operating profit – IFRS basis	15,530	3,319	(694)	18,155
Operating profit cash adjustments	4,940	2,162	79	7,181
Operating profit, net of operating cash adjustments	20,470	5,481	(615)	25,336
(Increase) decrease in net working capital	(745)	(342)	93	(994)
Investments in property, plant and equipment	(2,008)	(1,621)	(64)	(3,693)
Principal portion of lease liabilities paid	(255)	(115)	(12)	(382)
Investments in intangible assets	(823)	(33)	0	(856)
Operating free cash flow	16,639	3,370	(598)	19,411
Treasury activities				(377)
Taxes paid				(3,343)
Free cash flow				15,691

For the definition of free cash flow and a detailed breakdown see pages 167–169.

Operating free cash flow decreased by 8% at CER to CHF 17.7 billion. This was mainly due to the increased net working capital that absorbed an additional CHF 2.4 billion of cash, driven by the increase in trade receivables in the Pharmaceuticals Division and inventories in both divisions. The free cash flow was CHF 13.0 billion, a decrease of 16% at CER. This was a result of the lower operating free cash flow, higher short-term borrowing costs due to increased interest rates and higher tax payments, notably in the US and Japan.

Net debt in millions of CHF**At 1 January 2022**

Cash and cash equivalents	6,850
Marketable securities	6,181
Long-term debt	(16,076)
Short-term debt	(15,122)
Net debt at beginning of period	(18,167)

Change in net debt during 2022

Free cash flow	13,041
Dividend payments	(7,832)
Transactions in own equity instruments	(1,257)
Mergers and acquisitions, net of divestments of subsidiaries	(250)
Hedging and collateral arrangements	(526)
Currency translation, fair value and other movements	(593)
Change in net debt	2,583

At 31 December 2022

Cash and cash equivalents	4,991
Marketable securities	4,776
Long-term debt	(21,391)
Short-term debt	(3,960)
Net debt at end of period	(15,584)

For the definition of net debt see page 171.

Net debt – currency profile in millions of CHF

	Cash and marketable securities		2022	Debt 2021
	2022	2021		
US dollar	1,284	1,923	(18,707)	(16,454)
Euro	1,580	2,666	(1,606)	(1,704)
Swiss franc	2,985	4,104	(4,517)	(12,314)
Japanese yen	3,114	3,710	0	0
Other	804	628	(521)	(726)
Total	9,767	13,031	(25,351)	(31,198)

The net debt position of the Group at 31 December 2022 was CHF 15.6 billion, a decrease of CHF 2.6 billion from 31 December 2021. The decrease was due to the free cash flow of CHF 13.0 billion, which exceeded the CHF 7.8 billion for the annual dividend payments, the CHF 1.3 billion for transactions in own equity instruments and the CHF 0.6 billion for currency translation. Dividend payments were lower than in 2021 due to the cancellation in February 2022 of the shares acquired from Novartis in 2021. Transactions in own equity instruments related to purchases in connection with the Group's equity compensation plans. Payments for hedging and collateral arrangements consist of foreign currency forwards of CHF 0.3 billion and net collateral payments of CHF 0.2 billion.

Contractual obligations and commitments

The Group has obligations and commitments, as set out in the table below. Carrying values are as shown in the consolidated balance sheet. The potential obligations shown are not discounted and are not risk-adjusted, unless otherwise noted below. Any amounts denominated in foreign currencies are translated into Swiss francs at the 31 December 2022 exchange rates. Provisions for legal and environmental matters are not included as the timing and amount of any cash outflow is uncertain and contingent on the development of the matters in question.

Contractual obligations and commitments as at 31 December 2022 in millions of CHF

	Less than 1 year	1-2 years	2-5 years	Potential obligation Over 5 years	Total	Carrying value
On-balance sheet						
Debt ²¹						
– Bonds and notes	2,264	3,671	9,319	12,899	28,153	23,158
– Other debt	2,193	0	0	0	2,193	2,193
Contingent consideration ^{20, 31}	38	195	37	83	353	103
Accounts payable ¹⁷	4,556	0	0	0	4,556	4,556
Other non-current liabilities ¹⁸	0	530	386	342	1,258	1,189
Other current liabilities ¹⁹	13,150	61	90	0	13,301	13,288
Unfunded defined benefit plans ²⁶	206	208	656	6,248	7,318	4,001
Total on-balance sheet commitments	22,407	4,665	10,488	19,572	57,132	48,488
Off-balance sheet						
Capital commitments for property, plant and equipment ⁸	2,025	480	73	4	2,582	0
Leasing commitments ²⁸	14	60	201	591	866	0
Contract manufacturing commitments ³¹	735	512	692	0	1,939	0
Alliance collaboration commitments ¹⁰	750	1,492	1,046	2,217	5,505	0
Total off-balance sheet commitments	3,524	2,544	2,012	2,812	10,892	0
Total contractual commitments	25,931	7,209	12,500	22,384	68,024	48,488

References are to the Notes in the Annual Financial Statements.

Debt. This consists mainly of bonds and notes and includes the principal and interest on the Group's debt instruments. Other debt is mainly commercial paper. The carrying values are discounted based on the interest rates inherent in the instruments.

Contingent consideration. This consists of potential payments arising from mergers and acquisitions. The carrying values are risk-adjusted and discounted.

Unfunded defined benefit plans. These are mainly the pension plans in the Group's German affiliates, where the fully reserved pension obligations are used for self-financing of the local affiliates' operations. The carrying values are discounted. Future company contributions to the Group's funded plans are not shown in the above table.

Capital commitments for property, plant and equipment. These are non-cancellable commitments for the purchase and construction mainly at the Roche sites in Basel, Switzerland, South San Francisco, US, and Penzberg, Germany, and also at new manufacturing sites of Chugai in Japan.

Leasing commitments. These are the major non-cancellable commitments for signed lease agreements where the lease term has not yet started. These mainly relate to the US sites of Foundation Medicine in Boston and Genentech in South San Francisco.

Contract manufacturing commitments. These are the future minimum take-or-pay commitments to purchase inventories arising from the Group's major long-term agreements with external Contract Manufacturing Organisations (CMOs).

Alliance collaboration commitments. These are potential upfront and milestone payments that may become due from the Group's in-licensing and alliance arrangements and intangible asset purchase agreements, including asset acquisitions. Potential payments to alliance partners and for asset purchase agreements within the next three years are included assuming all projects currently in development are successful. Potential payments beyond three years are only included for asset purchase agreements.

Pensions and other post-employment benefits

Post-employment benefit plans are classified for IFRS as 'defined contribution plans' if the Group pays fixed contributions into a separate fund or to a third-party financial institution and will have no further legal or constructive obligation to pay further contributions. In 2022 expenses for the Group's defined contribution plans were CHF 452 million (2021: CHF 419 million). All other plans are classified as 'defined benefit plans', even if the Group's potential obligation is minor or has a relatively remote possibility of arising. Plans are usually established as trusts which are independent of the Group and are funded by payments from the Group and by employees, but in some cases the plan is unfunded and the Group pays pensions to retired employees directly from its own financial resources. In 2022 expenses for the Group's defined benefit plans were CHF 693 million (2021: CHF 749 million).

Defined benefit plans

Funding status and balance sheet position

	2022 (CHF m)	2021 (CHF m)
Funded plans		
- Fair value of plan assets	16,598	19,164
- Defined benefit obligation	(14,733)	(18,292)
Over (under) funding	1,865	872
Unfunded plans		
- Defined benefit obligation	(4,001)	(5,582)
Total funding status	(2,136)	(4,710)
Limit on asset recognition	(1,526)	(3)
Reimbursement rights	58	108
Net recognised asset (liability)	(3,604)	(4,605)

Overall the funding status on an IFRS basis of the Group's funded defined benefit plans increased to 113% compared to 105% at the start of the year. This came from a reduction of the defined benefit obligation due to an increase in discount rates in all relevant regions compared to the end of 2021, partly offset by a decrease in the fair value of plan assets. A limit on asset recognition arose during 2022 as a result of a surplus, based on current market assumptions, in certain Swiss pension plans that was not recognisable under IFRS. The funding 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 2022 due to an increase in the eurozone discount rate, partly offset by an increase in the eurozone inflation rate.

Full details of the Group's pensions and other post-employment benefits are given in Note 26 to the Annual Financial Statements.

Roche shares

Share price and market capitalisation (at 31 December)

	2022	2021	% change (CHF)
Share price (CHF)	358.40	408.80	-12
Non-voting equity security (<i>Genussschein</i>) price (CHF)	290.50	379.10	-23
Market capitalisation (billions of CHF)	239	307	-22

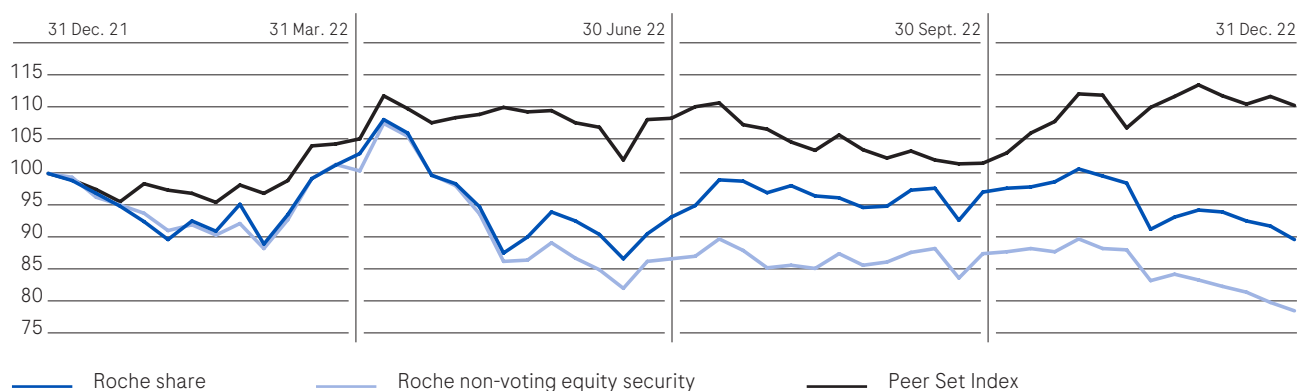
In 2022 Roche ranked number 15 among a peer group consisting of Roche and 15 other healthcare companies^{a)} for Total Shareholder Return (TSR), defined as share price growth plus dividends, measured in Swiss francs at actual exchange rates. At constant exchange rates (CER) Roche ranked number 14, with the year-end return being -10.3% for Roche shares and -21.4% for Roche non-voting equity securities. The combined performance of share and non-voting equity security was -19.6% compared to a weighted average return for the peer group of +10.6% in CHF terms and +10.9% at CER. The development of the Roche share price during 2022 was influenced by negative news flow on the research and development pipeline and an expected decline in COVID-19-related sales.

On 6 December 2021, Roche repurchased 53.3 million Roche shares held by Novartis for a total consideration of CHF 19.0 billion. The repurchased shares were reported as treasury shares as at 31 December 2021 and were cancelled in February 2022 when the necessary legal procedures were completed.

In 2022 the healthcare sector outperformed world equity markets which were impacted by strong inflation and rising interest rates. Growth of the Swiss Market Index (SMI) slightly trailed major US indices. Roche shares outperformed the SMI while Roche non-voting equity securities underperformed the SMI.

a) Peer group for 2022: Abbott, AbbVie, Amgen, AstraZeneca, Bristol-Myers Squibb, Danaher, GlaxoSmithKline, Johnson & Johnson, Lilly, Medtronic, Merck & Co., Novartis, Novo Nordisk, Pfizer, Roche and Sanofi.

Total Shareholder Return development



Source: Refinitiv Eikon. Data for Roche and the peer index has been re-based to 100 at 1 January 2022. The Peer Index was converted into Swiss francs at daily actual exchange rates. Currency fluctuations have an influence on the representation of the relative performance of Roche versus the peer index.

Proposed dividend

The Board of Directors is proposing an increase of 2% in the dividend for 2022 to CHF 9.50 per share and non-voting equity security (2021: CHF 9.30) for approval at the Annual General Meeting. This would be the 36th consecutive increase in the dividend. If the dividend proposal is approved by shareholders, dividend payments on the total shares and non-voting equity securities will amount to CHF 7.7 billion (2021: CHF 7.5 billion). This dividend proposal would result in a pay-out ratio (based on core net income) of 46.8% (2021: 46.9%). Based on the prices at the end of 2022, the dividend yield on the Roche share was 2.7% (2021: 2.3%) and the yield on the non-voting equity security was 3.3% (2021: 2.5%). Further information on the Roche securities is given on pages 172 to 174.

Information per share and non-voting equity security

	2022 (CHF)	2021 (CHF)	% change (CHF)
EPS – Basic	15.52	16.38	–5
EPS – Diluted	15.37	16.20	–5
Core EPS – Basic	20.49	20.04	+2
Core EPS – Diluted	20.30	19.81	+2
Equity attributable to Roche shareholders per share	35.03	30.60	+14
Dividend per share	9.50	9.30	+2

For further details please refer to Notes 22 and 29 of the Annual Financial Statements and page 167. The pay-out ratio is calculated as dividend per share divided by core earnings per share.

Debt

Issuance of new debt

On 25 February 2022 the Group completed an offering of CHF 3.0 billion of fixed rate notes issued in four tranches with coupons between 0% and 1% and maturing between November 2022 and February 2037.

On 10 March 2022 the Group completed an offering of USD 3.5 billion of fixed rate notes issued in three tranches with coupons between 1.882% and 2.314% and maturing between March 2024 and March 2027.

Also on 10 March 2022 the Group completed an offering of USD 1.5 billion floating rate notes issued in two tranches at a rate equal to the Secured Overnight Financing Rate (SOFR) plus margins between 0.33% and 0.56%. The notes will mature between September 2023 and March 2025.

On 23 September 2022 the Group completed an offering of CHF 0.8 billion fixed rate bonds issued in two tranches with coupons between 1.5% and 2.0% and maturing between June 2026 and September 2032.

The Group received total aggregate net proceeds of CHF 8.4 billion from the issuance and sale of these notes.

Redemption of debt

On the due date of 23 September 2022 the Group redeemed notes with an outstanding amount of CHF 0.5 billion. The effective interest rate of these notes was 1.64%.

On the due date of 25 November 2022 the Group redeemed notes with an outstanding amount of CHF 1.25 billion. The effective interest rate of these notes was -0.45%.

The combined cash outflow was CHF 1.75 billion and there was no gain or loss recorded on these redemptions.

Debt maturity

The maturity schedule of the Group's bonds and notes outstanding at 31 December 2022 is shown in the table below.

Bonds and notes: nominal amounts at 31 December 2022 by contractual maturity

	US dollar (USD m)	Euro (EUR m)	Pound sterling (GBP m)	Swiss franc (CHF m)	Total ^{a)} (USD m)	Total ^{a)} (CHF m)
2023	1,140	650	77	0	1,926	1,778
2024	2,689	0	0	750	3,501	3,232
2025	2,256	1,000	0	500	3,864	3,567
2026	1,650	0	0	425	2,110	1,948
2027	2,100	0	0	825	2,994	2,764
2028-2032	4,650	0	0	1,750	6,546	6,043
2033 and beyond	4,054	0	0	300	4,379	4,043
Total	18,539	1,650	77	4,550	25,320	23,375

a) Total translated at 31 December 2022 exchange rates.

The Group plans to meet its debt obligations using existing liquid funds as well as cash generated from business operations. In 2022 the free cash flow was CHF 13.0 billion (2021: CHF 15.7 billion), which included the cash generated from operations as well as the payment of interest and taxes.

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 1.9 billion were outstanding as of 31 December 2022 (2021: USD 0.5 billion). For longer-term financing the Group maintains high long-term investment-grade credit ratings of AA by Standard & Poor's, Aa2 by Moody's and AA by Fitch which should facilitate efficient access to international capital markets.

Further information on the Group's debt is given in Note 21 to the Annual Financial Statements.

Financial risks

At 31 December 2022 the Group had a net debt position of CHF 15.6 billion (2021: CHF 18.2 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 used for debt repayment. 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

	(CHF m)	2022 (% of total)	(CHF m)	2021 (% of total)
Cash and cash equivalents	4,991	51	6,850	53
Money market instruments	4,192	43	5,614	43
Debt securities	583	6	565	4
Equity securities	1	0	2	0
Total cash and marketable securities	9,767	100	13,031	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 9.8 billion of cash and fixed income marketable securities remained high 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. Bad debt expenses and overdue receivables remained at a relatively low level.

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. Free cash flow was CHF 13.0 billion as compared to CHF 15.7 billion in 2021.

The Roche Group continues to enjoy high long-term investment-grade credit ratings of AA by Standard & Poor's, Aa2 by Moody's and AA by Fitch. At the same time Roche is rated at the highest available short-term ratings by those agencies. In the event of financing requirements, the credit ratings of the Roche Group 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 31 December 2022 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 has increased since 31 December 2021 reflecting bond issuances during 2022.

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 31 to the 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.

New and revised standards applied in 2022

In 2022 the Group implemented various minor amendments to existing standards and interpretations which have no material impact on the Group's overall results and financial position.

See Note 34 to the Annual Financial Statements for further details.

Roche Group

Consolidated Financial Statements

Roche Group consolidated income statement for the year ended 31 December 2022 in millions of CHF

	Pharmaceuticals	Diagnostics	Corporate	Group
Sales ^{2,3}	45,551	17,730	–	63,281
Royalties and other operating income ^{2,3}	3,077	68	–	3,145
Revenue ^{2,3}	48,628	17,798	–	66,426
Cost of sales	(11,397)	(9,000)	–	(20,397)
Marketing and distribution	(6,725)	(2,914)	–	(9,639)
Research and development ²	(14,060)	(1,963)	–	(16,023)
General and administration	(1,632)	(597)	(662)	(2,891)
Operating profit ²	14,814	3,324	(662)	17,476
Financing costs ⁴				(665)
Other financial income (expense) ⁴				(484)
Profit before taxes				16,327
Income taxes ⁵				(2,796)
Net income				13,531
Attributable to				
– Roche shareholders ²²				12,421
– Non-controlling interests ²⁴				1,110
Earnings per share and non-voting equity security ²⁹				
Basic (CHF)				15.52
Diluted (CHF)				15.37

Roche Group consolidated income statement for the year ended 31 December 2021 in millions of CHF

	Pharmaceuticals	Diagnostics	Corporate	Group
Sales ^{2,3}	45,041	17,760	–	62,801
Royalties and other operating income ^{2,3}	2,969	80	–	3,049
Revenue^{2,3}	48,010	17,840	–	65,850
Cost of sales	(10,634)	(9,013)	–	(19,647)
Marketing and distribution	(6,874)	(3,046)	–	(9,920)
Research and development ²	(12,993)	(1,806)	–	(14,799)
General and administration	(1,979)	(656)	(694)	(3,329)
Operating profit²	15,530	3,319	(694)	18,155
Financing costs ⁴				(418)
Other financial income (expense) ⁴				(339)
Profit before taxes				17,398
Income taxes ⁵				(2,463)
Net income				14,935
Attributable to				
– Roche shareholders ²²				13,930
– Non-controlling interests ²⁴				1,005
Earnings per share and non-voting equity security²⁹				
Basic (CHF)				16.38
Diluted (CHF)				16.20

Roche Group consolidated statement of comprehensive income in millions of CHF

	Year ended 31 December	
	2022	2021
Net income recognised in income statement	13,531	14,935
Other comprehensive income (OCI)		
Remeasurements of defined benefit plans ²²	546	1,873
Fair value changes on equity investments at fair value through OCI ²²	30	(155)
Items that will never be reclassified to the income statement	576	1,718
Fair value changes on debt securities at fair value through OCI ²²	(33)	(13)
Cash flow hedges ²²	(62)	(47)
Currency translation of foreign operations ²²	(1,703)	(476)
Items that are or may be reclassified to the income statement	(1,798)	(536)
Other comprehensive income, net of tax	(1,222)	1,182
Total comprehensive income	12,309	16,117
Attributable to		
– Roche shareholders ²²	11,738	15,359
– Non-controlling interests ²⁴	571	758
Total	12,309	16,117

Roche Group consolidated balance sheet in millions of CHF

	31 December 2022	31 December 2021	31 December 2020
Non-current assets			
Property, plant and equipment ⁸	23,075	23,163	22,158
Right-of-use assets ²⁸	1,133	1,249	1,112
Goodwill ⁹	10,820	10,809	9,249
Intangible assets ¹⁰	9,685	12,117	12,017
Deferred tax assets ⁵	6,427	5,583	5,459
Defined benefit plan assets ²⁶	957	1,498	967
Other non-current assets ¹⁵	2,238	2,271	2,234
Total non-current assets	54,335	56,690	53,196
Current assets			
Inventories ¹¹	8,605	7,715	7,194
Accounts receivable ¹²	11,606	10,806	10,154
Current income tax assets ⁵	313	320	149
Other current assets ¹⁶	3,525	3,755	3,111
Marketable securities ¹³	4,776	6,181	6,607
Cash and cash equivalents ¹⁴	4,991	6,850	5,727
Total current assets	33,816	35,627	32,942
Total assets	88,151	92,317	86,138
Non-current liabilities			
Long-term debt ²¹	(21,391)	(16,076)	(10,220)
Deferred tax liabilities ⁵	(645)	(628)	(353)
Defined benefit plan liabilities ²⁶	(4,561)	(6,103)	(7,831)
Provisions ²⁰	(1,111)	(1,442)	(1,453)
Other non-current liabilities ¹⁸	(1,189)	(1,307)	(1,107)
Total non-current liabilities	(28,897)	(25,556)	(20,964)
Current liabilities			
Short-term debt ²¹	(3,960)	(15,122)	(3,996)
Current income tax liabilities ⁵	(3,187)	(3,002)	(3,679)
Provisions ²⁰	(2,248)	(2,526)	(1,836)
Accounts payable ¹⁷	(4,556)	(4,637)	(4,121)
Other current liabilities ¹⁹	(13,288)	(13,129)	(11,769)
Total current liabilities	(27,239)	(38,416)	(25,401)
Total liabilities	(56,136)	(63,972)	(46,365)
Total net assets	32,015	28,345	39,773
Equity			
Capital and reserves attributable to Roche shareholders ²²	27,992	24,489	36,341
Equity attributable to non-controlling interests ²⁴	4,023	3,856	3,432
Total equity	32,015	28,345	39,773

Roche Group consolidated statement of cash flows in millions of CHF

	Year ended 31 December	
	2022	2021
Cash flows from operating activities		
Cash generated from operations ³⁰	26,030	26,600
(Increase) decrease in net working capital	(2,418)	(994)
Payments made for defined benefit plans ²⁶	(655)	(619)
Utilisation of provisions ²⁰	(1,052)	(1,166)
Disposal of products	612	496
Other operating cash flows	0	2
Income taxes paid ⁵	(4,102)	(3,343)
Total cash flows from operating activities	18,415	20,976
Cash flows from investing activities		
Purchase of property, plant and equipment	(3,449)	(3,693)
Purchase of intangible assets	(1,103)	(856)
Disposal of property, plant and equipment	82	61
Disposal of intangible assets	0	0
Business combinations ⁶	0	(2,258)
Asset acquisitions ⁶	(245)	(103)
Divestment of subsidiaries	1	7
Interest received (paid) and dividends received on marketable securities and other investments ³⁰	32	(2)
Sales of equity securities and debt securities	148	235
Purchases of equity securities and debt securities	(271)	(201)
Sales (purchases) of money market instruments and time accounts over three months, net	1,250	329
Other investing cash flows	19	(71)
Total cash flows from investing activities	(3,536)	(6,552)
Cash flows from financing activities		
Proceeds from issue of bonds and notes ²¹	8,442	6,900
Redemption and repurchase of bonds and notes ²¹	(1,750)	(2,448)
Increase (decrease) in commercial paper ²¹	1,293	(1,134)
Increase (decrease) in other debt ²¹	(13,683)	13,412
Hedging and collateral arrangements	(526)	(522)
Interest paid	(557)	(405)
Principal portion of lease liabilities paid ³⁰	(405)	(382)
Dividends paid ³⁰	(7,832)	(8,132)
Share repurchase ²²	0	(18,991)
Equity-settled equity compensation plans, net of transactions in own equity ²⁷	(1,257)	(1,406)
Other financing cash flows	0	0
Total cash flows from financing activities	(16,275)	(13,108)
Net effect of currency translation on cash and cash equivalents	(463)	(193)
Increase (decrease) in cash and cash equivalents	(1,859)	1,123
Cash and cash equivalents at 1 January	6,850	5,727
Cash and cash equivalents at 31 December ¹⁴	4,991	6,850

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
Year ended 31 December 2021								
At 1 January 2021	160	45,571	106	(16)	(9,480)	36,341	3,432	39,773
Net income recognised in income statement	-	13,930	-	-	-	13,930	1,005	14,935
Net change in fair value – financial assets at fair value through OCI	-	0	(167)	-	-	(167)	(1)	(168)
Cash flow hedges	-	-	-	(46)	-	(46)	(1)	(47)
Currency translation of foreign operations	-	-	1	2	(232)	(229)	(247)	(476)
Remeasurements of defined benefit plans	-	1,871	-	-	-	1,871	2	1,873
Total comprehensive income	-	15,801	(166)	(44)	(232)	15,359	758	16,117
Dividends	-	(7,773)	-	-	-	(7,773)	(338)	(8,111)
Share repurchase ²²	-	(18,991)	-	-	-	(18,991)	-	(18,991)
Equity compensation plans, net of transactions in own equity	-	(445)	-	-	-	(445)	2	(443)
Changes in non-controlling interests ²⁴	-	(2)	-	-	-	(2)	2	-
At 31 December 2021	160	34,161	(60)	(60)	(9,712)	24,489	3,856	28,345
Year ended 31 December 2022								
At 1 January 2022	160	34,161	(60)	(60)	(9,712)	24,489	3,856	28,345
Net income recognised in income statement	-	12,421	-	-	-	12,421	1,110	13,531
Net change in fair value – financial assets at fair value through OCI	-	0	(2)	-	-	(2)	(1)	(3)
Cash flow hedges	-	-	-	(37)	-	(37)	(25)	(62)
Currency translation of foreign operations	-	-	3	5	(1,189)	(1,181)	(522)	(1,703)
Remeasurements of defined benefit plans	-	537	-	-	-	537	9	546
Total comprehensive income	-	12,958	1	(32)	(1,189)	11,738	571	12,309
Dividends	-	(7,446)	-	-	-	(7,446)	(406)	(7,852)
Share capital reduction ²²	(53)	53	-	-	-	-	-	-
Equity compensation plans, net of transactions in own equity	-	(786)	-	-	-	(786)	(1)	(787)
Changes in non-controlling interests ²⁴	-	(3)	-	-	-	(3)	3	-
At 31 December 2022	107	38,937	(59)	(92)	(10,901)	27,992	4,023	32,015

Notes to the Roche Group Consolidated Financial Statements

1. General accounting principles

Basis of preparation

The consolidated financial statements (hereafter 'the Annual Financial Statements') of the Roche Group have been prepared in accordance with International Financial Reporting Standards (IFRS) and comply with Swiss law. They have been prepared using the historical cost convention except for items that are required to be accounted for at fair value. They were approved for issue by the Board of Directors on 31 January 2023 and are subject to approval by the Annual General Meeting of shareholders on 14 March 2023.

These financial statements are the Annual Financial Statements of Roche Holding Ltd, a company registered in Switzerland, and its subsidiaries ('the Group').

The Group's significant accounting policies and changes in accounting policies are disclosed in Note 34.

Key accounting judgements, estimates and assumptions

The preparation of the Annual Financial Statements requires management to make judgements, estimates and assumptions that affect the reported amounts of revenues, expenses, assets, liabilities and contingent amounts. Actual outcomes could differ from those management estimates. The estimates and underlying assumptions are reviewed on an ongoing basis and are based on historical experience and various other factors. Revisions to estimates are recognised in the period in which the estimate is revised. The following are considered to be the key accounting judgements, estimates and assumptions made and are believed to be appropriate based upon currently available information.

Revenue. The nature of the Group's business is such that many sales transactions do not have a simple structure and may consist of various performance obligations that are satisfied at different times. Contracts entered into in the Diagnostics Division typically include performance obligations for instruments (including those provided under leasing arrangements), reagents and other consumables, and services. Instruments may be sold in cash sales transactions at discounted prices. Where instruments are provided under operating lease arrangements, some or the entire lease revenue may be variable and subject to subsequent reagents sales. Major sources of estimation uncertainty are related to measurement of sales, net of discounts, for the related obligations, including their stand-alone selling prices. It requires judgement to determine when different obligations are satisfied, including whether enforceable purchase commitments for further obligations exist and when they arise. Out-licensing agreements may be entered into with no further obligation or may include commitments to conduct research, late-stage development, regulatory approval, co-marketing or manufacturing. These may be settled by a combination of upfront payments, milestone payments, other licensing fees, 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 'Revenues from Contracts with Customers', 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.

Major sources of estimation uncertainty are related to the measurement of sales, which 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. At 31 December 2022 the Group had CHF 4,767 million in provisions and accruals for expected sales returns, chargebacks and other rebates, including Medicaid in the US and similar rebates in other countries (2021: CHF 4,720 million). The provisions and accruals relating to the US pharmaceuticals business amounted to CHF 2,120 million (2021: CHF 2,182 million), of which CHF 510 million (2021: CHF 432 million) were associated with expected sales returns. 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 need to be adjusted, with an effect on sales and earnings in the period of the adjustment.

Business combinations. The Group initially recognises the fair value of identifiable assets acquired, the liabilities assumed, any non-controlling interest and the consideration transferred in a business combination. Management judgement is particularly involved in the assessment of whether or not the net assets acquired constitute a business and in the recognition and fair value measurement of intellectual property, inventories, contingent liabilities and contingent consideration. In making this assessment, management applies judgement in considering the underlying economic substance of the items concerned in addition to the contractual terms. When considered appropriate as a result from its judgement, management also applies the optional 'concentration test' as set out in IFRS 3 'Business Combinations' to aid the assessment of whether a transaction represents a business combination or is simply in substance the purchase of a single asset or group of similar assets.

Impairment of property, plant and equipment, right-of-use assets, goodwill and intangible assets. At 31 December 2022 the Group had CHF 23,075 million in property, plant and equipment (see Note 8), CHF 1,133 million in right-of-use assets (see Note 28), CHF 10,820 million in goodwill (see Note 9) and CHF 9,685 million in intangible assets (see Note 10). Goodwill and intangible assets not yet available for use are reviewed annually for impairment. Property, plant and equipment, right-of-use assets and intangible assets in use are assessed for impairment when there is a triggering event that provides evidence that an asset may be impaired. To assess whether any impairment exists, estimates of expected future cash flows are used. Actual outcomes could vary significantly from such estimates. Other estimates relate to factors such as changes in discount rates, the planned use of buildings, machinery or equipment or closure of facilities, the presence of competition, technical obsolescence and lower-than-anticipated product sales, which could lead to shorter useful lives or impairment.

Impairment of financial assets. At 31 December 2022 the Group had CHF 490 million in allowance for doubtful accounts for trade and lease receivables (see Note 12). Key estimates for the allowance for doubtful accounts are mainly related to risk of default and expected loss rates. For making these estimates, inputs selected to calculate the allowance for doubtful accounts are based on the company's past experience, existing market conditions as well as forward-looking estimates at the end of each reporting period.

Pensions and other post-employment benefits. The Group operates a number of defined benefit plans, and the fair values of the recognised plan assets and liabilities are based upon statistical and actuarial calculations. Key estimates are required for the measurement of the net defined benefit obligation, which is particularly sensitive to changes in the discount rate, inflation rate, expected mortality and medical cost trend rate assumptions. At 31 December 2022 the present value of the Group's defined benefit obligation was CHF 18,734 million (see Note 26). The actuarial assumptions used for those estimates may differ materially from actual results due to changes in market and economic conditions, longer or shorter lifespans of participants, and other changes in the factors being assessed. These differences could impact the defined benefit plan assets and liabilities recognised in the balance sheet in future periods.

Legal provisions. The Group provides for anticipated legal settlement costs when there is a probable outflow of resources that can be reliably estimated. Where no reliable estimate can be made, no provision is recorded and contingent liabilities are disclosed where material. At 31 December 2022 the Group had CHF 316 million in legal provisions. The status of significant legal cases is disclosed in Note 20. These estimates consider the specific circumstances of each legal case, relevant legal advice and are inherently uncertain due to the highly complex nature of legal cases. The estimates could change substantially over time as new facts emerge and each legal case progresses.

Environmental provisions. The Group provides for anticipated environmental remediation costs when there is a probable outflow of resources that can be reasonably estimated. At 31 December 2022 the Group had CHF 374 million in environmental provisions (see Note 20). Environmental provisions consist primarily of costs to fully clean and refurbish contaminated sites, including landfills, and to treat and contain contamination at certain other sites. These estimates are inherently uncertain as assumptions are required related to the detection of previously unknown contamination, the method and extent of remediation, the percentage of the problematic materials attributable to the Group at the remediation sites, and the financial capabilities of other potentially responsible parties. The estimates could change substantially over time as new facts emerge and each environmental remediation progresses.

Contingent consideration provisions. The Group makes provision for the estimated fair value of contingent consideration arrangements arising from business combinations. At 31 December 2022 the Group had CHF 103 million in contingent consideration provisions (see Note 20) and the total potential payments under contingent consideration arrangements from business combinations could be up to CHF 353 million (see Note 31). Key estimates are required to determine the amounts of the expected payments to be provided for, 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, which is then discounted to a net present value. These estimates could change substantially over time as new facts emerge and each scenario develops.

Income taxes. At 31 December 2022 the Group had a current income tax net liability of CHF 2,874 million and a deferred tax net asset of CHF 5,782 million (see Note 5). Major sources of estimation uncertainty are related to the calculation of current and deferred tax assets and liabilities. Some of these estimates are based on interpretations of existing tax laws or regulations. Where tax positions are uncertain, accruals are recorded within income tax liabilities for management's best estimate of the ultimate liability that is expected to arise based on the specific circumstances and the Group's historical experience. Factors that may have an impact on the estimates of current and deferred tax balances include changes in tax laws, regulations or rates, changing interpretations of existing tax laws or regulations, future levels of research and development spending and changes in pre-tax earnings.

Leases. Where the Group is the lessee, key judgements include assessing whether arrangements contain a lease and determining the lease term. To assess whether a contract contains a lease requires judgement about whether it depends on a specified asset, whether the Group obtains substantially all the economic benefits from the use of that asset, and whether the Group has a right to direct the use of the asset. In order to determine the lease term, judgement is required as extension and termination options have to be assessed along with all facts and circumstances that may create an economic incentive to exercise an extension option, or not exercise a termination option. Estimates include calculating the discount rate which is based on the incremental borrowing rate. At 31 December 2022 the Group had CHF 1,133 million in right-of-use assets and CHF 1,193 million in lease liabilities (see Note 28).

Where the Group is the lessor, the treatment of leasing transactions is mainly determined by whether the lease is considered to be an operating or finance lease, which requires judgement. In making this assessment, management looks at the substance of the lease, as well as the legal form, and makes a judgement about whether substantially all of the risks and rewards of ownership are transferred. Arrangements which do not take the legal form of a lease but that nevertheless convey the right to use an asset are also covered by such judgemental assessments.

Consolidation. The Group periodically undertakes transactions that may involve obtaining control or significant influence over other companies. These transactions include equity acquisitions, asset purchases and alliance agreements. In all such cases it requires judgement for management to make an assessment as to whether the Group has control or significant influence over the other company, and whether it should be consolidated as a subsidiary or accounted for as an associated company. In making this judgemental assessment, management considers the underlying economic substance of the transaction in addition to the contractual terms.

Impact of the COVID-19 pandemic

The Group has assessed certain accounting matters that generally require consideration of forecast financial information taking into account the potential future impacts of the COVID-19 pandemic. The accounting matters assessed included, but were not limited to, the Group's provisions for product returns, allowances for doubtful accounts for trade and lease receivables, inventory allowances as well as the carrying value of goodwill, intangible assets and property, plant and equipment. Any continued negative impacts from the pandemic in 2023 may have an impact on these, or other, matters.

While there was no significant impact from the areas assessed on the Group's Annual Financial Statements, the Group will continue to monitor these areas of increased judgements and risk for material changes.

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 and taxes), legal, safety and environmental services. Subdivisional information is also presented for the Roche Pharmaceuticals and Chugai operating segments within the Pharmaceuticals Division.

Divisional information in millions of CHF

	Pharmaceuticals		Diagnostics		Corporate		Group
	2022	2021	2022	2021	2022	2021	2021
Revenues from external customers							
Sales	45,551	45,041	17,730	17,760	–	–	62,801
Royalties and other operating income	3,077	2,969	68	80	–	–	3,049
Total	48,628	48,010	17,798	17,840	–	–	65,850
Revenues from other operating segments							
Sales	–	–	21	20	–	–	20
Royalties and other operating income	–	–	–	–	–	–	–
Elimination of interdivisional revenue						(21)	(20)
Total	–	–	21	20	–	–	–
Segment results							
Operating profit	14,814	15,530	3,324	3,319	(662)	(694)	18,155
Capital expenditure							
Business combinations	0	56	0	2,339	0	0	2,395
Asset acquisitions	240	36	51	0	0	0	36
Additions to property, plant and equipment	1,694	2,134	1,622	1,628	86	64	3,826
Additions to right-of-use assets	218	412	114	124	6	39	575
Additions to intangible assets	918	969	26	28	–	–	997
Total	3,070	3,607	1,813	4,119	92	103	7,829
Research and development							
Research and development costs	14,060	12,993	1,963	1,806	–	–	14,799
Other segment information							
Depreciation of property, plant and equipment	1,381	1,278	1,128	1,188	56	58	2,524
Depreciation of right-of-use assets	211	234	117	117	13	12	363
Amortisation of intangible assets	764	1,398	174	158	–	–	1,556
Impairment (reversal) of property, plant and equipment	108	(108)	15	105	0	0	(3)
Impairment (reversal) of right-of-use assets	5	5	0	0	0	0	5
Impairment of goodwill	0	0	0	0	–	–	0
Impairment of intangible assets	2,837	651	0	0	–	–	651
Inventory fair value adjustments	0	0	0	11	–	–	11
Equity compensation plan expenses	571	513	106	98	61	52	663

Pharmaceuticals subdivisional information in millions of CHF

	Roche Pharmaceuticals			Chugai	Pharmaceuticals Division	
	2022	2021	2022	2021	2022	2021
Revenues from external customers						
Sales	40,602	40,535	4,949	4,506	45,551	45,041
Royalties and other operating income	2,320	2,899	757	70	3,077	2,969
Total	42,922	43,434	5,706	4,576	48,628	48,010
Revenues from other operating segments						
Sales	3,384	2,190	2,602	2,179	5,986	4,369
Royalties and other operating income	47	85	964	1,603	1,011	1,688
Elimination of income within division					(6,997)	(6,057)
Total	3,431	2,275	3,566	3,782	-	-
Segment results						
Operating profit	11,323	12,601	3,988	3,525	15,311	16,126
Elimination of results within division					(497)	(596)
Operating profit	11,323	12,601	3,988	3,525	14,814	15,530
Capital expenditure						
Business combinations	0	56	0	0	0	56
Asset acquisitions	240	36	0	0	240	36
Additions to property, plant and equipment	1,245	1,535	449	599	1,694	2,134
Additions to right-of-use assets	168	293	50	119	218	412
Additions to intangible assets	885	960	33	9	918	969
Total	2,538	2,880	532	727	3,070	3,607
Research and development						
Research and development costs	13,007	11,909	1,096	1,162	14,103	13,071
Elimination of costs within division					(43)	(78)
Total	13,007	11,909	1,096	1,162	14,060	12,993
Other segment information						
Depreciation of property, plant and equipment	1,209	1,104	172	174	1,381	1,278
Depreciation of right-of-use assets	177	185	34	49	211	234
Amortisation of intangible assets	749	1,372	15	26	764	1,398
Impairment (reversal) of property, plant and equipment	108	(108)	0	0	108	(108)
Impairment (reversal) of right-of-use assets	5	5	0	0	5	5
Impairment of goodwill	0	0	0	0	0	0
Impairment of intangible assets	2,837	627	0	24	2,837	651
Inventory fair value adjustments	0	0	0	0	0	0
Equity compensation plan expenses	568	510	3	3	571	513

Net assets in millions of CHF

At 31 December	2022	2021	Assets 2020	2022	2021	Liabilities 2020	2022	2021	Net assets 2020
Net operating assets									
Pharmaceuticals	47,292	48,677	46,357	(14,736)	(15,262)	(12,886)	32,556	33,415	33,471
Diagnostics	21,593	21,459	18,751	(5,075)	(5,399)	(4,987)	16,518	16,060	13,764
Corporate	445	420	381	(600)	(618)	(567)	(155)	(198)	(186)
Total	69,330	70,556	65,489	(20,411)	(21,279)	(18,440)	48,919	49,277	47,049
Current income tax net assets (liabilities)							(2,874)	(2,682)	(3,530)
Deferred tax net assets (liabilities)							5,782	4,955	5,106
Defined benefit plan net assets (liabilities)							(3,604)	(4,605)	(6,864)
Lease liabilities							(1,193)	(1,354)	(1,195)
Marketable securities							4,776	6,181	6,607
Cash and cash equivalents							4,991	6,850	5,727
Debt							(25,351)	(31,198)	(14,216)
Other net assets (liabilities)							569	921	1,089
Total net assets	32,015	28,345	39,773						

Net operating assets – Pharmaceuticals subdivisinal information in millions of CHF

At 31 December	2022	2021	Assets 2020	2022	2021	Liabilities 2020	2022	2021	Net assets 2020
Roche Pharmaceuticals	43,036	44,860	42,387	(15,217)	(15,808)	(13,224)	27,819	29,052	29,163
Chugai	8,890	7,892	6,923	(1,910)	(1,700)	(1,325)	6,980	6,192	5,598
Elimination within division	(4,634)	(4,075)	(2,953)	2,391	2,246	1,663	(2,243)	(1,829)	(1,290)
Pharmaceuticals Division	47,292	48,677	46,357	(14,736)	(15,262)	(12,886)	32,556	33,415	33,471

Information by geographical area in millions of CHF

	Revenues from external customers	Property, plant and equipment	Right-of-use assets	Non-current assets
	Sales	Royalties and other operating income		Goodwill and intangible assets
2022				
Switzerland	683	988	47	2,535
Germany	3,295	23	28	1,262
Rest of Europe	10,326	2	194	741
Europe	14,304	1,013	269	4,538
United States	27,939	1,374	570	15,794
Rest of North America	1,101	1	16	20
North America	29,040	1,375	586	15,814
Latin America	2,870	0	42	4
Japan	5,695	757	91	138
Rest of Asia	9,852	0	105	11
Asia	15,547	757	196	149
Africa, Australia and Oceania	1,520	0	40	0
Total	63,281	3,145	1,133	20,505
2021				
Switzerland	731	1,386	91	2,670
Germany	4,292	27	36	1,339
Rest of Europe	11,375	6	210	886
Europe	16,398	1,419	337	4,895
United States	26,519	1,546	551	17,853
Rest of North America	915	1	18	20
North America	27,434	1,547	569	17,873
Latin America	2,746	0	44	5
Japan	4,999	70	127	138
Rest of Asia	9,749	13	123	15
Asia	14,748	83	250	153
Africa, Australia and Oceania	1,475	0	49	0
Total	62,801	3,049	1,249	22,926

Sales are allocated to geographical areas by destination according to the location of the customer. Royalties and other operating income are allocated according to the location of the Group company that receives the revenue.

Major customers

In total three US national wholesale distributors represent approximately a third of the Group's sales in 2022 and in 2021. The three US national wholesale distributors are McKesson Corp. with CHF 8 billion (2021: CHF 8 billion), AmerisourceBergen Corp. with CHF 7 billion (2021: CHF 7 billion) and Cardinal Health, Inc. with CHF 4 billion (2021: CHF 4 billion). Approximately 97% (2021: 97%) of these revenues were in the Roche Pharmaceuticals operating segment, with the residual in the Diagnostics operating segment.

3. Revenue

Disaggregated revenue information

Disaggregation of revenue in millions of CHF

	2022			2021		
	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	19,995	–	19,995	20,467	–	20,467
Neuroscience	7,817	–	7,817	6,275	–	6,275
Immunology	7,181	–	7,181	8,373	–	8,373
Haemophilia A	3,823	–	3,823	3,022	–	3,022
Infectious diseases	2,161	–	2,161	2,226	–	2,226
Ophthalmology	1,605	–	1,605	1,355	–	1,355
Other therapeutic areas	2,969	–	2,969	3,323	–	3,323
Sales	45,551	–	45,551	45,041	–	45,041
Royalty income	924	0	924	1,064	0	1,064
Income from out-licensing agreements	842	0	842	111	0	111
Income from disposal of products, profit-sharing agreements and other	622	689	1,311	512	1,282	1,794
Royalties and other operating income	2,388	689	3,077	1,687	1,282	2,969
Diagnostics Division						
Sales by customer area						
Core Lab ^{a)}	7,170	605	7,775	6,917	643	7,560
Point of Care ^{a)}	3,557	32	3,589	3,098	36	3,134
Molecular Lab ^{a)}	3,339	111	3,450	4,065	109	4,174
Diabetes Care	1,595	3	1,598	1,688	2	1,690
Pathology Lab	1,229	89	1,318	1,126	76	1,202
Sales	16,890	840	17,730	16,894	866	17,760
Royalty income	42	19	61	43	0	43
Income from out-licensing agreements	0	0	0	18	0	18
Income from disposal of products and other	1	6	7	0	19	19
Royalties and other operating income	43	25	68	61	19	80
Total	64,872	1,554	66,426	63,683	2,167	65,850

a) In 2022 sales in the Point of Care customer area included sales from the Liat business (POC molecular), and sales in the Core Lab customer area included sales from the Life Science Alliances business. These were both previously shown as part of the Molecular Lab customer area. The comparative information for 2021 has been restated accordingly. Sales for 2021 were: POC molecular CHF 551 million, Life Science Alliances CHF 87 million.

Revenue from other sources primarily relates to lease revenue and collaboration revenue for which the counterparty is not considered a customer, such as income from profit-sharing agreements.

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

	2022	2021
Gross sales	56,799	56,132
Government and regulatory mandatory price reductions	(5,943)	(6,050)
Contractual price reductions	(4,108)	(3,996)
Cash discounts	(279)	(336)
Customer returns reserves	(366)	(316)
Others	(552)	(393)
Net sales	45,551	45,041

Government and regulatory mandatory price reductions. These consist of mandatory price reductions. The major elements are the 340B Drug Discount Program, Medicaid and other plans in the US, which totalled USD 4.9 billion, equivalent to CHF 4.7 billion (2021: USD 5.5 billion, equivalent to CHF 5.0 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 (see Note 12). Sales reductions that are separately payable to customers, governmental health authorities or healthcare regulatory authorities are recorded in the balance sheet as accrued liabilities (see Note 19). Provisions for sales returns are recorded in the balance sheet as other provisions (see Note 20).

Contract balances

Receivables in millions of CHF

	2022	2021	2020
Accounts receivable ¹²	11,606	10,806	10,154
Other current receivables – contracts with customers ¹⁶	686	646	492
Other non-current receivables – contracts with customers ¹⁵	26	36	37
Total receivables	12,318	11,488	10,683

Other current receivables mainly include royalty and licensing receivables. At 31 December 2022 total receivables included lease receivables of 2% (2021: 2%, 2020: 2%) which are not considered receivables from contracts with customers.

Contract assets in millions of CHF

	2022	2021	2020
Accrued income and contract costs	208	763	144
Total contract assets	208	763	144

Contract liabilities in millions of CHF

	2022	2021	2020
Deferred income – non-current	238	233	146
Deferred income – current	601	560	439
Total contract liabilities	839	793	585

Movement in contract liabilities in millions of CHF

	2022	2021
At 1 January	793	585
Business combinations	0	1
Revenue recognised that was included in the contract liability balance at the beginning of the year	(585)	(392)
Increases due to cash received or receivable, excluding amounts recognised as revenue during the year	669	579
Currency translation effects	(38)	20
At 31 December	839	793

Revenue recognised in relation to performance obligations satisfied in previous years

In 2022 there was an increase in revenue recognised of CHF 102 million (2021: decrease in revenue of CHF 28 million) relating to performance obligations that had been satisfied in previous periods, mainly due to adjustments of sales deduction provisions and accruals for expected sales returns, chargebacks and other allowances in respect of previous years.

Remaining performance obligations in (partially) unsatisfied long-term contracts

Remaining performance obligations in (partially) unsatisfied long-term contracts are either included in deferred income or are related to amounts the Group expects to receive for goods and services that have not yet been transferred to customers under existing, non-cancellable or otherwise enforceable contracts. These are mainly associated with contracts in the Diagnostics Division that have minimum purchase commitments related to reagents and consumables for previously sold instruments as well as monitoring and maintenance services. For contracts that have an original duration of one year or less, the Group has elected the practical expedient to not disclose the transaction price for remaining performance obligations at the end of each reporting period and at which point in time the Group expects to recognise these sales.

Transaction price allocated to contracts with (partially) unsatisfied performance obligations in millions of CHF

	2022	2021
No contract liability held	3,248	3,080
Contract liability held	839	793
Total	4,087	3,873
Thereof expected to be recognised as revenue		
– Within one year	1,895	1,780
– Between one and five years	2,084	2,006
– More than five years	108	87
Total	4,087	3,873

4. Net financial expense

Financing costs in millions of CHF

	2022	2021
Interest expense	(588)	(317)
Amortisation of debt discount ²¹	(4)	(8)
Fair value loss on treasury locks designated as cash flow hedges – transferred from OCI	(2)	0
Net gains (losses) on redemption and repurchase of bonds and notes ²¹	0	0
Discount unwind, including effects from discount rate changes ²⁰	27	(6)
Net interest cost of defined benefit plans ²⁶	(82)	(71)
Interest expense on lease liabilities ²⁸	(16)	(16)
Total financing costs	(665)	(418)

Other financial income (expense) in millions of CHF

	2022	2021
Net gains (losses) on equity investments/securities at fair value through profit or loss	(79)	(87)
Net income (expense) from equity investments/securities	(79)	(87)
Interest income (expense) from debt securities at fair value through OCI and at amortised cost	40	(1)
Net gains (losses) on sale of debt securities at fair value through OCI	0	0
Net gains (losses) on debt investments/securities at fair value through profit or loss	(6)	(2)
Net interest income (expense) and income from debt investments/securities	34	(3)
Net foreign exchange gains (losses)	230	261
Net gains (losses) on foreign currency derivatives	(508)	(493)
Foreign exchange gains (losses)	(278)	(232)
Gains (losses) on net monetary position in hyperinflationary economies	(70)	(20)
Net other financial income (expense)	(50)	5
Associates	(41)	(2)
Total other financial income (expense)	(484)	(339)

Net financial expense in millions of CHF

	2022	2021
Financing costs	(665)	(418)
Other financial income (expense)	(484)	(339)
Net financial expense	(1,149)	(757)
Financial result from Treasury management	(1,026)	(684)
Financial result from Pension management	(82)	(71)
Associates	(41)	(2)
Net financial expense	(1,149)	(757)

Hyperinflationary economies

The Group has considered Argentina (since 1 July 2018) and Türkiye (since 1 April 2022) to be hyperinflationary economies in the context of IAS 29 'Financial Reporting in Hyperinflationary Economies'. The cumulative inflation index exceeds 100% for Argentina over the last three years as measured by the National Wholesale Price Index (Sistema de Índices de Precios Mayoristas) and for Türkiye in 2022 as measured by the consumer price index published by the Turkish Statistical Institute.

Accordingly the Group has reviewed the reporting from its affiliates in Argentina and Türkiye, and where necessary restated them in line with IAS 29. The potential adjustments resulting from the application of IAS 29 do not have a significant impact on the Group's operating results and balance sheet. An adjustment is recorded for the gains (losses) on the net monetary positions, which is a loss of CHF 70 million resulting from the loss in purchasing power of the positive net monetary positions during 2022 of the Group's affiliates in Argentina and Türkiye (2021: loss of CHF 20 million for the Group's affiliates in Argentina).

5. Income taxes

Income tax expenses in millions of CHF

	2022	2021
Current income taxes	(4,454)	(2,619)
Deferred taxes	1,658	156
Total income tax (expense)	(2,796)	(2,463)

Since the Group operates internationally, it is subject to income taxes in many different tax jurisdictions. The Group calculates its average expected tax rate as a weighted average of the tax rates in the tax jurisdictions in which the Group operates. This rate changes from year to year due to changes in the mix of the Group's taxable income and changes in local tax rates.

The Group's average expected tax rate was stable at 18.7% in 2022 (2021: 18.7%). During 2022 there were no significant changes to local tax rates in the tax jurisdictions in which the Group operates.

The Group's effective tax rate increased to 17.1% in 2022 (2021: 14.2%). This was mainly due to the lower effect from the resolution of several tax disputes in 2022 compared to 2021 and the impairments of intangible assets that are not tax deductible.

The Group's effective tax rate can be reconciled to the Group's average expected tax rate as follows:

Reconciliation of the Group's effective tax rate

	2022	2021
Average expected tax rate	18.7%	18.7%
Tax effect of		
- Non-taxable income/non-deductible expenses	+1.8%	+0.7%
- Equity compensation plans	+0.4%	0.0%
- Research and development tax credits and other deductions	-3.0%	-2.1%
- US state tax impacts	+0.5%	+0.5%
- Tax on unremitted earnings	+0.1%	+0.2%
- Resolution of several tax disputes	-1.9%	-4.0%
- Prior-year and other differences	+0.5%	+0.2%
Group's effective tax rate	17.1%	14.2%

The income tax benefit recorded in respect of equity compensation plans, which varies according to the price of the underlying equity, was CHF 58 million (2021: CHF 117 million). Had the income tax benefits been recorded solely on the basis of the IFRS 2 expense multiplied by the applicable tax rate, then a benefit of approximately CHF 126 million (2021: CHF 113 million) would have been recorded.

Tax effects of other comprehensive income in millions of CHF

	Pre-tax amount	Tax	2022 After-tax amount	Pre-tax amount	Tax	2021 After-tax amount
Remeasurements of defined benefit plans	849	(303)	546	2,222	(349)	1,873
Equity investments at fair value through OCI	28	2	30	(179)	24	(155)
Debt securities at fair value through OCI	(35)	2	(33)	(13)	0	(13)
Cash flow hedges	(90)	28	(62)	(56)	9	(47)
Currency translation of foreign operations	(1,703)	-	(1,703)	(476)	-	(476)
Other comprehensive income	(951)	(271)	(1,222)	1,498	(316)	1,182

Income tax assets (liabilities) in millions of CHF

	2022	2021	2020
Current income taxes			
– Assets	313	320	149
– Liabilities	(3,187)	(3,002)	(3,679)
Net current income tax assets (liabilities)	(2,874)	(2,682)	(3,530)
Deferred taxes			
– Assets	6,427	5,583	5,459
– Liabilities	(645)	(628)	(353)
Net deferred tax assets (liabilities)	5,782	4,955	5,106

Current income tax liabilities include accruals for uncertain tax positions.

Current income taxes: movements in recognised net assets (liabilities) in millions of CHF

	2022	2021
Net current income tax asset (liability) at 1 January	(2,682)	(3,530)
Income taxes paid	4,102	3,343
(Charged) credited to the income statement	(4,454)	(2,619)
(Charged) credited to equity from equity compensation plans and other transactions with shareholders	59	121
Currency translation effects and other movements	101	3
Net current income tax asset (liability) at 31 December	(2,874)	(2,682)

Deferred taxes: movements in recognised net assets (liabilities) in millions of CHF

	Property, plant and equipment and right-of-use assets	Intangible assets	Defined benefit plans	Other temporary differences	Total
Year ended 31 December 2021					
At 1 January 2021	(816)	(258)	1,265	4,915	5,106
Business combinations	0	(244)	0	87	(157)
Asset acquisitions	0	0	0	0	0
(Charged) credited to the income statement	(145)	69	57	175	156
(Charged) credited to other comprehensive income ²²	-	-	(349)	33	(316)
(Charged) credited to equity from equity compensation plans and other transactions with shareholders	-	-	-	179	179
Currency translation effects and other movements	19	(15)	(33)	16	(13)
At 31 December 2021	(942)	(448)	940	5,405	4,955
Year ended 31 December 2022					
At 1 January 2022	(942)	(448)	940	5,405	4,955
Business combinations	0	0	0	0	0
Asset acquisitions ⁶	0	0	0	6	6
(Charged) credited to the income statement	(16)	1,624	128	(78)	1,658
(Charged) credited to other comprehensive income ²²	-	-	(303)	32	(271)
(Charged) credited to equity from equity compensation plans and other transactions with shareholders	-	-	-	(327)	(327)
Currency translation effects and other movements	33	(62)	(45)	(165)	(239)
At 31 December 2022	(925)	1,114	720	4,873	5,782

The net deferred tax assets for other temporary differences mainly relate to accrued and other liabilities, including lease liabilities, provisions and unrealised profit in inventory.

Deferred tax assets are recognised for tax losses carried forward only to the extent that realisation of the related tax benefit is probable. The Group has unrecognised tax losses, including valuation allowances, as follows:

Unrecognised tax losses: expiry

	Amount (CHF m)	2022 Applicable tax rate	Amount (CHF m)	2021 Applicable tax rate
Within one year	279	12%	669	12%
Between one and five years	3,433	12%	2,696	12%
More than five years	7,134	6%	8,142	7%
Total unrecognised tax losses	10,846	8%	11,507	8%

The 'More than five years' category includes losses that cannot be used for US state income tax purposes in those states which only permit tax reporting on a separate entity basis.

Deferred tax liabilities have not been established for the withholding tax and other taxes that would be payable on the remittance of earnings of foreign subsidiaries, where such amounts are currently regarded as permanently reinvested for the purpose of these financial statements. The total unremitted earnings of the Group, regarded as permanently reinvested for the purpose of these financial statements, were CHF 28.3 billion at 31 December 2022 (2021: CHF 31.9 billion).

6. Mergers and acquisitions

This note includes both transactions accounted for as business combinations and asset acquisitions. Asset acquisitions are acquisitions of legal entities that do not qualify as business combinations under IFRS 3 and include those acquisitions where the value in these acquired companies largely consists of the rights to a single asset, e.g. a product or technology, or to a group of similar assets. Cash consideration paid for asset acquisitions at the transaction date and subsequent additional contingent payments made upon the achievement of performance-related development milestones are presented in the line 'Cash flows from asset acquisitions' as disclosed separately below. Subsequent consideration for performance-related development milestones for transactions treated as asset acquisitions is recognised as intangible assets when the specific milestones have been achieved and other recognition criteria are met.

Business combinations – 2022

The Group did not complete any business combinations in 2022.

Business combinations – 2021

GenMark Diagnostics, Inc. On 22 April 2021 the Group acquired a 100% controlling interest in GenMark Diagnostics, Inc. ('GenMark'), a publicly owned US company based in Carlsbad, California, that had been listed on Nasdaq. GenMark is reported in the Diagnostics Division. The total consideration was USD 1,865 million, which was paid in cash.

TIB Molbiol Group. On 1 December 2021 the Group acquired a 100% interest in TIB Molbiol Group ('TIB Molbiol'), a privately owned group based in Berlin, Germany. TIB Molbiol is reported in the Diagnostics Division. The total consideration was EUR 492 million, which was paid in cash.

Protocol First, Inc. On 14 December 2021 the Group acquired a 100% controlling interest in Protocol First, Inc. ('Protocol First'), a privately owned US company based in Salt Lake City, Utah. Protocol First is reported in the Pharmaceuticals Division. The total consideration was USD 55 million, which was paid in cash.

The identifiable assets acquired and liabilities assumed are set out in the table below.

Business combinations – 2021: net assets acquired in millions of CHF

	GenMark	TIB Molbiol	Protocol First	Total
Property, plant and equipment ⁸	41	2	0	43
Right-of-use assets ²⁸	17	5	0	22
Intangible assets				
– Product intangibles: in use ¹⁰	757	158	0	915
– Other intangibles ¹⁰	37	9	30	76
Deferred tax assets	89	0	1	90
Inventories	38	2	0	40
Cash and cash equivalents	14	29	0	43
Marketable securities	43	0	0	43
Long-term debt	(55)	0	0	(55)
Deferred tax liabilities	(193)	(47)	(7)	(247)
Other non-current liabilities				
– Lease liabilities	(18)	(4)	0	(22)
– Other long-term liabilities	(1)	0	0	(1)
Other net assets (liabilities)	(25)	11	1	(13)
Net identifiable assets	744	165	25	934
Goodwill ⁹	967	346	26	1,339
Total consideration	1,711	511	51	2,273
Cash	1,711	511	51	2,273
Total consideration	1,711	511	51	2,273

GenMark's intangible assets are mainly related to the ePlex systems that are designed to support a broad range of molecular diagnostics sample-to-answer tests with compact, easy-to-use workstations and self-contained, disposable test cartridges.

The fair value of the intangible assets was determined using an excess earnings method that is based on management forecasts and observable market data for discount rates, tax rates and foreign exchange rates. The present value of the product intangible asset for GenMark's ePlex technology was calculated using a risk-adjusted discount rate of 10.0%. The present value of TIB Molbiol's product intangible assets and Protocol First's other intangibles was calculated using a risk-adjusted discount rate of 7.8% and 10.0%, respectively. The valuations were performed by independent valuers.

The GenMark goodwill represents the technological capabilities in multiplex molecular diagnostic solutions. Furthermore, it represents a control premium, the acquired workforce and the expected synergies, notably in the areas of manufacturing as well as commercialisation. Both the TIB Molbiol and Protocol First goodwill represent a control premium, the acquired workforce and the expected synergies. The goodwill from the GenMark and TIB Molbiol transactions is allocated to the Diagnostics customer areas as cash-generating units. The goodwill from the Protocol First transaction is allocated to Roche Pharmaceuticals as cash-generating unit. None of the goodwill is expected to be deductible for income tax purposes.

The accounts receivable was comprised of gross contractual amounts due of CHF 18 million from the GenMark acquisition and CHF 7 million from the TIB Molbiol acquisition which were all expected to be collectable at the date of the acquisition.

Directly attributable transaction costs of CHF 8 million were reported in the Diagnostics operating segment and CHF 1 million in the Roche Pharmaceuticals operating segment, both within general and administration expenses.

In the eight months ended 31 December 2021 GenMark contributed revenue of CHF 114 million and a net loss (after tax) of CHF 75 million to the results reported for the Diagnostics Division, where it is reported in the Molecular Lab customer area, and the Group. The impact of the TIB Molbiol acquisition on the 2021 results for the Diagnostics Division, where it is reported in the Molecular Lab customer area, and the Group were not material. If both acquisitions had occurred on 1 January 2021 management estimates that GenMark and TIB Molbiol would have contributed revenue of approximately CHF 210 million and a net loss (including intangible asset amortisation and after tax) of approximately CHF 80 million in 2021. This information is provided for illustrative purposes only and is not necessarily indicative of the results of the combined Group that would have occurred had GenMark and TIB Molbiol actually been acquired at the beginning of the year, or indicative of the future results of the combined Group. The impact of the Protocol First acquisition on the 2021 results for the Pharmaceuticals Division and the Group were not material.

Cash flows from business combinations

Business combinations: net cash outflows in millions of CHF

	Pharmaceuticals	Diagnostics	2022 Total	Pharmaceuticals	Diagnostics	2021 Total
Cash consideration paid	0	0	0	(51)	(2,222)	(2,273)
Deferred consideration paid	0	0	0	0	(5)	(5)
Contingent consideration paid ²⁰	0	0	0	(23)	0	(23)
Cash in acquired company	0	0	0	0	43	43
Total net cash outflows	0	0	0	(74)	(2,184)	(2,258)

Asset acquisitions – 2022

Good Therapeutics, Inc. On 26 September 2022 the Group acquired a 100% controlling interest in Good Therapeutics, Inc. ('Good Therapeutics'), a privately owned US company based in Seattle, Washington. With the acquisition, the Group gained access to Good Therapeutics' PD-1-regulated IL-2 programme. Good Therapeutics is reported in the Pharmaceuticals Division. The cash consideration paid at the acquisition date was USD 197 million. Additional contingent payments may be made based upon the achievement of performance-related milestones.

Asset acquisitions – 2022: net assets acquired in millions of CHF

	Good Therapeutics
Intangible assets	
– Product intangibles: not available for use	240
Deferred tax assets ⁵	6
Cash and cash equivalents	0
Other net assets (liabilities)	0
Net identifiable assets	246
Fair value of previously held equity interest	(52)
Total consideration	194
Cash	194
Total consideration	194

Asset acquisitions – 2021

The Group did not complete any asset acquisitions in 2021.

Cash flows from asset acquisitions

Asset acquisitions: net cash outflows in millions of CHF

	Pharmaceuticals	Diagnostics	2022 Total	Pharmaceuticals	Diagnostics	2021 Total
Cash consideration paid	(194)	0	(194)	0	0	0
Cash in acquired company	0	0	0	0	0	0
Contingent payments related to previous acquisitions	0	(51)	(51)	(36)	(67)	(103)
Total net cash outflows	(194)	(51)	(245)	(36)	(67)	(103)

For asset acquisitions previously closed, the Group recorded additions to product intangible assets related to contingent payments for the achievement of performance-related milestones of CHF 51 million in 2022 (2021: CHF 36 million). Furthermore, the Group made contingent payments of CHF 67 million in 2021 related to product intangible assets recognised already at 31 December 2020.

7. Global restructuring plans

During 2022 the Pharmaceuticals Division initiated a portfolio prioritisation programme and the Group continued the implementation of various global restructuring plans initiated in prior years.

Global restructuring plans: costs incurred in millions of CHF

	2022	2021
Global restructuring costs		
- Employee-related costs	127	876
- Site closure costs	323	276
- Divestment of products and businesses	0	0
- Other reorganisation expenses	519	210
Total global restructuring costs	969	1,362
Additional costs		
- Impairment of goodwill	0	0
- Impairment of intangible assets	0	0
- Legal and environmental cases	(2)	0
Total costs	967	1,362

The business process transformation to simplify system landscapes and streamline process complexity incurred employee-related costs of CHF 135 million (2021: CHF 85 million) and other reorganisation expenses of CHF 198 million (2021: CHF 116 million). The transformation is a multi-year cross-divisional programme to drive efficiency gains.

The manufacturing network strategy review in the Pharmaceuticals Division incurred site closure costs of CHF 178 million (2021: CHF 18 million) related to sites in the US, Switzerland and Germany. Additionally, the Pharmaceuticals Division's portfolio prioritisation programme incurred costs of CHF 221 million (2021: none) mainly related to the closure of studies.

In 2021 the major items of global restructuring costs were for employee-related costs from business transformation initiatives in the Pharmaceuticals Division, strategy plans in the Diagnostics Division, notably in Diabetes Care, and site development at the Basel/Kaiseraugst site in Switzerland.

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

	2022	2021
Employee-related costs		
– Termination costs	(38)	742
– Defined benefit plans	(15)	(5)
– Other employee-related costs	180	139
Total employee-related costs	127	876
Site closure costs		
– Impairment (reversal) of property, plant and equipment and right-of-use assets	92	13
– Accelerated depreciation of property, plant and equipment and right-of-use assets	105	81
– (Gains) losses on disposal of property, plant and equipment and right-of-use assets	2	5
– Other site closure costs	124	177
Total site closure costs	323	276
Divestment of products and businesses		
– (Gains) losses on divestment of subsidiaries	0	0
– Other (gains) losses on divestment of products and businesses	0	0
Total costs on divestment of products and businesses	0	0
Other reorganisation expenses	519	210
Total global restructuring costs	969	1,362
Additional costs		
– Impairment of goodwill	0	0
– Impairment of intangible assets	0	0
– Legal and environmental cases	(2)	0
Total costs	967	1,362

Global restructuring plans: classification of costs in millions of CHF

	2022			2021		
	Depreciation, amortisation and impairment	Other costs	Total	Depreciation, amortisation and impairment	Other costs	Total
Cost of sales						
- Pharmaceuticals	145	106	251	23	(22)	1
- Diagnostics	13	31	44	25	166	191
Marketing and distribution						
- Pharmaceuticals	0	55	55	0	324	324
- Diagnostics	0	4	4	0	100	100
Research and development						
- Pharmaceuticals	22	241	263	28	181	209
- Diagnostics	0	(2)	(2)	0	33	33
General and administration						
- Pharmaceuticals	17	195	212	18	308	326
- Diagnostics	0	29	29	0	63	63
- Corporate	0	111	111	0	115	115
Total costs	197	770	967	94	1,268	1,362
Total by operating segment						
- Roche Pharmaceuticals	162	570	732	36	778	814
- Chugai	22	27	49	33	13	46
- Diagnostics	13	62	75	25	362	387
- Corporate	0	111	111	0	115	115
Total costs	197	770	967	94	1,268	1,362

8. Property, plant and equipment

Property, plant and equipment: movements in carrying value of assets in millions of CHF

	Land	Buildings and land improvements	Machinery and equipment	Construction in progress	Total
At 1 January 2021					
Cost	1,350	17,456	21,127	4,052	43,985
Accumulated depreciation and impairment	0	(7,696)	(13,939)	(192)	(21,827)
Net book value	1,350	9,760	7,188	3,860	22,158
Year ended 31 December 2021					
At 1 January 2021	1,350	9,760	7,188	3,860	22,158
Business combinations ⁶	0	0	36	7	43
Additions	4	56	1,037	2,729	3,826
Disposals	(12)	(12)	(71)	(2)	(97)
Transfers	(3)	861	1,089	(1,947)	-
Depreciation charge	-	(812)	(1,712)	-	(2,524)
Impairment reversal (charge)	0	0	(74)	77	3
Other	0	(7)	(81)	(3)	(91)
Currency translation effects	(23)	40	(105)	(67)	(155)
At 31 December 2021	1,316	9,886	7,307	4,654	23,163
Cost	1,316	18,175	21,998	4,756	46,245
Accumulated depreciation and impairment	0	(8,289)	(14,691)	(102)	(23,082)
Net book value	1,316	9,886	7,307	4,654	23,163
Year ended 31 December 2022					
At 1 January 2022	1,316	9,886	7,307	4,654	23,163
Business combinations	0	0	0	0	0
Additions	2	125	946	2,329	3,402
Disposals	(1)	(6)	(84)	(3)	(94)
Transfers	(9)	1,925	1,127	(3,043)	-
Depreciation charge	-	(869)	(1,696)	-	(2,565)
Impairment reversal (charge)	0	0	(35)	(88)	(123)
Other	0	(2)	(59)	(6)	(67)
Currency translation effects	(60)	(178)	(276)	(127)	(641)
At 31 December 2022	1,248	10,881	7,230	3,716	23,075
Cost	1,248	19,806	22,494	3,891	47,439
Accumulated depreciation and impairment	0	(8,925)	(15,264)	(175)	(24,364)
Net book value	1,248	10,881	7,230	3,716	23,075

Classification of impairment of property, plant and equipment in millions of CHF

	2022	2021
Cost of sales	(119)	5
Marketing and distribution	0	0
Research and development	(3)	(1)
General and administration	(1)	(1)
Total impairment reversal (charge)	(123)	3

In 2022 impairments for property, plant and equipment were mainly related to global restructuring plans (see Note 7).

In 2021 the Pharmaceuticals Division reported impairment reversals of property, plant and equipment of CHF 108 million, net. An idle-plant impairment was reversed in the first half of 2021, resulting in an income of CHF 184 million. This was partially offset by impairments of property, plant and equipment including AT-527-related assets of CHF 38 million. Impairment charges of CHF 105 million were incurred in the Diagnostics Division, mainly in connection with the at-risk manufacturing ramp-up and rollout of COVID-19-related products.

In 2022 no reimbursements were received from insurance companies in respect of impairments to property, plant and equipment (2021: none). In 2022 no borrowing costs were capitalised as property, plant and equipment (2021: none).

At 31 December 2022 machinery and equipment with an original cost of CHF 5.7 billion (2021: CHF 5.6 billion) and a net book value of CHF 1.6 billion (2021: CHF 1.6 billion) was being leased to third parties (see Note 28).

Capital commitments

The Group has non-cancellable capital commitments for the purchase or construction of property, plant and equipment totalling CHF 2.6 billion (2021: CHF 1.9 billion).

9. Goodwill

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

	2022	2021
At 1 January		
Cost	14,900	13,390
Accumulated impairment	(4,091)	(4,141)
Net book value	10,809	9,249
Year ended 31 December		
At 1 January	10,809	9,249
Business combinations ⁶	0	1,339
Currency translation effects	11	221
At 31 December	10,820	10,809
Cost	14,942	14,900
Accumulated impairment	(4,122)	(4,091)
Net book value	10,820	10,809
Allocated to the following cash-generating units		
Roche Pharmaceuticals	5,388	5,345
Roche Pharmaceuticals product transactions	345	342
Chugai	77	88
Total Pharmaceuticals Division	5,810	5,775
Diagnostics customer areas	3,753	3,735
Diabetes Care customer area	85	89
Divisional goodwill	1,172	1,210
Total Diagnostics Division	5,010	5,034

Cash-generating units used for allocating goodwill

Pharmaceuticals Division. The basis for the use of the cash-generating units for allocating goodwill in the Pharmaceuticals Division is as follows:

- Within the Roche Pharmaceuticals operating segment, goodwill arises from three broad types of transactions:
 - Strategic transactions that have a transformative effect across the whole division.
 - Technology transactions, where the acquired technologies can have a range of areas of applications.
 - Product transactions, where the acquired products typically have more limited synergistic benefits outside of the immediate product therapeutic area.
- The cash-generating unit for the goodwill arising from strategic transactions is the Roche Pharmaceuticals operating segment.
- The cash-generating unit for the goodwill arising from technology transactions is also the Roche Pharmaceuticals operating segment. However, if the acquired technologies permanently cease to operate then this will be treated as a disposal of the business; in such cases the goodwill will be deemed to have been disposed of and will be fully impaired.
- The cash-generating unit for the goodwill arising from product transactions is the smallest identifiable group of assets related to the revenues and related costs that arise from the development and commercialisation of the product(s) in question. Where there are synergistic benefits to other products in the same therapeutic area, then the revenues, costs and corresponding assets of these other products are also taken into account. If the acquired products permanently cease to generate economic benefits then this will be treated as a disposal of the business; in such cases the goodwill will be deemed to have been disposed of and will be fully impaired.
- Chugai is a separate operating segment in the Group's financial reporting and a separate cash-generating unit to which goodwill is allocated.

The Group allocated the goodwill in the Roche Pharmaceuticals operating segment as listed below.

- Strategic transactions consist of Genentech (1990/1999), Foundation Medicine (2015), Flatiron Health (2018) and Spark Therapeutics (2019).
- Technology transactions consist of Therapeutic Human Polyclonals (2007), Dutalys (2014) and Santaris (2014).
- Product transactions consist of GlycArt (2005) and Tanox (2007).

Diagnostics Division. The basis for the use of the cash-generating units for allocating goodwill in the Diagnostics Division is as follows:

- Within the Diagnostics Division, goodwill arises from three broad types of transactions:
 - Strategic transactions that have a transformative effect across the whole division.
 - Technology transactions, where the acquired technologies can have a range of areas of applications.
 - Product transactions, where the acquired products either have synergistic benefits across the wider business or where they have more limited synergistic benefits outside of the immediate product therapeutic area.
- The cash-generating unit for the goodwill arising from strategic transactions will be the Diagnostics Division.
- The cash-generating unit for the goodwill arising from technology transactions will be either the Diagnostics customer areas or the Diabetes Care customer area. However, if the acquired technologies permanently cease to operate then this will be treated as a disposal of the business; in such cases the goodwill will be deemed to have been disposed of and will be fully impaired.
- The cash-generating unit for the goodwill arising from product transactions will be the smallest identifiable group of assets related to the revenues and related costs that arise from the development and commercialisation of the product(s) in question. Where there are synergistic benefits to other products in the same business, then the revenues, costs and corresponding assets of these other products will also be taken into account and the cash-generating unit will be either the Diagnostics customer areas or the Diabetes Care customer area. If the acquired products permanently cease to generate economic benefits then this will be treated as a disposal of the business; in such cases the goodwill will be deemed to have been disposed of and will be fully impaired.

The Group allocated the goodwill in the Roche Diagnostics operating segment as listed below.

- Strategic transactions consist of Corange/Boehringer Mannheim (1997).
- Technology transactions consist of Viewics (2017) in the Diagnostics customer areas and mySugr (2017) in the Diabetes Care customer area.
- Product transactions in the Diagnostics customer areas consist of Igen (2004), BioVeris (2007), Ventana (2008), PVT (2011), IQuum (2014), GenMark (2021) and TIB Molbiol (2021).
- Product transactions in the Diabetes Care customer area consist of Disetronic (2003) and Medingo (2010).

Impairment charge – 2022

There were no impairments of goodwill during 2022.

Impairment charge – 2021

There were no impairments of goodwill during 2021.

Value in use

Value in use is calculated using a discounted expected cash flow approach, with a post-tax discount rate applied to the projected risk-adjusted post-tax cash flows and terminal value. The discount rate is the Group's weighted average cost of capital as the cash-generating units have integrated operations across large parts of the Group. It is derived from a capital asset pricing model using data from capital markets, including government twenty-year bonds. For assessing value in use, the cash flow projections are based on the most recent long-term forecasts approved by management. The long-term forecasts include management's latest estimates on sales volume and pricing, as well as production and other operating costs and assume no significant changes in the organisation. Other key assumptions used in the calculations are the period of cash flow projections included in the long-term forecasts, the terminal value growth rate and the discount rate.

Key assumptions used in value-in-use calculations

	Period of cash flow projections	Terminal value growth rate	2022	Period of cash flow projections	Terminal value growth rate	2021
			Discount rate (after tax)			Discount rate (after tax)
Pharmaceuticals Division	5 years	n/a	7.5%	5 years	n/a	5.8%
Diagnostics Division	5 years	1.5%	7.5%	5 years	1.5%	5.8%

For goodwill relating to Roche Pharmaceuticals product transactions, product-specific periods of cash flow projections are used. For cash-generating units with a terminal value growth, the respective rate does not exceed the long-term projected growth rate for the relevant market.

Fair value less costs of disposal

For goodwill arising from the Chugai acquisition, the fair value less costs of disposal is determined with reference to the publicly quoted price of Chugai shares.

Sensitivity analysis

Management has performed sensitivity analyses for Roche Pharmaceuticals and the Diagnostics Division, which increased the discount rate by 1% combined with decreasing the forecast cash flows by 5%, and for Chugai, which decreased the publicly quoted share prices by 5%. The results of the sensitivity analyses demonstrated that the above changes in the key assumptions would not cause the carrying values of goodwill to exceed the recoverable amounts at 31 December 2022.

10. Intangible assets

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

	Product intangibles: in use	Product intangibles: not available for use	Other intangibles	Total
At 1 January 2021				
Cost	25,544	8,701	1,717	35,962
Accumulated amortisation and impairment	(19,875)	(2,803)	(1,267)	(23,945)
Net book value	5,669	5,898	450	12,017
Year ended 31 December 2021				
At 1 January 2021	5,669	5,898	450	12,017
Business combinations ⁶	915	0	76	991
Asset acquisitions	0	36	0	36
Additions	304	515	178	997
Disposals	0	0	0	0
Transfers	525	(525)	0	-
Amortisation charge	(1,461)	-	(95)	(1,556)
Impairment charge	(125)	(510)	(16)	(651)
Currency translation effects	163	112	8	283
At 31 December 2021	5,990	5,526	601	12,117
Cost	27,202	8,029	2,001	37,232
Accumulated amortisation and impairment	(21,212)	(2,503)	(1,400)	(25,115)
Net book value	5,990	5,526	601	12,117
Allocated by operating segment				
Roche Pharmaceuticals	4,496	5,190	476	10,162
Chugai	5	21	24	50
Diagnostics	1,489	315	101	1,905
Total Group	5,990	5,526	601	12,117
Year ended 31 December 2022				
At 1 January 2022	5,990	5,526	601	12,117
Business combinations	0	0	0	0
Asset acquisitions	0	291	0	291
Additions	221	596	127	944
Disposals	0	0	0	0
Transfers	94	(94)	0	-
Amortisation charge	(847)	-	(91)	(938)
Impairment charge	(1,484)	(1,353)	0	(2,837)
Currency translation effects	96	13	(1)	108
At 31 December 2022	4,070	4,979	636	9,685
Cost	27,473	8,375	2,118	37,966
Accumulated amortisation and impairment	(23,403)	(3,396)	(1,482)	(28,281)
Net book value	4,070	4,979	636	9,685
Allocated by operating segment				
Roche Pharmaceuticals	2,705	4,571	529	7,805
Chugai	10	39	12	61
Diagnostics	1,355	369	95	1,819
Total Group	4,070	4,979	636	9,685

Significant intangible assets at 31 December 2022 in millions of CHF

	Operating segment	Net book value	Remaining amortisation period
Product intangibles in use			
Rozlytrek (Ignyta acquisition)	Roche Pharmaceuticals	882	9 years
GenMark acquisition	Diagnostics	670	12 years
Xofluza (Shionogi in-licensing transaction)	Roche Pharmaceuticals	423	13 years
Kapa acquisition	Diagnostics	153	8 years
Susvimo (ForSight VISION4 acquisition)	Roche Pharmaceuticals	153	9 years
Product intangibles not available for use			
Sarepta in-licensing transaction	Roche Pharmaceuticals	815	n/a
SPK-8011 haemophilia A gene therapy (Spark Therapeutics acquisition)	Roche Pharmaceuticals	530	n/a
Inflazome acquisition	Roche Pharmaceuticals	378	n/a
Stratos Genomics acquisition	Diagnostics	357	n/a
Good Therapeutics acquisition	Roche Pharmaceuticals	225	n/a
BioNTech in-licensing transaction	Roche Pharmaceuticals	214	n/a
Dicerna in-licensing transaction	Roche Pharmaceuticals	208	n/a
Other intangibles – Technology intangibles in use			
Adaptive in-licensing transaction	Roche Pharmaceuticals	222	16 years

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

	2022	Amortisation 2021	2022	Impairment 2021
Cost of sales				
– Pharmaceuticals	(415)	(1,083)	(1,472)	(101)
– Diagnostics	(145)	(122)	0	0
Marketing and distribution				
– Pharmaceuticals	(13)	(18)	0	(15)
– Diagnostics	(21)	(19)	0	0
Research and development				
– Pharmaceuticals	(336)	(297)	(1,365)	(535)
– Diagnostics	(8)	(17)	0	0
Total	(938)	(1,556)	(2,837)	(651)

Internally generated intangible assets

At 31 December 2022 internally generated intangible assets relating to commercial software amounted to CHF 32 million (2021: CHF 20 million) and are included in other intangibles. Other than that the Group has no internally generated intangible assets from development as the criteria for the recognition as an asset are not met.

Intangible assets with indefinite useful lives

The Group currently has no intangible assets with indefinite useful lives.

Intangible assets not available for use

These mostly represent in-process research and development assets acquired either through in-licensing arrangements, business combinations, asset acquisitions or separate purchases. On 31 December 2022 approximately 88% (2021: 74%) of the projects in the Pharmaceuticals Division had known decision points within the next twelve months which, under certain circumstances, could lead to impairment. Due to the inherent uncertainties in the research and development processes, intangible assets not available for use are particularly at risk of impairment if the project is not expected to result in a commercialised product.

Intangible asset impairment

Impairment charges arise from changes in the estimates of the future cash flows expected to result from the use of the asset and its eventual disposal. Factors such as the presence or absence of competition, technical obsolescence or lower-than-anticipated sales for products with capitalised rights could result in shortened useful lives or impairment.

Impairment charges – 2022

Pharmaceuticals Division. Impairment charges totalling CHF 2,837 million were recorded. The major items related to:

- A charge of CHF 663 million for the full impairment of the in-licensed Gavreto product intangible asset due to lower sales expectations. The asset concerned, which was being amortised, was fully written down.
- A charge of CHF 519 million for the partial impairment of the product intangible asset for SPK-8011, a novel gene therapy for the treatment of haemophilia A that was acquired as part of the Spark Therapeutics acquisition. This impairment was a result of revised sales expectations. The asset concerned, which was not yet being amortised, was written down to its estimated recoverable amount of CHF 530 million.
- A charge of CHF 362 million for the full impairment of the product intangible asset for PRM-151, a novel anti-fibrotic immunomodulator for the treatment of idiopathic pulmonary fibrosis that was acquired as part of the Promedior acquisition. The impairment was due to the decision to stop development following a data assessment. The asset concerned, which was not yet being amortised, was fully written down.
- A charge of CHF 336 million for the partial impairment of the product intangible asset relating to the technology acquired as part of the Flatiron acquisition. The impairment is a result of reduced sales expectations. The asset concerned was written down to its estimated recoverable amount of CHF 56 million. The intangible asset continues to be amortised over its remaining estimated useful life of ten years.
- A charge of CHF 292 million for the partial impairment of the product intangible asset for Rozlytrek, acquired as part of the Ignyta acquisition, due to lower sales expectations. The asset concerned was written down to its estimated recoverable amount of CHF 882 million. The intangible asset in use continues to be amortised over its remaining estimated useful life of nine years.
- A charge of CHF 117 million for the full impairment of the product intangible asset relating to Foundation Medicine's technology. The impairment was a result of increased competition and reduced sales expectations. The asset concerned, which was being amortised, was fully written down.
- A charge of CHF 107 million for the partial impairment of the product intangible asset for SPK-9001, a novel gene therapy for the treatment of haemophilia B that was acquired as part of the Spark Therapeutics acquisition. This impairment was a result of revised sales expectations. The asset concerned, which was not yet being amortised, was written down to its estimated recoverable amount of CHF 178 million.
- A charge of CHF 100 million following a clinical data assessment and the decision to stop the development of CD25, acquired as part of the Tusk Therapeutics acquisition. The asset concerned, which was not yet being amortised, was fully written down.
- A charge of CHF 95 million due to the decision to stop the development of a compound and the related collaboration with an alliance partner. The asset concerned, which was not yet being amortised, was fully written down.
- A charge of CHF 86 million following a clinical data assessment and the decision to stop the development of NLRP3 inhibitors, acquired as part of the Jecure Therapeutics acquisition. The asset concerned, which was not yet being amortised, was fully written down.
- A charge of CHF 60 million for the partial impairment of the product intangible asset for Luxturna, acquired as part of the Spark Therapeutics acquisition. The impairment was a result of reduced sales expectations. The asset concerned was written down to its estimated recoverable amount of CHF 76 million. The intangible asset continues to be amortised over its remaining estimated useful life of five years.
- A charge of CHF 54 million for the full impairment of the product intangible asset for SPK-3006, a novel gene therapy for the treatment of late-onset Pompe disease that was acquired as part of the Spark Therapeutics acquisition. This impairment was a result of a change in timelines of the underlying development programme leading to reduced sales expectations. The asset concerned, which was not yet being amortised, was fully written down.

Impairment charges – 2021

Pharmaceuticals Division. Impairment charges totalling CHF 651 million were recorded. The major items related to:

- A charge of CHF 364 million for the full impairment of the intangible asset following the planned return of the rights and licences on AT-527 to Atea Pharmaceuticals after the announcement of the termination of the strategic collaboration. The asset concerned, which was not yet being amortised, was fully written down.
- A charge of CHF 107 million for the partial impairment of a compound developed together with an alliance partner, mainly driven by reduced sales expectations. The asset concerned, which was not yet being amortised, was written down to its estimated recoverable amount of CHF 62 million.
- A charge of CHF 101 million for the partial impairment of the product intangible asset for Luxturna, acquired as part of the Spark Therapeutics acquisition. The impairment is a result of reduced sales expectations. The asset concerned was written down to its estimated recoverable amount of CHF 157 million. The intangible asset continues to be amortised over its remaining estimated useful life of six years.
- A charge of CHF 42 million for the partial impairment of the intangible asset for SPK-9001, acquired as part of the Spark Therapeutics acquisition. This impairment was a result of change in planned regulatory timelines and revised sales expectations. The asset concerned, which was not yet being amortised, was written down to its estimated recoverable amount of CHF 279 million.
- A charge of CHF 37 million due to the decision to stop the development of a compound with an alliance partner. The asset concerned, which was not yet being amortised, was fully written down.
- A charge of CHF 29 million due to the decision to stop a collaboration project with an alliance partner following a data assessment. The asset concerned, which was not yet being amortised, was fully written down.
- A charge of CHF 19 million due to the decision to stop a collaboration project with an alliance partner. The asset concerned, which was being amortised, was fully written down.
- The previously recorded impairment for a compound in development was partially reversed and an income of CHF 101 million was recorded for this. The asset concerned was written up to its estimated recoverable value of CHF 110 million following a clinical data assessment. The asset concerned is not yet being amortised.
- Following a clinical data assessment in the first half of 2021, an impairment charge of CHF 76 million was recorded for a compound in development. After a full review of the clinical data results in the second half of 2021 and its impact on the programme, this impairment was fully reversed.

Potential commitments from alliance collaborations and intangible asset purchase agreements within the next three years

The Group is party to in-licensing and alliance arrangements and intangible asset purchase agreements, including asset acquisitions. These arrangements and purchase agreements may require the Group to make certain milestone or other similar payments dependent upon the achievement of agreed objectives or performance targets as defined in the collaboration and purchase agreements.

The Group's current estimate of future third-party commitments for such potential payments within the next three years is set out in the table below. These figures are undiscounted and are not risk-adjusted, meaning that they include all such potential payments that can arise assuming all projects currently in development are successful. The timing is based on the Group's current best estimate. These figures do not include any potential commitments within the Group, such as may arise between the Roche and Chugai businesses.

Potential future third-party collaboration and purchase payments at 31 December 2022 in millions of CHF

	Pharmaceuticals	Diagnostics	Group
Within one year	735	15	750
Between one and two years	1,402	90	1,492
Between two and three years	858	2	860
Total	2,995	107	3,102

11. Inventories

Inventories in millions of CHF

	2022	2021	2020
Raw materials and supplies	1,949	1,547	1,354
Work in process	118	100	90
Intermediates	6,273	5,738	4,369
Finished goods	1,138	1,202	1,956
Provision for slow-moving and obsolete inventory	(873)	(872)	(575)
Total inventories	8,605	7,715	7,194

Inventories expensed through cost of sales totalled CHF 14.4 billion (2021: CHF 14.7 billion). Inventory write-downs during the year resulted in an expense of CHF 509 million (2021: CHF 620 million).

12. Accounts receivable

Accounts receivable in millions of CHF

	2022	2021	2020
Trade receivables	12,613	11,965	11,023
Notes receivable	33	45	53
Other receivables	52	54	54
Allowances for doubtful accounts	(490)	(538)	(515)
Chargebacks and other allowances to be withheld upon settlement ³	(602)	(720)	(461)
Total accounts receivable³	11,606	10,806	10,154

Allowances for doubtful accounts: movements in recognised allowance in millions of CHF

	2022	2021
At 1 January	(538)	(515)
Additional allowances created	(128)	(140)
Unused amounts reversed	156	93
Utilised during the year	11	11
Currency translation effects	9	13
At 31 December	(490)	(538)

Bad debt expenses recorded as marketing and distribution costs totalled CHF 3 million (2021: expense of CHF 44 million).

13. Marketable securities

Marketable securities in millions of CHF

	2022	2021	2020
Equity securities at fair value through profit or loss	1	2	11
Debt securities at fair value through OCI	583	494	590
Debt securities at fair value through profit or loss	0	71	0
Money market instruments at fair value through OCI	3,811	2,816	2,734
Time accounts over three months at amortised costs	381	2,798	3,272
Total marketable securities	4,776	6,181	6,607

Marketable securities are held for fund management purposes and are primarily denominated in US dollars, euros and in Swiss francs. Money market instruments are contracted to mature within one year of 31 December 2022.

Debt securities – contracted maturity in millions of CHF

	2022	2021	2020
Within one year	107	130	158
Between one and five years	453	358	403
More than five years	23	77	29
Total debt securities	583	565	590

14. Cash and cash equivalents

Cash and cash equivalents in millions of CHF

	2022	2021	2020
Cash – cash in hand and in current or call accounts	2,841	5,028	4,536
Cash equivalents – time accounts with a maturity of three months or less	2,150	1,822	1,191
Total cash and cash equivalents	4,991	6,850	5,727

15. Other non-current assets

Other non-current assets in millions of CHF

	2022	2021	2020
Equity investments at fair value through OCI ³¹	356	328	506
Equity and debt investments at fair value through profit or loss ³¹	315	410	768
Loans receivable	7	7	8
Restricted cash	1	1	2
Other receivables – contracts with customers ³	26	36	37
Other receivables	92	90	80
Total financial non-current assets	797	872	1,401
Long-term employee benefits	193	234	214
Other assets	948	834	617
Total non-financial non-current assets	1,141	1,068	831
Associates	300	331	2
Total other non-current assets	2,238	2,271	2,234

Equity investments designated at fair value through OCI are mainly investments in private companies from the pharmaceutical sector, which are held as part of the Group's strategic alliance efforts.

16. Other current assets

Other current assets in millions of CHF

	2022	2021	2020
Accrued interest income	6	12	9
Derivative financial instruments ³¹	167	189	398
Cash collateral receivables	198	23	41
Other receivables – contracts with customers ³	686	646	492
Other receivables	192	211	145
Total financial current assets	1,249	1,081	1,085
Prepaid expenses and accrued income	1,202	1,869	1,153
Other taxes recoverable	865	633	750
Other assets	209	172	123
Total non-financial current assets	2,276	2,674	2,026
Total other current assets	3,525	3,755	3,111

17. Accounts payable

Accounts payable in millions of CHF

	2022	2021	2020
Trade payables	3,861	3,844	3,317
Other taxes payable	421	519	480
Dividends payable	3	3	3
Other payables	271	271	321
Total accounts payable	4,556	4,637	4,121

18. Other non-current liabilities

Other non-current liabilities in millions of CHF

	2022	2021	2020
Deferred income	254	246	156
Lease liabilities ²⁸	891	1,025	876
Other long-term liabilities	44	36	75
Total other non-current liabilities	1,189	1,307	1,107

19. Other current liabilities

Other current liabilities in millions of CHF

	2022	2021	2020
Deferred income	601	560	439
Lease liabilities ²⁸	302	329	319
Accrued payroll and related items	3,117	3,399	2,794
Interest payable	140	102	160
Derivative financial instruments ³¹	626	262	286
Cash collateral payables	18	40	202
Accrued chargebacks and other allowances separately payable ³	3,577	3,486	3,231
Accrued royalties and commissions	1,380	1,294	877
Other accrued liabilities	3,527	3,657	3,461
Total other current liabilities	13,288	13,129	11,769

20. Provisions and contingent liabilities

Provisions: movements in recognised liabilities in millions of CHF

	Legal provisions	Environmental provisions	Restructuring provisions	Contingent consideration provisions	Other provisions	Total
Year ended 31 December 2021						
At 1 January 2021	395	443	1,172	150	1,129	3,289
Additional provisions created	90	68	942	10	1,152	2,262
Unused amounts reversed	(12)	(1)	(147)	(2)	(232)	(394)
Utilised	(111)	(56)	(526)	(23)	(478)	(1,194)
Discount unwind, including effects from discount rate changes ⁴	0	4	0	2	0	6
Business combinations						
- Acquired companies	1	0	1	0	0	2
- Deferred consideration	-	-	-	-	0	0
- Contingent consideration	-	-	-	0	-	0
Asset acquisitions	0	0	0	-	0	0
Currency translation effects	9	(11)	(15)	4	10	(3)
At 31 December 2021	372	447	1,427	141	1,581	3,968
Current	349	142	722	57	1,256	2,526
Non-current	23	305	705	84	325	1,442
At 31 December 2021	372	447	1,427	141	1,581	3,968
Year ended 31 December 2022						
At 1 January 2022	372	447	1,427	141	1,581	3,968
Additional provisions created	33	12	149	2	868	1,064
Unused amounts reversed	(67)	(1)	(221)	(41)	(215)	(545)
Utilised	(23)	(51)	(488)	0	(490)	(1,052)
Discount unwind, including effects from discount rate changes ⁴	0	(20)	(7)	(1)	1	(27)
Business combinations						
- Acquired companies	0	0	0	0	0	0
- Deferred consideration	-	-	-	-	0	0
- Contingent consideration	-	-	-	0	-	0
Asset acquisitions	0	0	0	-	0	0
Currency translation effects	1	(13)	(16)	2	(23)	(49)
At 31 December 2022	316	374	844	103	1,722	3,359
Current	307	88	419	38	1,396	2,248
Non-current	9	286	425	65	326	1,111
At 31 December 2022	316	374	844	103	1,722	3,359
Expected outflow of resources						
Within one year	307	88	419	38	1,396	2,248
Between one and two years	3	100	222	43	105	473
Between two and three years	3	89	96	0	47	235
More than three years	3	97	107	22	174	403
At 31 December 2022	316	374	844	103	1,722	3,359

In 2022 CHF 1,052 million of provisions were utilised (2021: CHF 1,194 million). This amount is entirely included in the cash flows from operating activities (2021: CHF 1,166 million). In 2021 the remaining CHF 28 million were included in the cash flows from business combinations for payments made from deferred and contingent consideration arrangements (see Note 6).

Legal provisions

Legal provisions relate to a number of separate legal matters, including claims arising from trade, in various Group companies. By their nature the amounts and timings of any outflows are difficult to predict.

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 a net release of legal provisions of CHF 34 million in 2022 (2021: net increase of CHF 78 million). In 2022 the net income for legal cases included in general and administration were CHF 25 million (2021: net expenses of CHF 52 million). Details of the major legal cases outstanding are disclosed below.

Environmental provisions

Provisions for environmental matters relate to various separate environmental issues in a number of countries. By their nature the amounts and timings of any outflows are difficult to predict. At 31 December 2022 significant provisions were discounted by between 4% and 5% (2021: between 1% and 3%) where the time value of money was material. The effect from the increase in the discount rates in 2022 was higher than the discount unwind, which resulted in a decrease of provisions in 2022. The significant provisions relate to the US site in Nutley, New Jersey, which was divested in September 2016, the estimated remediation costs for a landfill site near Grenzach, Germany, which was used by manufacturing operations that were closed some years ago, and the estimated remediation costs for the manufacturing site at Clarecastle, Ireland, which was shut down in the meantime. In 2022 environmental provisions decreased by CHF 73 million, net, mainly due to utilisations and the effects from higher discount rates. In 2022 the net environmental expenses were CHF 3 million (2021: net expenses of CHF 66 million, mainly due to an increase of provisions following a reassessment of the expected costs of the environmental remediation at the Clarecastle site and other matters).

The Group's procedures on environmental protection are included in the Annual Report on pages 114 to 129. These include the actions taken by the Group with regard to climate change, notably the Group's commitment to reduce greenhouse gas emissions.

Restructuring provisions

These arise from planned programmes that materially change the scope of business undertaken by the Group or the manner in which business is conducted. Such provisions include only the costs necessarily entailed by the restructuring which are not associated with the recurring activities of the Group. The timings of these cash outflows are reasonably certain. These provisions are not discounted as the time value of money is not material in these matters.

In the Pharmaceuticals Division the significant provisions relate to various business transformation initiatives, including the resourcing flexibility plans and the site development plans at the Basel/Kaiseraugst site, as well as to the redesign and the strategic realignment of its manufacturing network. In the Diagnostics Division the significant provisions are associated with programmes to address long-term strategy, while in Corporate they relate to initiatives for the outsourcing of IT and other functions to shared service centres and external providers. Further details are given in Note 7.

Contingent consideration provisions

The Group is party to certain contingent consideration arrangements arising from business combinations. Significant non-current provisions are discounted using an average discount rate of 5.3% (2021: 2.7%) where the time value of money is material. Additional details on measurement and on the total potential payments under these arrangements are provided in Note 31.

Other provisions

Other provisions relate to the items shown in the table below. With the exception of employee provisions, the timing of cash outflows is by its nature uncertain.

Other provisions in millions of CHF

	2022	2021	2020
Sales returns ³	588	514	473
Employee provisions	366	384	380
Other items	768	683	276
Total other provisions	1,722	1,581	1,129

Contingent liabilities

The operations and earnings of the Group continue, from time to time and in varying degrees, to be affected by political, legislative, fiscal and regulatory developments, including those relating to environmental protection, in the countries in which it operates. The industries in which the Group operates are also subject to other risks of various kinds. The nature and frequency of these developments and events, not all of which are covered by insurance, as well as their effect on future operations and earnings, are not predictable.

The Group has entered into in-licensing and alliance arrangements and intangible asset purchase agreements, including asset acquisitions, in order to gain access to potential new products or to utilise other companies to help develop the Group's own potential new products. These arrangements and purchase agreements may require the Group to make certain milestone or other similar payments dependent upon the achievement of agreed objectives or performance targets as defined in the collaboration and purchase agreements. The Group's current estimate of future third-party commitments for such potential payments within the next three years are given in Note 10.

Legal cases

At 31 December 2022 legal provisions included provisions for legal cases of CHF 235 million (2021: CHF 269 million), mainly related to legal cases in the Pharmaceuticals Division of CHF 21 million (2021: CHF 49 million) and in the Diagnostics Division of CHF 214 million (2021: CHF 220 million). Provisions have been recorded, and in some cases settled, mainly relating to Meso, a Diagnostics legal case, and to the Pharmaceuticals legal matters listed below.

Avastin/Lucentis investigations. On 14 February 2013 the Italian Antitrust Authority ('AGCM') announced an investigation to determine whether Roche, Genentech and Novartis had entered into an agreement to restrict competition in the Italian market for drugs, with reference in particular to Avastin (marketed by Roche) and Lucentis (marketed by Novartis). Avastin and Lucentis are two different drugs that were developed and approved for different therapeutic purposes and contain different active pharmaceutical ingredients. On 5 March 2014 the AGCM issued a verdict that alleges that Roche and Novartis colluded to artificially differentiate Avastin and Lucentis in order to foster the sales of Lucentis in Italy. The AGCM fined Roche EUR 90.5 million and Novartis EUR 92 million. Roche appealed the AGCM verdict to the Tribunale Amministrativo Regionale del Lazio ('TAR'). On 2 December 2014 the TAR upheld the decision by the AGCM. Roche appealed the verdict of the TAR to the Consiglio di Stato. In July 2014 Roche paid the EUR 90.5 million fine under protest to avoid additional penalty fees and recorded an expense within general and administration. On 23 January 2018 the European Court of Justice rendered its decision on five questions which had been referred to the European Court of Justice by the Consiglio di Stato. On 15 July 2019 the Consiglio di Stato issued the final verdict on the case and upheld the verdicts of both the AGCM and the TAR. Roche filed an appeal with the Corte Suprema di Cassazione, which was rejected on 5 October 2021. In addition, Roche filed a motion for revocation with the Consiglio di Stato which is still pending. The hearing will take place on 27 April 2023. The Italian Ministry of Health and some Italian regions notified the Group of their intention to seek damages related to this matter. On 24 January 2019 the French Competition Authority ('FCA') issued a Statement of Objections against Roche, Genentech and Novartis regarding anticompetitive practices concerning the commercialisation of Avastin and Lucentis in France. The FCA alleges that Roche, Genentech and Novartis abused their collective dominant position on the French market for the treatment of wet age-related macular degeneration between 2008 and 2013. On 9 September 2020 the FCA issued a decision finding that Roche, Genentech and Novartis had infringed competition law and imposed a fine of EUR 60 million against Roche and Genentech. Roche and Genentech appealed this decision. On 10 February 2022 there was a hearing before the Paris Court of Appeal. The ruling is expected to be issued on 16 February 2023. At 31 December 2020 a liability was held for the amount of the fine, which was included in accounts payable within the line item other payables (see Note 17). In January 2021 the fine was paid under protest to avoid additional penalty fees. In September 2021 Roche received an administrative fine letter from the Turkish Competition Authority ('TCA'). In its investigation the TCA alleges that Roche and Novartis entered into a cartel aiming at preventing off-label applications of Avastin in order to foster on-label applications of Lucentis. In October 2021 the fine of Turkish lira 85 million was paid under protest to avoid additional penalty fees. Roche filed an appeal against the decision. In addition, the Group is challenging policies and regulations allowing off-label/unlicensed use and reimbursement for economic reasons in various countries. The Group is vigorously defending itself in these matters. The outcome of these matters cannot be determined at this time.

Average Wholesale Prices litigation. Hoffmann-La Roche, Inc. ('HLR') and Roche Laboratories Inc. ('RLI'), along with approximately 50 other brand and generic pharmaceutical companies, have been named as defendants in several legal actions in the US relating to the pricing of pharmaceutical drugs and state Medicaid reimbursement. The primary allegation in these litigations is that the pharmaceutical companies misrepresented or otherwise reported inaccurate Average Wholesale Prices ('AWP') and/or Wholesale Acquisition Costs ('WAC') for their drugs, which prices were allegedly relied upon by the states in calculating Medicaid reimbursements to entities such as retail pharmacies. The states, through their respective Attorney General, are seeking repayment of the amounts they claim were over-reimbursed. The time period associated with these cases is 1991 through 2005. At 31 December 2021 HLR and RLI were defending one AWP action filed in the state of New Jersey. In September 2022 this last case was dismissed following a settlement. This matter is now concluded.

Boniva litigation. Hoffmann-La Roche, Inc. ('HLR'), Genentech and various other Roche affiliates (collectively 'Roche') have been named as defendants in numerous legal actions in the US and one now dismissed case in Canada relating to the post-menopausal osteoporosis medication Boniva. In these litigations, the plaintiffs allege that Boniva caused either osteonecrosis of the jaw or atypical femoral fractures. At 31 December 2022 Roche was defending approximately 245 actions involving approximately 285 plaintiffs brought in federal and state courts throughout the US for personal injuries allegedly resulting from the use of Boniva. All of these cases are in the early discovery stages of litigation. Individual trial results depend on a variety of factors, including many that are unique to the particular case. Roche is vigorously defending itself in these matters. The outcome of these matters cannot be determined at this time.

Meso litigation. In February 2017 Roche Diagnostics Corporation ('Roche') filed a lawsuit in the US District Court for the District of Delaware against Meso Scale Diagnostics, LLC ('Meso'). This is a patent infringement case involving certain US patents owned by BioVeris Corporation ('BioVeris'), a company acquired by the Group in 2007. Meso holds a limited exclusive licence to use certain aspects of the electrochemiluminescence ('ECL') detection technology. Roche and Meso disagree on the scope of the licence. The lawsuit is seeking a declaratory judgment to get judicial clarification that Roche is not infringing Meso's licence. On 25 November 2019 the jury found that Roche's use of the patents infringed the scope of Meso's licence. There was no injunction granted and the jury awarded Meso USD 137 million in damages. In 2020 post-trial motions were filed by both parties and Meso moved for enhancement, pre-judgment interest and post-judgment royalties. The court hearing took place on 6 May 2020. On 23 December 2020 the US District Court issued the final order of judgment in which the jury award was confirmed and Meso's request for enhanced damages was denied. The Group appealed this decision. On 8 April 2022 the US Court of Appeal issued its ruling. It reversed the induced infringement decision and vacated the damages award. The US Court of Appeal also affirmed that Roche directly infringed one patent and vacated the District Court's decision on 23 December 2020 of non-infringement of three other patents. The case was remanded back to the District Court for a new damages trial, which is ongoing. The Group is vigorously defending itself in this matter.

In addition, the Pharmaceuticals legal cases 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 where the obligation cannot be measured with sufficient reliability.

Hemlibra litigation. On 4 May 2017 Baxalta Inc. and Baxalta GmbH (both together 'Baxalta'), subsidiaries of Takeda Pharmaceutical Company Limited, filed a patent infringement and declaratory judgment of patent infringement suit in the US District Court for the District of Delaware, alleging that Genentech and Chugai Pharmaceutical Co., Ltd. ('Chugai') currently or imminently would manufacture, use, sell, offer for sale, or import into the US Hemlibra, 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 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. On 7 August 2018 the US District Court ruled against Baxalta, denying their request for an injunction. On 19 September 2018 Chugai was dismissed from this case. On 1 February 2019 the US District Court issued a final judgment in favour of Genentech stating that Hemlibra does not infringe Baxalta's patent based on the Court's definition of key terms related to the patent. On 8 February 2019 Baxalta appealed this decision. On 27 August 2020 the Appeals Court reversed the claim construction ruling of the US District Court in favour of Genentech and remanded the case back to the US District Court. On 3 September 2021 Genentech filed a motion for summary judgment on multiple grounds. On 19 November 2021 the US District Court heard Genentech's motions for summary judgment of invalidity, non-infringement under the doctrine of equivalence, and no wilful infringement. On 13 January 2022 the US District Court granted Genentech's motion for summary judgment of no enablement, which means that the previously scheduled trial will be cancelled. Baxalta appealed this ruling with a decision expected in 2023. The Group is vigorously defending itself in this matter. The outcome of this matter cannot be determined at this time.

Iraqi Ministry of Health. In October 2017 F. Hoffmann-La Roche Ltd ('FHLR'), Hoffmann-La Roche, Inc. ('HLR') and Genentech and certain other pharmaceutical and/or medical device companies were named as defendants in a complaint filed in the Federal District Court for the District of Columbia, US, on behalf of US service members and their relatives who allege that they were killed or injured in Iraq between 2005 and 2009 (the 'Iraq lawsuit'). The complaint alleges that the defendants violated the US Anti-Terrorism Act and various state laws by providing funding for terrorist organisations through their sales practices pursuant to pharmaceutical and/or medical device contracts with the Iraqi Ministry of Health. In addition FHLR received an inquiry in July 2018 from the US Department of Justice in connection with an anti-corruption investigation relating to activities in Iraq, including interactions with the Iraqi government and certain of the same matters alleged in the Iraq lawsuit. On 29 October 2019 the US Department of Justice closed its inquiry against FHLR. On 17 July 2020 the Federal District Court granted the defendants' motions to dismiss. The plaintiffs appealed this decision. On 4 January 2022 the US Court of Appeals for the District of Columbia Circuit reversed the decision of the Federal District Court and remanded the case for further proceedings. Defendants filed petitions for rehearing en banc by the US Court of Appeals for the District of Columbia Circuit, which remain pending. The Group is vigorously defending itself in this matter. The outcome of this matter cannot be determined at this time.

Tamiflu Qui tam litigation. In 2019, Roche Holding Ltd ('Roche Holding'), Hoffmann-La Roche, Inc. ('HLR') and Genentech, Inc. ('Genentech') were served with a lawsuit filed by a relator in the US District Court for the District of Maryland under the qui tam (whistleblower) provisions of the False Claims Act. The lawsuit was originally filed under seal years earlier on behalf of the US government and various US state governments. The lawsuit alleges certain improper conduct by the Group with respect to sales of Tamiflu to the US government and various US state governments. The US Department of Justice declined to intervene in the lawsuit. On 17 January 2020 the Group filed a motion to dismiss. On 28 September 2020 the plaintiff dismissed the complaint as to Roche Holding and Genentech and the District Court denied HLR's motion for summary judgment. On 4 November 2022 the US Department of Justice filed a motion to dismiss the claim. The motion has been stayed pending a decision from the US Supreme Court on a related matter. The Group is vigorously defending itself in this matter. The outcome of this matter cannot be determined at this time.

Novartis litigation related to Cabilly royalties. On 25 May 2021 Novartis Vaccines and Diagnostics, Inc. and Novartis Pharma AG (collectively 'Novartis') filed a lawsuit against Genentech, Inc. ('Genentech') in California state court of San Mateo County. Novartis alleges that it mistakenly overpaid, and is entitled to the return of, certain Cabilly royalties for its products Cosentyx and Ilaris, totalling USD 210 million. Following the expiry of the Cabilly patent, Genentech and Novartis have had discussions regarding Cabilly royalties owed for Cosentyx and Ilaris manufactured in, or imported into, the US prior to patent expiry but sold after patent expiry. On 24 June 2021 Genentech filed a notice of removal, seeking to move the case from state court to federal court. On 1 July 2021 Genentech filed a motion to dismiss all the claims on various grounds. In response to Genentech's motion, Novartis filed an amended complaint on 20 August 2021. On 3 September 2021 Genentech filed a motion to dismiss the amended complaint on similar grounds. On 11 February 2022 Novartis and Genentech engaged in a voluntary mediation, which did not result in a settlement outcome. On 6 October 2022 there was a case management conference. The court unilaterally decided to re-calendar oral argument on Genentech's motion to dismiss which will be heard in February 2023. The Group is vigorously defending itself in this matter. The outcome of this matter cannot be determined at this time.

Herceptin investigation. On 8 February 2022 the South African Competition Commission ('Commission') filed a referral with the Competition Tribunal for prosecution of Roche Holding Ltd, F. Hoffmann-La Roche Ltd and Roche Products (Pty) Ltd (together 'Roche') for alleged excessive pricing of trastuzumab (Herceptin) in contravention of the South African Competition Act. The Commission's referral affidavit also alleges that the excessive price of Herceptin constitutes a violation of basic human rights including the right of access to healthcare enshrined in South Africa's Bill of Rights as it denies access to life-saving medicine for women living with breast cancer. The alleged excessive pricing of Herceptin by Roche took place between January 2011 and November 2020 in the South African private healthcare sector and in the South African public healthcare sector during the period from November 2015 to July 2020. The Commission has asked the Competition Tribunal to impose a penalty against Roche. On 14 October 2022 Roche submitted its replies to the Competition Tribunal. The Group is vigorously defending itself in this matter. The outcome of this matter cannot be determined at this time.

University of Pennsylvania litigation. On 31 January 2022 the University of Pennsylvania filed a patent litigation action in the US against Genentech, Inc. ('Genentech') based on a claim that Herceptin, Perjeta, Phesgo and Herceptin Hylecta would infringe their US Patent No. 7,625,558 (the '558 patent). According to the complaint, the '558 patent generally relates to methods of treating ErbB (HER2) protein-mediated cancer tumours by administering a compound that inhibits the formation of ErbB (HER2) followed by radiation. Genentech filed a partial motion to dismiss the University of Pennsylvania's claims of wilfulness on 24 March 2022, which was granted on 2 December 2022. A jury trial is scheduled for September 2024. The Group is vigorously defending itself in this matter. The outcome of this matter cannot be determined at this time.

21. Debt

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

	2022	2021
At 1 January	31,198	14,216
Proceeds from issue of bonds and notes	8,442	6,900
Redemption and repurchase of bonds and notes	(1,750)	(2,448)
Increase (decrease) in commercial paper	1,293	(1,134)
Increase (decrease) in other debt	(13,683)	13,412
Changes from financing cash flows	(5,698)	16,730
Net (gains) losses on redemption and repurchase of bonds and notes ⁴	0	0
Amortisation of debt discount ⁴	4	8
Financing costs	4	8
Business combinations	0	69
Asset acquisitions	0	0
Net foreign currency transaction (gains) losses	47	(17)
Currency translation effects	(64)	218
Changes in foreign exchange rates	(17)	201
Changes in fair values of hedging instruments	(136)	(27)
Other changes	0	1
At 31 December	25,351	31,198
Bonds and notes	23,158	16,579
Commercial paper	1,755	500
Amounts due to banks and other financial institutions	436	14,118
Other borrowings	2	1
Total debt	25,351	31,198
Long-term debt	21,391	16,076
Short-term debt	3,960	15,122
Total debt	25,351	31,198

There are no pledges on the Group's assets in connection with debt.

Bonds and notes

Recognised liabilities and effective interest rates of bonds and notes in millions of CHF

	Effective interest rate Underlying instrument	Including hedging	2022	2021	2020
US dollar notes – fixed rate					
2.875% notes due 29 September 2021, principal USD 1.3 billion (ISIN: US771196BB71)	2.98%	2.81%	–	–	569
1.75% notes due 28 January 2022, principal USD 0.65 billion (ISIN: US771196BM37)	1.87%	1.86%	–	–	572
3.25% notes due 17 September 2023, principal USD 0.75 billion, outstanding USD 0.39 billion (ISIN: US771196BN10)	3.32%	3.92%	349	354	343
0.45% notes due 5 March 2024, principal USD 0.5 billion (ISIN: US771196BQ41)	0.49%	2.47%	437	451	–
1.882% notes due 8 March 2024, principal USD 1.25 billion (ISIN: US771196BU52)	1.95%	n/a	1,153	–	–
3.35% notes due 30 September 2024, principal USD 1.65 billion, outstanding USD 0.59 billion (ISIN: US771196BE11)	3.40%	n/a	544	538	519
2.132% notes due 10 March 2025, principal USD 1.0 billion (ISIN: US771196BT89)	2.19%	n/a	922	–	–
3.0% notes due 10 November 2025, principal USD 1.0 billion, outstanding USD 0.51 billion (ISIN: US771196BJ08)	3.14%	n/a	466	461	444
0.991% notes due 5 March 2026, principal USD 0.65 billion (ISIN: US771196BS07)	1.03%	3.45%	539	582	–
2.625% notes due 15 May 2026, principal USD 1.0 billion (ISIN: US771196BK70)	2.78%	n/a	919	909	876
2.375% notes due 28 January 2027, principal USD 0.85 billion (ISIN: US771196BL53)	2.54%	n/a	781	771	743
2.314% notes due 10 March 2027, principal USD 1.25 billion (ISIN: US771196BV36)	2.37%	n/a	1,152	–	–
3.625% notes due 17 September 2028, principal USD 0.65 billion (ISIN: US771196BP67)	3.69%	n/a	599	593	572
1.93% notes due 13 December 2028, principal USD 2.0 billion (ISIN: US771196BW19)	1.97%	n/a	1,843	1,824	–
2.076% notes due 13 December 2031, principal USD 2.0 billion (ISIN: US771196BX91)	2.11%	2.16%	1,842	1,823	–
7.0% notes due 1 March 2039, principal USD 2.5 billion, outstanding USD 1.12 billion (ISIN: USU75000AN65 and US771196AU61)	7.43%	7.39%	1,001	990	954
4.0% notes due 28 November 2044, principal USD 0.65 billion (ISIN: US771196BH42)	4.16%	n/a	591	585	563
2.607% notes due 13 December 2051, principal USD 2.0 billion (ISIN: US771196BY74)	2.65%	2.74%	1,838	1,818	–
US dollar notes – floating rate					
Notes due 11 September 2023, principal USD 0.75 billion (ISIN: US771196BZ40)	3.43%	n/a	692	–	–
Notes due 5 March 2024, principal USD 0.35 billion (ISIN: US771196BR24)	2.51%	n/a	323	319	–
Notes due 10 March 2025, principal USD 0.75 billion (ISIN: US771196CA89)	4.28%	n/a	692	–	–
Euro Medium Term Note programme – fixed rate					
6.5% notes due 4 March 2021, principal EUR 1.75 billion (ISIN: XS0415624716)	6.66%	6.96%	–	–	1,236
0.5% notes due 27 February 2023, principal EUR 0.65 billion (ISIN: XS1371715118)	0.63%	0.67%	639	672	702
5.375% notes due 29 August 2023, principal GBP 0.25 billion, outstanding GBP 0.08 billion (ISIN: XS0175478873)	5.46%	n/a	85	95	92
0.875% notes due 25 February 2025, principal EUR 1.0 billion (ISIN: XS1195056079)	0.93%	1.04%	968	1,032	1,082
Swiss franc bonds – fixed rate					
1.625% bonds due 23 September 2022, principal CHF 0.5 billion (ISIN: CH0180513183)	1.64%	1.39%	–	501	502
0.0% bonds due 25 November 2022, principal CHF 1.25 billion (ISIN: CH1166151881)	–0.45%	n/a	–	–	–
0.1% bonds due 23 September 2024, principal CHF 0.75 billion (ISIN: CH0358654975)	0.11%	0.42%	721	748	751
0.25% bonds due 24 September 2025, principal CHF 0.5 billion (ISIN: CH0433761308)	0.25%	0.43%	486	500	500
1.5% bonds due 23 June 2026, principal CHF 0.425 billion (ISIN: CH1211713222)	1.48%	n/a	426	–	–
0.5% bonds due 25 February 2027, principal CHF 0.825 billion (ISIN: CH1166151899)	0.42%	n/a	828	–	–
0.45% bonds due 23 March 2029, principal CHF 0.35 billion (ISIN: CH0359915409)	0.46%	n/a	350	350	350
0.75% bonds due 24 September 2030, principal CHF 0.4 billion (ISIN: CH0433761316)	0.74%	n/a	400	400	400
0.75% bonds due 25 February 2031, principal CHF 0.625 billion (ISIN: CH1166151907)	0.71%	n/a	627	–	–
2.0% bonds due 23 September 2032, principal CHF 0.375 billion (ISIN: CH1211713230)	2.00%	n/a	375	–	–
1.0% bonds due 25 February 2037, principal CHF 0.3 billion (ISIN: CH1166151915)	0.91%	n/a	304	–	–

Recognised liabilities and effective interest rates of bonds and notes in millions of CHF (continued)

	Effective interest rate Underlying instrument	Including hedging	2022	2021	2020
Genentech Senior Notes					
5.25% Senior Notes due 15 July 2035, principal USD 0.5 billion, outstanding USD 0.29 billion (ISIN: US368710AC32)	5.39%	n/a	266	263	254
Total bonds and notes			23,158	16,579	12,024

Bonds and notes maturity in millions of CHF

	2022	2021	2020
Within one year	1,764	501	1,804
Between one and two years	3,179	1,121	1,074
Between two and three years	3,534	2,057	1,138
Between three and four years	1,883	1,993	1,270
Between four and five years	2,761	1,490	2,026
More than five years	10,037	9,417	4,712
Total bonds and notes	23,158	16,579	12,024

Unamortised discount included in carrying value of bonds and notes in millions of CHF

	2022	2021	2020
US dollar notes	69	72	56
Euro notes	1	3	4
Swiss franc bonds	(9)	0	0
Total unamortised discount	61	75	60

Issuance of bonds and notes – 2022

On 25 February 2022 the Group completed an offering of CHF 3.0 billion fixed rate bonds issued in four tranches, of which CHF 1.25 billion for bonds with a zero coupon, CHF 0.825 billion for bonds with a coupon of 0.5%, CHF 0.625 billion for bonds with a coupon of 0.75% and CHF 0.3 billion for bonds with a coupon of 1.0%. The zero coupon fixed rate bonds with a principal amount of CHF 1.25 billion matured on 25 November 2022. The other bonds will mature on 25 February 2027, 25 February 2031 and 25 February 2037, respectively. These bonds are listed at the SIX Swiss Exchange. The Group received CHF 3,014 million aggregate net proceeds from the issuance and sale of these fixed rate bonds.

On 10 March 2022 the Group completed an offering of USD 1.25 billion fixed rate notes with a coupon of 1.882%, USD 1.0 billion fixed rate notes with a coupon of 2.132% and USD 1.25 billion fixed rate notes with a coupon of 2.314%. The notes will mature on 8 March 2024, 10 March 2025 and 10 March 2027, respectively. The Group received CHF 3,237 million aggregate net proceeds from the issuance and sale of these fixed rate notes.

Also on 10 March 2022 the Group completed an offering of USD 0.75 billion floating rate notes at a rate equal to Secured Overnight Financing Rate (SOFR) plus a margin of 0.33% and USD 0.75 billion floating rate notes at a rate equal to SOFR plus a margin of 0.56%. The notes will mature on 11 September 2023 and 10 March 2025, respectively. The Group received CHF 1,391 million aggregate net proceeds from the issuance and sale of these floating rate notes.

On 23 September 2022 the Group completed an offering of CHF 0.8 billion fixed rate bonds issued in two tranches, of which CHF 0.425 billion for bonds with a coupon of 1.5% and CHF 0.375 billion for bonds with a coupon of 2.0%. The bonds will mature on 23 June 2026 and 23 September 2032, respectively. These bonds are listed at the SIX Swiss Exchange. The Group received CHF 800 million aggregate net proceeds from the issuance and sale of these fixed rate bonds.

Issuance of bonds and notes – 2021

On 5 March 2021 the Group completed an offering of USD 0.5 billion and USD 0.65 billion fixed rate notes with a coupon of 0.45% and 0.991%, respectively. The notes will mature on 5 March 2024 and 5 March 2026, respectively. The Group received CHF 1,066 million aggregate net proceeds from the issuance and sale of these fixed rate notes.

On 5 March 2021 the Group completed an offering of USD 0.35 billion floating rate notes at a rate equal to Secured Overnight Financing Rate (SOFR) plus a margin of 0.24%. The notes will mature on 5 March 2024. The Group received CHF 325 million aggregate net proceeds from the issuance and sale of these floating rate notes.

On 13 December 2021 the Group completed an offering of USD 2.0 billion fixed rate notes with a coupon of 1.93%, USD 2.0 billion fixed rate notes with a coupon of 2.076%, and USD 2.0 billion fixed rate notes with a coupon of 2.607%. The notes will mature on 13 December 2028, 13 December 2031 and 13 December 2051, respectively. The Group received CHF 5,509 million aggregate net proceeds from the issuance and sale of these fixed rate notes.

Redemption and repurchase of bonds and notes – 2022

On the due date of 23 September 2022 the Group redeemed the 1.625% fixed rate bonds with a principal amount of CHF 0.5 billion. The cash outflow was CHF 500 million, plus accrued interest. The effective interest rate of these bonds was 1.64%.

On the due date of 25 November 2022 the Group redeemed the zero coupon fixed rate bonds with a principal amount of CHF 1.25 billion. The cash outflow was CHF 1,250 million. The effective interest rate of these bonds was –0.45%.

Redemption and repurchase of bonds and notes – 2021

On the due date of 4 March 2021 the Group redeemed notes with an outstanding amount of EUR 1.14 billion. The effective interest rate of these notes was 6.66%. The cash outflow was CHF 1,266 million and there was no gain or loss recorded on the redemption.

On 29 July 2021 the Group resolved to exercise its option to call for early redemption of the 2.875% fixed rate notes with an outstanding amount of USD 0.64 billion at par, two months before the scheduled due date of 29 September 2021. The cash outflow was CHF 586 million, plus accrued interest, and there was no gain or loss recorded on the redemption. The effective interest rate of these notes was 2.98%.

On 28 December 2021 the Group resolved to exercise its option to call for early redemption of the 1.75% fixed rate notes with an outstanding amount of USD 0.65 billion at par, one month before the scheduled due date of 28 January 2022. The cash outflow was CHF 596 million, plus accrued interest, and there was no gain or loss recorded on the redemption. The effective interest rate of these notes was 1.87%.

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

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

	2022	2021
US dollar notes	4,628	6,900
Swiss franc bonds	3,814	0
Total cash inflows from issuance of bonds and notes	8,442	6,900

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

	2022	2021
Euro Medium Term Note programme – Euro notes	0	(1,266)
US dollar notes	0	(1,182)
Swiss franc bonds	(1,750)	0
Total cash outflows from redemption and repurchase of bonds and notes	(1,750)	(2,448)

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. The committed credit line that is available as a back-stop supporting the commercial paper program is USD 7.5 billion at 31 December 2022 (2021: USD 7.5 billion). On 3 July 2019 the previously existing committed credit lines were refinanced by one new committed credit line with an initial maturity of five years and two annual extension options, both of which were exercised extending the maturity to 2026. The maturity of the notes under the program cannot exceed 365 days from the date of issuance. At 31 December 2022 unsecured commercial paper notes with a principal amount of USD 1.9 billion (2021: USD 0.5 billion) and an average interest rate of 4.18% (2021: 0.08%) were outstanding.

Movements in commercial paper obligations in millions of CHF

	2022	2021
At 1 January	500	1,576
Net cash proceeds (payments)	1,293	(1,134)
Currency translation effects	(38)	58
At 31 December	1,755	500

Amounts due to banks and other financial institutions

At 31 December 2022 the amounts outstanding of CHF 436 million (2021: CHF 14,118 million) are due within one year. These amounts are denominated in various currencies and the average interest rate was 3.37% (2021: 0.25%). This position notably included the bridge loan facility drawn in December 2021 to finance the share repurchase transaction (see Note 22). The bridge loan facility was fully repaid by May 2022, partly from the proceeds from the new debt issuances and partly from internal cash generation. At 31 December 2021 the amount of the bridge loan facility outstanding was CHF 13.5 billion.

22. Equity attributable to Roche shareholders

Changes in equity attributable to Roche shareholders in millions of CHF

	Share capital	Retained earnings	Fair value reserves	Hedging reserves	Translation reserves	Total
Year ended 31 December 2021						
At 1 January 2021	160	45,571	106	(16) ^{b)}	(9,480)	36,341
Net income recognised in income statement	-	13,930	-	-	-	13,930
Financial assets at fair value through OCI						
- Fair value gains (losses) – equity investments at fair value through OCI	-	-	(179)	-	-	(179)
- Fair value gains (losses) taken to retained earnings on disposal of equity investments at fair value through OCI	-	0	0	-	-	-
- Fair value gains (losses) – debt securities at fair value through OCI	-	-	(13)	-	-	(13)
- Fair value gains (losses) transferred to income statement – debt securities at fair value through OCI	-	-	0	-	-	0
- Income taxes ⁵	-	0	24	-	-	24
- Non-controlling interests	-	0	1	-	-	1
Cash flow hedges						
- Gains (losses) taken to equity	-	-	-	(56)	-	(56)
- Transferred to income statement ^{a)}	-	-	-	0	-	0
- Income taxes ⁵	-	-	-	9	-	9
- Non-controlling interests	-	-	-	1	-	1
Currency translation of foreign operations						
- Exchange differences	-	-	1	2	(479)	(476)
- Accumulated differences transferred to income statement on divestment of subsidiaries	-	-	-	-	0	0
- Non-controlling interests	-	-	-	-	247	247
Defined benefit plans						
- Remeasurement gains (losses) ²⁶	-	2,225	-	-	-	2,225
- Limit on asset recognition ²⁶	-	(3)	-	-	-	(3)
- Income taxes ⁵	-	(349)	-	-	-	(349)
- Non-controlling interests	-	(2)	-	-	-	(2)
Other comprehensive income, net of tax	-	1,871	(166)	(44)	(232)	1,429
Total comprehensive income	-	15,801	(166)	(44)	(232)	15,359
Dividends	-	(7,773)	-	-	-	(7,773)
Share repurchase	-	(18,991)	-	-	-	(18,991)
Equity compensation plans, net of transactions in own equity	-	(445)	-	-	-	(445)
Changes in non-controlling interests	-	(2)	-	-	-	(2)
At 31 December 2021	160	34,161	(60)	(60)^{c)}	(9,712)	24,489

a) The entire amount transferred to the income statement was reported in other financial income (expense).

b) The cost of hedging reserve related to the EUR/USD cross-currency swaps included in the hedging reserve at 1 January 2021 amounted to CHF 3 million, net of tax.

c) The remaining cross-currency swaps expired on 4 March 2021 (see Note 31) and therefore the hedging reserves no longer included any costs for hedging instruments at 31 December 2021.

Changes in equity attributable to Roche shareholders in millions of CHF

	Share capital	Retained earnings	Fair value reserves	Hedging reserves	Translation reserves	Total
Year ended 31 December 2022						
At 1 January 2022	160	34,161	(60)	(60)	(9,712)	24,489
Net income recognised in income statement	-	12,421	-	-	-	12,421
Financial assets at fair value through OCI						
- Fair value gains (losses) – equity investments at fair value through OCI	-	-	28	-	-	28
- Fair value gains (losses) taken to retained earnings on disposal of equity investments at fair value through OCI	-	0	0	-	-	-
- Fair value gains (losses) – debt securities at fair value through OCI	-	-	(35)	-	-	(35)
- Fair value gains (losses) transferred to income statement – debt securities at fair value through OCI	-	-	0	-	-	0
- Income taxes ⁵	-	0	4	-	-	4
- Non-controlling interests	-	0	1	-	-	1
Cash flow hedges						
- Gains (losses) taken to equity	-	-	-	(92)	-	(92)
- Transferred to income statement ^{a)}	-	-	-	2	-	2
- Income taxes ⁵	-	-	-	28	-	28
- Non-controlling interests	-	-	-	25	-	25
Currency translation of foreign operations						
- Exchange differences	-	-	3	5	(1,723)	(1,715)
- Accumulated differences transferred to income statement on divestment of subsidiaries	-	-	-	-	12	12
- Non-controlling interests	-	-	-	-	522	522
Defined benefit plans						
- Remeasurement gains (losses) ²⁶	-	2,372	-	-	-	2,372
- Limit on asset recognition ²⁶	-	(1,523)	-	-	-	(1,523)
- Income taxes ⁵	-	(303)	-	-	-	(303)
- Non-controlling interests	-	(9)	-	-	-	(9)
Other comprehensive income, net of tax	-	537	1	(32)	(1,189)	(683)
Total comprehensive income	-	12,958	1	(32)	(1,189)	11,738
Dividends	-	(7,446)	-	-	-	(7,446)
Share capital reduction	(53)	53	-	-	-	-
Equity compensation plans, net of transactions in own equity	-	(786)	-	-	-	(786)
Changes in non-controlling interests	-	(3)	-	-	-	(3)
At 31 December 2022	107	38,937	(59)	(92)	(10,901)	27,992

a) The entire amount transferred to the income statement was reported in financing costs (see Note 4) and related to the fair value loss on treasury locks designated as cash flow hedges.

Share repurchase and share capital reduction

On 26 November 2021, an Extraordinary General Meeting of Roche shareholders approved a reduction of the share capital of Roche Holding Ltd, which is the Group's parent company, by CHF 53.3 million from CHF 160.0 million to CHF 106.7 million through the cancellation of all such shares to be repurchased from Novartis. On 6 December 2021, the Roche Group repurchased 53.3 million Roche shares held by Novartis for a total consideration of CHF 19.0 billion. The repurchased shares were reported as treasury shares as at 31 December 2021. These shares were cancelled in February 2022 when the necessary legal procedures had been completed. Upon cancellation of these shares, the share capital of Roche Holding Ltd decreased by CHF 53.3 million from CHF 160.0 million to CHF 106.7 million. The reduction in the share capital became effective at the beginning of February 2022, with the entry of the share capital reduction in the commercial register of the Canton of Basel-Stadt on 3 February 2022 and the publication of the share capital reduction in the Swiss Official Gazette of Commerce on 8 February 2022. The CHF 19.0 billion credit facility from banks drawn in 2021 to finance the share repurchase was fully repaid by May 2022, partly from the proceeds from the new debt issuances and partly from internal cash generation (see Note 21).

Share capital

Following the share capital reduction described above, at 31 December 2022 the authorised and issued share capital of Roche Holding Ltd, which is the Group's parent company, consisted of 106,691,000 shares with a nominal value of CHF 1.00 each (31 December 2021: 160,000,000 shares, thereof 53,309,000 shares held by the Group as treasury shares that were cancelled in February 2022). The shares are bearer shares and the Group does not maintain a register of shareholders. At 31 December 2022, based on information supplied to the Group, a shareholder group with pooled voting rights owned 72,018,000 shares representing 67.50% of the issued shares (31 December 2021: 72,018,000 shares representing 45.01% of the issued shares and, excluding the treasury shares held by the Group that were cancelled in February 2022, 67.50% of the voting power). These figures do not include any shares without pooled voting rights that are held outside this group by individual members of the group. On 5 December 2019 the shareholder group announced that it would continue the shareholder pooling agreement existing since 1948 with a modified shareholder composition. The duration of the pool was extended for an indefinite period in 2009. At 31 December 2022, based on information supplied to the Group, Ms Maja Oeri, formerly a member of the pool, held 8,091,900 shares independently of the pool, representing 7.58% of the issued shares (31 December 2021: 8,091,900 shares representing 5.057% of the issued shares and, excluding the treasury shares held by the Group that were cancelled in February 2022, 7.58% of the voting power). This is further described in Note 32.

Non-voting equity securities (*Genussscheine*)

At 31 December 2022, 702,562,700 non-voting equity securities had been authorised and were in issue as in the preceding year. Under Swiss company law these non-voting equity securities have no nominal value, are not part of the share capital and cannot be issued against a contribution which would be shown as an asset in the balance sheet of Roche Holding Ltd. Each non-voting equity security confers the same rights as any of the shares to participate in the net profit and any remaining proceeds from liquidation following repayment of the nominal value of the shares and, if any, participation certificates. In accordance with the law and the Articles of Incorporation of Roche Holding Ltd, the Company is entitled at all times to exchange shares or participation certificates for all or some of the non-voting equity securities without the consent of the bearers thereof.

Dividends

On 15 March 2022 the shareholders approved the distribution of a dividend of CHF 9.30 per share and non-voting equity security (2021: CHF 9.10) in respect of the 2021 business year. The distribution to holders of outstanding shares and non-voting equity securities totalled CHF 7,446 million (2021: CHF 7,773 million) and has been recorded against retained earnings in 2022. The Board of Directors has proposed dividends for the 2022 business year of CHF 9.50 per share and non-voting equity security. This dividend proposal is subject to approval at the Annual General Meeting on 14 March 2023. If approved, this would result in a total distribution to shareholders of CHF 7,688 million.

Own equity instruments

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

	2022 (millions)	2021 (millions)
Shares	0	53.3
Non-voting equity securities	10.1	8.8
Total	10.1	62.1

Own equity instruments are recorded within equity at original purchase cost. At 31 December 2022 the fair value of shares was CHF 7.1 million (2021: CHF 21,802 million) and the fair value of non-voting equity securities was CHF 2.9 billion (2021: CHF 3.3 billion). Own equity instruments are held for the Group's potential conversion obligations that may arise from the Group's equity compensation plans (see Note 27). In addition, as described above, 53.3 million repurchased shares were reported as treasury shares as at 31 December 2021 and cancelled in February 2022.

Reserves

Fair value reserve. At 31 December 2022 and 2021 the fair value reserve represents the cumulative net change in the fair value of financial assets at fair value through OCI until the asset is sold, impaired or otherwise disposed of.

Hedging reserve. The hedging reserve represents the effective portion of the cumulative net change in the fair value of cash flow hedging instruments related to hedged transactions that have not yet occurred.

Translation reserve. The translation reserve represents the cumulative currency translation differences relating to the consolidation of Group companies that use functional currencies other than Swiss francs.

23. Subsidiaries and associates

Chugai

Effective 1 October 2002 the Roche Group and Chugai completed an alliance to create a leading research-driven Japanese pharmaceutical company, which was formed by the merger of Chugai and Roche's Japanese pharmaceuticals subsidiary, Nippon Roche. The merged company is known as Chugai.

Consolidated subsidiary. Chugai is a fully consolidated subsidiary of the Group. This is based on the Group's interest in Chugai at 31 December 2022 of 61.1% (2021: 61.2%) and the Roche relationship with Chugai that is founded on the Basic Alliance, Licensing and Research Collaboration Agreements.

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. Due to certain consolidation entries there are minor differences between Chugai's stand-alone IFRS results and the results of Chugai as consolidated by the Roche Group in accordance with IFRS.

Chugai summarised financial information in millions of CHF

	2022	2021
Income statement		
Sales ²	7,551	6,685
Royalties and other operating income ²	1,721	1,673
Total revenues	9,272	8,358
Operating profit ²	3,988	3,525
Balance sheet		
Non-current assets	3,720	3,718
Current assets	9,329	8,584
Non-current liabilities	(171)	(208)
Current liabilities	(2,937)	(2,596)
Total net assets	9,941	9,498
Cash flows		
Cash flows from operating activities	1,774	2,328
Cash flows from investing activities	(1,061)	(990)
Cash flows from financing activities	(1,058)	(894)

Dividends. The dividends distributed to third parties holding Chugai shares during 2022 totalled CHF 390 million (2021: CHF 319 million) and have been recorded against non-controlling interests (see Note 24). Dividends paid by Chugai to Roche are eliminated on consolidation as intercompany items.

Roche's relationship with Chugai. Chugai has entered into certain agreements with Roche, which are discussed below:

(1) Basic Alliance Agreement – As part of the Basic Alliance Agreement signed in December 2001 and partially revised in July 2022, Roche and Chugai entered into certain arrangements covering the future operation and governance of Chugai. Amongst other matters these cover the following areas:

- The structuring of the alliance.
- Roche's rights as a shareholder.
- Roche's rights to nominate members of Chugai's Board of Directors.
- Certain limitations to Roche's ability to buy or sell Chugai's common stock.

Chugai issues additional shares of common stock in connection with its convertible debt and equity compensation plans, and may issue additional shares for other purposes. If this occurs, Chugai will guarantee Roche's right to maintain its shareholding percentage in Chugai by allowing Roche to exercise its pre-emptive right or other rights.

(2) Licensing Agreements – Under the Japan Umbrella Rights Agreement signed in December 2001, Chugai has exclusive rights to market Roche's pharmaceutical products in Japan. Chugai has the right of first refusal on the development and marketing in Japan of all development compounds advanced by Roche.

The Rest of the World Umbrella Rights Agreement (excluding Japan and South Korea) signed in May 2002 was revised and the Amended and Restated Rest of the World Umbrella Rights Agreement (excluding Japan, South Korea and Taiwan) was signed in August 2014. Under this Agreement Chugai shall offer and Roche has the right of first refusal on the development and marketing of Chugai's development compounds in markets outside Japan, excluding South Korea and Taiwan.

Further to these agreements, Roche and Chugai have signed a series of separate agreements for certain specific products. Depending on the specific circumstances and the terms of the agreement, this may result in payments on an arm's length basis between Roche and Chugai, for any or all of the following matters:

- Upfront payments, if a right of first refusal to license a product is exercised.
- Milestone payments, dependent upon the achievement of agreed performance targets.
- Royalties on future product sales.

These specific product agreements may also cover the manufacture and supply of the respective products to meet the other party's clinical and/or commercial requirements on an arm's length basis.

(3) Research Collaboration Agreements – Roche and Chugai have entered into research collaboration agreements in the areas of small-molecule synthetic drug research and biotechnology-based drug discovery.

Associates

On 21 December 2021 the Group acquired an interest in Freenome Holdings, Inc. ('Freenome'), a privately owned US company based in South San Francisco, California. At 31 December 2022 the Group's interest in Freenome was 16.4% (31 December 2021: 16.3%). This investment has been assessed and is treated as an associate of the Group. The Group accounts for Freenome using the equity method based on Freenome's financial statements that are made available to the Group. The carrying value of the Group's share of Freenome's net assets, an asset of CHF 299 million (31 December 2021: CHF 329 million), is included in other non-current assets (see Note 15). The Group's share of Freenome's results, a loss of CHF 40 million (2021: nil), is included in other financial income (expense) (see Note 4).

24. Non-controlling interests

Changes in equity attributable to non-controlling interests in millions of CHF

	2022	2021
At 1 January	3,856	3,432
Net income recognised in income statement		
– Chugai	1,093	985
– Other non-controlling interests	17	20
Total net income recognised in income statement	1,110	1,005
Equity investments at fair value through OCI	(1)	(1)
Debt securities at fair value through OCI	0	0
Cash flow hedges	(25)	(1)
Currency translation of foreign operations	(522)	(247)
Remeasurements of defined benefit plans	9	2
Other comprehensive income, net of tax	(539)	(247)
Total comprehensive income	571	758
Business combinations	0	0
Dividends to non-controlling shareholders		
– Chugai ²³	(390)	(319)
– Other non-controlling interests	(16)	(19)
Equity compensation plans, net of transactions in own equity	(1)	2
Changes in non-controlling interests	3	2
At 31 December	4,023	3,856
Chugai	3,816	3,634
Other non-controlling interests	207	222
Total non-controlling interests	4,023	3,856

25. Employee benefits

Employee remuneration in millions of CHF

	2022	2021
Wages and salaries	11,778	12,144
Social security costs	1,184	1,202
Defined contribution plans ²⁶	452	419
Operating expenses for defined benefit plans ²⁶	611	678
Equity compensation plans ²⁷	738	663
Termination costs ⁷	(38)	742
Other employee benefits	1,307	875
Employee remuneration included in operating results	16,032	16,723
Net interest cost of defined benefit plans ²⁶	82	71
Total employee remuneration	16,114	16,794

Other employee benefits consist mainly of life insurance schemes and certain other insurance schemes providing medical coverage and other long-term and short-term disability benefits.

26. Pensions and other post-employment benefits

The Group's objective is to provide attractive and competitive post-employment benefits to employees, while at the same time ensuring that the various plans are appropriately financed and managing any potential impacts on the Group's long-term financial position. Most employees are covered by pension plans sponsored by Group companies. The nature of such plans varies according to legal regulations, fiscal requirements and market practice in the countries in which the employees are employed. Post-employment benefit plans are classified for IFRS as 'defined contribution plans' if the Group pays fixed contributions into a separate fund or to a third-party financial institution and will have no further legal or constructive obligation to pay further contributions. All other plans are classified as 'defined benefit plans'.

Defined contribution plans

Defined contribution plans are funded through payments by employees and by the Group to funds administered by third parties. The Group's expenses for these plans were CHF 452 million (2021: CHF 419 million). No assets or liabilities are recognised in the Group's balance sheet in respect of such plans, apart from regular prepayments and accruals of the contributions withheld from employees' wages and salaries and of the Group's contributions. The Group's major defined contribution plan is the US Roche 401(k) Savings Plan.

Defined benefit plans

Plans are usually established as trusts independent of the Group and are funded by payments from Group companies and by employees. In some cases, notably for the major defined benefit plans in Germany, the plans are unfunded and the Group pays pensions to retired employees directly from its own financial resources. Plans are usually governed by a senior governing body, such as a Board of Trustees, which is typically composed of both employee and employer representatives. Funding of these plans is determined by local regulations using independent actuarial valuations. Separate independent actuarial valuations are prepared in accordance with the requirements of IAS 19 for use in the Group's financial statements. The Group's major pension plans are located in Switzerland, the US and Germany, which in total account for 87% of the Group's defined benefit obligation (2021: 85%).

Pension plans in Switzerland. Current pension arrangements for employees in Switzerland are made through plans governed by the Swiss Federal Occupational Old Age, Survivors and Disability Pension Act ('BVG'). The Group's pension plans are administered by separate legal foundations, which are funded by regular employee and company contributions. The final benefit is contribution based with certain minimum guarantees. Due to these minimum guarantees, the Swiss plans are treated as defined benefit plans for the purposes of these IFRS financial statements, although they have many of the characteristics of defined contribution plans. Where there is an underfunding, this may be remedied by various measures such as increasing employee and company contributions, lowering the interest rate on retirement account balances, reducing prospective benefits and a suspension of the early withdrawal facility.

Pension plans in the US. The Group's major defined benefit plans in the US have been closed to new members since 2007. New employees in the US now join the defined contribution plan. The largest of the remaining defined benefit plans are funded pension plans together with smaller unfunded supplementary retirement plans. The benefits are based on the highest average annual rate of earnings during a specified period and length of employment. The plans are non-contributory for employees, with the Group making periodic contributions to the plans. Where there is an underfunding, this would normally be remedied by additional company contributions. In 2022 and 2021 no such contributions were made by the Group.

Pension plans in Germany. The Group's major pension arrangements in Germany are governed by the Occupational Pensions Act ('BetrAVG'). These plans are unfunded and the Group pays pensions to retired employees directly from its own financial resources. These plans are non-contributory for employees. The benefits are based on final salary and length of employment. These plans have been closed to new members since 2007. They have been replaced by a new plan which is funded by regular employee and company contributions and administered through a contractual trust agreement. The final benefit of the unfunded plan is contribution based with a minimum guarantee. Due to this minimum guarantee, this plan is treated as a defined benefit plan for the purposes of these IFRS financial statements, although it has many of the characteristics of a defined contribution plan.

Pension plans in the Rest of the World. These represent approximately 9% of the Group's defined benefit obligation (2021: 10%) and consist of a number of smaller plans in various countries. Of these the largest are the pension plans at Chugai, which are independently managed by Chugai, and the main pension plan in the United Kingdom. In 2022 Chugai has made additional voluntary contributions of JPY 1.3 billion to its pension plans (2021: JPY 1.2 billion). The Chugai plans are fully described in Chugai's own IFRS financial statements. The UK pension plan is funded by regular employee and company contributions, with benefits based on final salary and length of employment. This plan has been closed to new members since 2003 and has been replaced with a defined contribution plan.

Other post-employment benefit ('OPEB') plans. These represent approximately 4% of the Group's defined benefit obligation (2021: 5%) and consist of post-employment healthcare and life insurance schemes, mainly in the US. These plans are mainly unfunded and/or are contributory for employees, with the Group reimbursing retired employees directly from its own financial resources. The Group's major OPEB plans in the US have been closed to new members since 2011. Part of the costs of these plans is reimbursable under the Medicare Prescription Drug, Improvement, and Modernization Act of 2003. There is no statutory funding requirement for these plans. The Group is funding these plans to the extent that it is tax efficient. In 2022 contributions of USD 33 million were made by the Group to these plans (2021: none). At 31 December 2022 the IFRS funding status was 62% (2021: 65%), including reimbursement rights, for the funded OPEB plans in the US.

Defined benefit plans: income statement in millions of CHF

	2022			2021		
	Pension plans	Other post-employment benefit plans	Total expense	Pension plans	Other post-employment benefit plans	Total expense
Current service cost	618	12	630	695	13	708
Past service (income) cost	(19)	0	(19)	(30)	0	(30)
Settlement (gain) loss	0	0	0	0	0	0
Total operating expenses	599	12	611	665	13	678
Net interest cost of defined benefit plans	64	18	82	53	18	71
Total expense recognised in income statement	663	30	693	718	31	749

Funding status

The funding of the Group's various defined benefit plans is the responsibility of the respective senior governing body, such as a Board of Trustees, and the sponsoring employer, and is managed based on local statutory valuations, which follow the legislation and requirements of the respective jurisdiction in which the plan is established. Qualified independent actuaries carry out statutory actuarial valuations on a regular basis. The actuarial assumptions determining the funding status on the statutory basis are regularly assessed by the local senior governing body. The funding status is closely monitored at a corporate level. The unfunded plans are mainly those in the Group's German affiliates, where the fully reserved pension obligations are used for self-financing of the local affiliate's operations.

The IFRS funding status of the funded defined benefit plans increased to 113% (2021: 105%).

Reimbursement rights are linked to the post-employment medical plans in the US and represent the expected reimbursement of the medical expenditure provided under the Medicare Prescription Drug, Improvement, and Modernization Act of 2003.

Defined benefit plans: funding status in millions of CHF

	2022			2021		
	Pension plans	Other post-employment benefit plans	Total	Pension plans	Other post-employment benefit plans	Total
Funded plans						
- Fair value of plan assets	16,317	281	16,598	18,817	347	19,164
- Defined benefit obligation	(14,202)	(531)	(14,733)	(17,609)	(683)	(18,292)
Over (under) funding	2,115	(250)	1,865	1,208	(336)	872
Unfunded plans						
- Defined benefit obligation	(3,705)	(296)	(4,001)	(5,211)	(371)	(5,582)
Total funding status	(1,590)	(546)	(2,136)	(4,003)	(707)	(4,710)
Limit on asset recognition	(1,526)	0	(1,526)	(3)	0	(3)
Reimbursement rights	-	58	58	-	108	108
Net recognised asset (liability)	(3,116)	(488)	(3,604)	(4,006)	(599)	(4,605)
Reported in balance sheet						
- Defined benefit plan assets	899	58	957	1,390	108	1,498
- Defined benefit plan liabilities	(4,015)	(546)	(4,561)	(5,396)	(707)	(6,103)

Plan assets

The responsibility for the investment strategies of funded plans is with the respective senior governance body, such as the Board of Trustees. Asset-liability studies are performed regularly for all major pension plans. These studies examine the obligations from post-employment benefit plans and evaluate various investment strategies with respect to key financial measures such as expected returns, expected risks, expected contributions, and expected funded status of the plan in an interdependent way. The goal of an asset-liability study is to select an appropriate asset allocation for the funds held within the plan. The investment strategy is developed to optimise expected returns, to manage risks and to contain fluctuations in the statutory funded status. Asset-liability studies include strategies to match the cash flows of the assets with the plan obligations. The Group currently does not use longevity swaps to manage longevity risk.

Plan assets are managed using internal and external asset managers. The actual performance is continually monitored by the pension fund governance bodies as well as being closely monitored at a corporate level. In these financial statements the difference between the interest income and actual return on plan assets is a remeasurement that is recorded directly to other comprehensive income. In 2022 the actual return on plan assets was a loss of CHF 2,256 million (2021: gain of CHF 1,264 million), which excludes the actual return on reimbursement rights.

The recognition of plan assets is limited to the present value of any economic benefits available from refunds from the plans or reductions in future contributions to the plans. A limit on asset recognition arose during 2022 as a result of a surplus, based on current market assumptions, in certain Swiss pension plans that was not recognisable under IFRS. The adjustment arising from the limit on the recognition of assets for defined benefit plans is recorded in other comprehensive income within equity. In 2022, this adjustment was CHF 1,523 million (2021: CHF 3 million).

Defined benefit plans: fair value of plan assets and reimbursement rights in millions of CHF

	2022			2021		
	Pension plans	Other post-employment benefit plans	Total	Pension plans	Other post-employment benefit plans	Total
At 1 January	18,817	455	19,272	17,639	446	18,085
Interest income on plan assets and reimbursement rights	175	13	188	124	11	135
Remeasurements on plan assets and reimbursement rights	(2,364)	(131)	(2,495)	1,088	30	1,118
Currency translation effects	(140)	(32)	(172)	83	13	96
Employer contributions	429	32	461	413	0	413
Employee contributions	181	9	190	161	7	168
Benefits paid – funded plans	(776)	(5)	(781)	(687)	(50)	(737)
Benefits paid – settlements	0	0	0	0	0	0
Administration costs	(5)	(2)	(7)	(4)	(2)	(6)
At 31 December	16,317	339	16,656	18,817	455	19,272

Defined benefit plans: limit on asset recognition in millions of CHF

	2022	2021
Limit on asset recognition		
At 1 January	(3)	0
Movement recorded in other comprehensive income	(1,523)	(3)
At 31 December	(1,526)	(3)
Fair value of plan assets at 31 December		
Excluding limit on asset recognition	16,598	19,164
Limit on asset recognition	(1,526)	(3)
Including limit on asset recognition	15,072	19,161

Defined benefit plans: composition of plan assets in millions of CHF

	2022	2021
Equity securities	4,833	6,036
Debt securities	6,217	7,642
Property	2,799	2,587
Cash and money market instruments	312	282
Other investments	2,437	2,617
At 31 December	16,598	19,164

Assets are invested in a variety of different classes in order to maintain a balance between risk and return as follows:

- Equity and debt securities which mainly have quoted market prices (Level 1 fair value hierarchy).
- Property which is primarily in private and commercial property funds which mainly have other observable inputs (Level 2 fair value hierarchy).
- Cash and money market instruments which are mainly invested with financial institutions with a credit rating no lower than A.
- Other investments which mainly consist of alternatives, mortgages, commodities and insurance contracts. These are used for risk management purposes and mainly have other observable inputs (Level 2 fair value hierarchy) and unobservable inputs (Level 3 fair value hierarchy).

Included within the fair value of plan assets are the Group's shares and non-voting securities with a fair value of CHF 147 million (2021: CHF 191 million) and debt instruments issued by the Group with a fair value of CHF 15 million (2021: CHF 13 million).

Defined benefit obligation

The defined benefit obligation is calculated using the projected unit credit method. This reflects service rendered by employees to the dates of valuation and incorporates actuarial assumptions primarily regarding discount rates used in determining the present value of benefits, projected rates of remuneration growth and mortality rates. The present value of the defined benefit obligation is determined by discounting the estimated future cash outflows using interest rates of high-quality corporate bonds or government bonds in countries where there is not a deep market in corporate bonds. The corporate or government bonds are denominated in the currency in which the benefits will be paid, and have maturity terms approximating to the terms of the related pension obligation.

The Group's final salary-based defined benefit pension plans in the US, Germany and the United Kingdom have been closed to new participants. Active employees that had been members of these pension plans at the time these were closed to new participants continue to accrue benefits in the final salary-based defined benefit pension plans. New employees in the US and UK now join the Group's defined contribution plans, while new employees in Germany join the contribution-based plan with a minimum guarantee. As a result, the proportion of the defined benefit obligation which relates to these closed plans is expected to decrease in the future. The defined benefit pension plans in Switzerland, where the final benefit is contribution based with a minimum guarantee, remain open to new employees.

Defined benefit plans: defined benefit obligation in millions of CHF

	2022			2021		
	Pension plans	Other post-employment benefit plans	Total	Pension plans	Other post-employment benefit plans	Total
At 1 January	22,820	1,054	23,874	23,796	1,153	24,949
Current service cost	618	12	630	695	13	708
Interest cost	239	31	270	177	29	206
Remeasurements:						
- Demographic assumptions	266	0	266	(452)	(14)	(466)
- Financial assumptions	(5,385)	(252)	(5,637)	(725)	(134)	(859)
- Experience adjustments	488	12	500	203	18	221
Currency translation effects	(342)	(23)	(365)	(122)	42	(80)
Employee contributions	181	9	190	161	7	168
Benefits paid - funded plans	(776)	(5)	(781)	(687)	(50)	(737)
Benefits paid - unfunded plans	(183)	(11)	(194)	(196)	(10)	(206)
Benefits paid - settlements	0	0	0	0	0	0
Past service (income) cost	(19)	0	(19)	(30)	0	(30)
Settlement (gain) loss	0	0	0	0	0	0
At 31 December	17,907	827	18,734	22,820	1,054	23,874
Composition of plan						
Active members	9,149	206	9,355	11,841	282	12,123
Deferred vested members	1,320	4	1,324	1,942	7	1,949
Retired members	7,438	617	8,055	9,037	765	9,802
At 31 December	17,907	827	18,734	22,820	1,054	23,874
Plans by geography						
Switzerland	9,304	-	9,304	11,195	-	11,195
United States	3,467	796	4,263	4,233	1,013	5,246
Germany	3,517	-	3,517	4,920	-	4,920
Rest of the World	1,619	31	1,650	2,472	41	2,513
At 31 December	17,907	827	18,734	22,820	1,054	23,874
Duration in years	12.6	10.0	12.4	14.7	12.2	14.6

Actuarial assumptions

The actuarial assumptions used in these financial statements are based on the requirements set out in IAS 19 'Employee Benefits'. They are unbiased and mutually compatible estimates of variables that determine the ultimate cost of providing post-employment benefits. They are set on an annual basis by local management, based on advice from actuaries, and are subject to approval by corporate management and the Group's actuaries. Actuarial assumptions consist of demographic assumptions on matters such as mortality and employee turnover, and financial assumptions on matters such as interest rates, salary and benefit levels, inflation rates and costs of medical benefits. The actuarial assumptions vary based upon local economic and social conditions. The actuarial assumptions used in the various statutory valuations may differ from these based on local legal and regulatory requirements.

Demographic assumptions. The most significant demographic assumptions relate to mortality rates. The Group's actuaries use mortality tables which take into account historic patterns and expected changes, such as further increases in longevity. Rates of employee turnover, disability and early retirement are based on historical behaviour. The average life expectancy assumed now for an individual at the age of 65 is as follows:

Defined benefit plans: average life expectancy at the age of 65 for major schemes in years

Country	Mortality table	2022	Male 2021	2022	Female 2021
Switzerland	BVG 2020 projected with CMI model	21.7	21.7	23.5	23.4
United States	Pri-2012 projected with MP-2021	21.9	21.8	23.3	23.2
Germany	Heubeck tables 2018 G projected with CMI model	19.6	19.6	23.0	23.0

In 2022 the mortality assumptions used for the pension plans in Switzerland were based on BVG 2020 (2021: BVG 2020) applying the Continuous Mortality Investigation ('CMI') model. A long-term rate of 1.25% (2021: 1.25%) was used for longevity improvements.

The Group used as mortality assumptions for the pension plans in Germany Heubeck tables 2018 G applying the CMI model with a long-term rate of 1.25% for longevity improvements (2021: 1.25%).

Financial assumptions. These are based on market expectations for the period over which the obligations are to be settled. The assumptions used in the actuarial valuations are shown below.

Defined benefit plans: financial actuarial assumptions

	2022		2021	
	Weighted average	Range	Weighted average	Range
Discount rates	3.20%	1.23%–5.30%	1.14%	0.20%–3.40%
Expected rates of salary increases	2.69%	0.00%–4.25%	2.41%	0.00%–4.25%
Expected rates of pension increases	0.71%	0.00%–3.00%	0.69%	0.00%–3.00%
Expected inflation rates	2.26%	0.00%–3.10%	2.24%	2.00%–3.20%
Immediate medical cost trend rate	5.69%	5.49%–5.70%	5.79%	5.54%–5.80%
Ultimate medical cost trend rate (in 2040)	4.00%	4.00%–4.00%	4.00%	4.00%–4.00%

Discount rates are determined with reference to interest rates on high-quality corporate bonds or government bonds in countries where there is not a deep market in corporate bonds. Expected rates of salary increases are based on expected inflation rates with an adjustment to reflect the Group's latest expectation of long-term real salary increases taking into account expected inflation rates, amongst other factors. Expected rates of pension increases are generally linked to the expected inflation rate or the funding status of the plan. Expected inflation rates are derived by looking at the level of inflation implied by the financial markets in conjunction with the economists' price inflation forecasts, historic price inflation as well as other economic variables and circumstances. Medical cost trend rates take into account the benefits set out in the plan terms and expected future changes in medical costs. Since the Group's major post-employment medical plans are for US employees, these rates are driven by developments in the US.

Sensitivity analysis. The measurement of the net defined benefit obligation is particularly sensitive to changes in the discount rate, inflation rate, expected mortality and medical cost trend rate assumptions. The following table summarises the impact of a change in those assumptions on the present value of the defined benefit obligation.

Defined benefit plans: sensitivity of defined benefit obligation to actuarial assumptions in millions of CHF

	2022	2021
Increase (decrease) in defined benefit obligation		
Life expectancy		
- 1 year increase	464	735
Discount rates		
- 0.25% increase	(550)	(817)
- 0.25% decrease	567	869
Expected inflation rates		
- 0.25% increase	122	247
- 0.25% decrease	(168)	(235)
Immediate medical cost trend rate		
- 1.00% increase	72	109
- 1.00% decrease	(61)	(91)

Each sensitivity analysis considers the change in one assumption at a time leaving the other assumptions unchanged. This approach shows the isolated effect of changing one individual assumption but does not take into account that some assumptions are related. The method used to carry out the sensitivity analysis is the same as in the prior year.

Cash flows

The Group incurred cash flows from its defined benefit plans as shown in the table below.

Defined benefit plans: cash flows in millions of CHF

	2022	2021
Employer contributions, net of reimbursements – funded plans	(461)	(413)
Benefits paid – unfunded plans	(194)	(206)
Total cash inflows (outflows)	(655)	(619)

Based on the most recent actuarial valuations, the Group expects that employer contributions for funded plans in 2023 will be approximately CHF 426 million. No additional voluntary contributions are planned. Benefits paid for unfunded plans in 2023 are estimated to be approximately CHF 213 million, which mostly relate to the German defined benefit plans.

27. Equity compensation plans

The Group operates several equity compensation plans, including separate plans at Chugai. IFRS 2 'Share-based Payment' requires that the fair value of all equity compensation plan awards granted to employees be estimated at grant date and recorded as an expense over the vesting period.

Expenses for equity compensation plans in millions of CHF

	2022	2021
Cost of sales	106	106
Marketing and distribution	155	140
Research and development	330	277
General and administration	147	140
Total operating expenses	738	663
Equity compensation plans		
Roche Stock-settled Stock Appreciation Rights	150	122
Roche Restricted Stock Unit Plan	538	494
Roche Connect	38	36
Roche Option Plan	1	1
Bonus Stock Awards	8	7
Chugai plans	3	3
Total operating expenses	738	663
Of which		
– Equity-settled	738	663
– Cash-settled	–	–

Cash inflows (outflows) from equity compensation plans in millions of CHF

	2022	2021
Roche Option Plan exercises	13	43
Chugai plans' exercises	4	3
Roche Connect costs	(38)	(36)
Transactions in own equity	(1,236)	(1,416)
Total cash inflows (outflows) from equity-settled equity compensation plans, net of transactions in own equity	(1,257)	(1,406)

The net cash outflows from transactions in own equity mainly arise from sales and purchases of equity instruments which are held for the Group's potential conversion obligations that may arise from the Group's equity compensation plans (see Note 22).

Equity compensation plans

Roche Stock-settled Stock Appreciation Rights. The Group issues Stock-settled Stock Appreciation Rights (S-SARs) to certain directors, management and employees selected at the discretion of the Group. The S-SARs give employees the right to receive non-voting equity securities reflecting the value of any appreciation in the market price of the non-voting equity securities between the grant date and the exercise date. Under the Roche S-SAR Plan 180 million S-SARs were available for issuance over a ten-year period from 2013 to 2022. The Roche S-SAR Plan was renewed effective 1 January 2023 and 150 million S-SARs will be available for issuance over another ten-year period, starting from 2023. The rights, which are non-tradable equity-settled awards, have a ten-year duration and vest on a phased basis over four years. Rights granted before 2019 have a seven-year duration and vested on a phased basis over three years. The provisions of the renewed Roche S-SAR Plan are consistent with the terms of applicable California securities laws. Within the meaning of Section 25102(o) of Title 4 of the California Corporations Code and Sections 260.140.41 and 260.140.42 of Title 10 of the California Code of Regulations, approval of these Annual Financial Statements constitutes approval of the Roche S-SAR Plan, which is described in these Annual Financial Statements, by a majority of Roche Holding Ltd's outstanding securities entitled to vote.

Roche S-SARs – movement in number of rights outstanding

	Number of rights (thousands)	2022 Weighted average exercise price (CHF)	Number of rights (thousands)	2021 Weighted average exercise price (CHF)
Outstanding at 1 January	28,535	277.00	31,480	263.31
Granted	6,308	358.53	7,737	308.09
Forfeited	(1,147)	318.63	(1,683)	296.80
Exercised	(3,807)	265.18	(8,965)	252.08
Expired	(24)	258.44	(34)	263.90
Outstanding at 31 December	29,865	294.14	28,535	277.00
– of which exercisable	14,270	261.91	13,433	249.79

Roche S-SARs – terms of rights outstanding at 31 December 2022

Year of grant	Number outstanding (thousands)	Weighted average remaining contractual life (years)	Rights outstanding		Rights exercisable	
			Weighted average exercise price (CHF)	Number exercisable (thousands)	Weighted average exercise price (CHF)	
2016	1,478	0.27	250.86	1,478	250.86	
2017	2,637	1.26	251.48	2,637	251.48	
2018	3,940	2.26	221.31	3,940	221.31	
2019	4,016	6.27	272.28	2,442	272.37	
2020	5,582	7.27	308.31	2,353	308.37	
2021	6,244	8.27	308.27	1,368	308.65	
2022	5,968	9.27	358.46	52	359.58	
Total	29,865	6.21	294.14	14,270	261.91	

Roche Restricted Stock Unit Plan. The Group issues Restricted Stock Units (RSUs) awards to certain directors, management and employees selected at the discretion of the Group. The RSUs, which are non-tradable, represent the right to receive non-voting equity securities. RSUs vest on a phased basis over four years, subject to performance conditions, if any. RSUs granted before 2019 vested after a three-year period. There are currently no performance conditions on outstanding RSUs at 31 December 2022. Under the Roche RSU Plan 20 million non-voting equity securities were available for issuance over a ten-year period from 2013 to 2022. The Roche RSU Plan was renewed effective 1 January 2023 and 30 million non-voting equity securities will be available for issuance over another ten-year period, starting from 2023. The Roche RSU Plan also includes a value adjustment which will be an amount equivalent to the sum of shareholder distributions made by the Group during the vesting period attributable to the number of non-voting equity securities for which an individual award has been granted. The provisions of the renewed Roche RSU Plan are consistent with the terms of applicable California securities laws. Within the meaning of Section 25102(o) of Title 4 of the California Corporations Code and Sections 260.140.41 and 260.140.42 of Title 10 of the California Code of Regulations, approval of these Annual Financial Statements constitutes approval of the Roche RSU Plan, which is described in these Annual Financial Statements, by a majority of Roche Holding Ltd's outstanding securities entitled to vote.

Roche RSUs – movement in number of awards outstanding

	2022 Number of awards (thousands)	2021 Number of awards (thousands)
Outstanding at 1 January	3,613	4,245
Granted	1,943	2,125
Forfeited	(353)	(541)
Transferred to participants	(1,391)	(2,216)
Outstanding at 31 December	3,812	3,613
– of which vested and transferable	1	1

Roche Connect. This programme enables all employees worldwide, except for those in the US and certain other countries, to make regular deductions from their salaries to purchase non-voting equity securities. It is administered by independent third parties. The Group contributes to the programme, which allows the employees to purchase non-voting equity securities at a discount (usually 20%). The administrator purchases the necessary non-voting equity securities directly from the market. At 31 December 2022 the administrator held 3.7 million non-voting equity securities (2021: 3.4 million). In 2022 the cost of the plan was CHF 38 million (2021: CHF 36 million).

Roche Option Plan. This programme is used in countries where S-SARs are not used. Awards under this plan give employees the right to purchase non-voting equity securities at an exercise price specified at the grant date. The options, which are non-tradable equity-settled awards, have a ten-year duration and vest on a phased basis over four years. Options granted before 2019 have a seven-year duration and vested on a phased basis over three years.

Roche Option Plan – movement in number of options outstanding

	Number of options (thousands)	2022 Weighted average exercise price (CHF)	Number of options (thousands)	2021 Weighted average exercise price (CHF)
Outstanding at 1 January	294	258.47	446	251.14
Granted	20	359.29	28	311.03
Forfeited	(3)	316.70	(6)	270.75
Exercised	(52)	252.59	(173)	247.71
Expired	0	256.10	(1)	263.20
Outstanding at 31 December	259	266.66	294	258.47
– of which exercisable	191	250.32	208	244.45

Roche Option Plan – terms of options outstanding at 31 December 2022

Year of grant	Number outstanding (thousands)	Weighted average remaining contractual life (years)	Options outstanding		Options exercisable	
			Weighted average exercise price (CHF)	Number exercisable (thousands)	Weighted average exercise price (CHF)	
2016	26	0.26	250.12	26	250.12	
2017	40	1.28	250.95	40	250.95	
2018	69	2.28	222.87	69	222.87	
2019	57	6.25	271.65	38	271.65	
2020	22	7.25	308.01	10	308.02	
2021	26	8.29	311.48	7	311.34	
2022	19	9.25	359.27	1	359.70	
Total	259	4.33	266.66	191	250.32	

The weighted average share price of Roche non-voting equity securities during the year was CHF 333.29 (2021: CHF 336.79).

Bonus Stock Awards. The Chairman of the Board of Directors and the Chief Executive Officer will be granted Bonus Stock Awards in lieu of their cash-settled bonus for the financial year 2022. These are subject to approval by the 2023 Annual General Meeting in March 2023 and will be issued in March 2023. The number of awards and fair value per award will be calculated at the grant date.

Fair value measurement

The inputs used in the measurement of the fair values at grant date of the equity compensation plans were as follows:

Fair value measurement in 2022

	Roche Stock-settled Stock Appreciation Rights	Roche Restricted Stock Unit Plan	Roche Option Plan
Vesting period	Progressively over 4 years	Progressively over 4 years	Progressively over 4 years
Contractual life	10 years	n/a	10 years
Number granted during year (thousands)	6,308	1,943	20
Weighted average fair value (CHF)	34	357	34
Model used	Binomial	Market price ^{a)}	Binomial
Inputs to option pricing model			
- Share price at grant date (CHF)	359	357	359
- Exercise price (CHF)	359	-	359
- Expected volatility ^{b)}	19.12%	n/a	19.12%
- Expected dividend yield	5.10%	n/a	5.10%
- Early exercise factor ^{c)}	1.328	n/a	1.328
- Expected exit rate	11.30%	n/a	11.30%

a) The fair value of the Roche RSUs is equivalent to the share price on the date of grant.

b) Volatility was determined primarily by reference to historically observed prices of the underlying equity. Risk-free interest rates are derived from zero coupon swap rates at the grant date taken from Datastream.

c) The early exercise factor describes the ratio between the expected market price at the exercise date and the exercise price at which early exercises can be expected, based on historically observed behaviour.

28. Leases

The Group as a lessee

The Group enters into leasing transaction as a lessee mainly for reasons of convenience and flexibility. The Group has good cash generation ability and it enjoys strong long-term investment grade credit ratings. Therefore it typically does not enter into leasing arrangements for financing considerations. The main areas of leases that the Group has entered into are for:

- Property – offices and apartments. These are a small number of leases, but represent most of the value.
- Cars – mostly for sales representatives.
- Office equipment – photocopiers and similar.

The right-of-use assets reported for the Group's leases are shown in the table below.

Right-of-use assets: movements in carrying value of assets in millions of CHF

	Land	Buildings and land improvements	Machinery and equipment	Total
Year ended 31 December 2021				
At 1 January 2021	42	904	166	1,112
Business combinations ⁶	0	21	1	22
Additions	3	471	101	575
Disposals	0	(32)	(15)	(47)
Depreciation	(3)	(270)	(90)	(363)
Impairment reversal (charge)	0	(5)	0	(5)
Other	7	(50)	1	(42)
Currency translation effects	0	1	(4)	(3)
At 31 December 2021	49	1,040	160	1,249
Cost	63	1,587	310	1,960
Accumulated depreciation and impairment	(14)	(547)	(150)	(711)
Net book value	49	1,040	160	1,249
Year ended 31 December 2022				
At 1 January 2022	49	1,040	160	1,249
Business combinations	0	0	0	0
Additions	40	179	119	338
Disposals	0	(35)	(12)	(47)
Depreciation	(3)	(248)	(90)	(341)
Impairment reversal (charge)	0	(5)	0	(5)
Other	1	(28)	0	(27)
Currency translation effects	(2)	(23)	(9)	(34)
At 31 December 2022	85	880	168	1,133
Cost	101	1,543	325	1,969
Accumulated depreciation and impairment	(16)	(663)	(157)	(836)
Net book value	85	880	168	1,133

Classification of impairment reversal (charge) of right-of-use assets in millions of CHF

	2022	2021
Cost of sales	0	0
Marketing and distribution	0	0
Research and development	0	0
General and administration	(5)	(5)
Total impairment reversal (charge)	(5)	(5)

Impairment charges for right-of-use assets were mainly related to global restructuring plans (see Note 7) and in 2021 also to office closures.

Liabilities reported for the Group's leases are shown in the table below.

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

	2022	2021
At 1 January	1,354	1,195
Increase from new lease arrangements	335	570
Repayment of lease liabilities	(419)	(396)
Business combinations	0	26
Asset acquisitions	0	0
Disposals	(57)	(53)
Interest expense on lease liabilities ⁴	16	16
Other	(2)	0
Currency translation effects	(34)	(4)
At 31 December	1,193	1,354
Non-current lease liabilities ¹⁸	891	1,025
Current lease liabilities ¹⁹	302	329
Total lease liabilities	1,193	1,354

The maturity analysis of lease liabilities is given in Note 31 in the 'Liquidity risk' section.

Short-term leases and leases of low-value assets are accounted for using the recognition exemption permitted by IFRS 16. Expenses for short-term leases are recognised on a straight-line basis. These mainly include short-term property leases for employee apartments. The amount reported in 2022 was CHF 36 million (2021: CHF 37 million). Expenses for leases of low-value assets are recognised on a straight-line basis. These mainly include certain office equipment. The amount reported in 2022 was CHF 13 million (2021: CHF 15 million).

Expenses for variable lease payments not included in the measurement of lease liabilities was CHF 38 million in 2022 (2021: CHF 35 million). In 2022 income from subleasing right-of-use assets was CHF 3 million (2021: no income). In 2022 and 2021 the Group did not enter into any sale and leaseback transactions.

The major cash flows in respect of leases where the Group is the lessee are shown in the table below.

Leases: cash flows in millions of CHF

	2022	2021
Included in cash flows from operating activities	(87)	(87)
Included in cash flows from financing activities	(422)	(398)
Total lease payments	(509)	(485)

Cash flows from operating activities include cash flows from short-term lease, leases of low-value assets and variable lease payments. Cash flows from financing activities include the payment of interest and the principal portion of lease liabilities as well as prepayments made before the lease commencement date.

Leases committed and not yet commenced. In July 2019 Foundation Medicine, Inc. ('FMI') entered into a binding lease agreement with a third party for the lease of laboratory and office space in a building in Boston, US, which is to be constructed by the landlord at the location currently known as 'Boston Seaport'. According to the agreement FMI is committed to lease the building for 15 years. The commencement date of the lease is currently expected to be in the second half of 2023. The committed future cash outflows related to this agreement are estimated to be approximately USD 561 million based on current assumptions.

In November 2021 Genentech, Inc. ('Genentech') entered into a binding lease agreement with a third party for the lease of laboratory and office space in a building in South San Francisco, US, which is to be constructed by the landlord at the location currently known as '751 Gateway'. According to the agreement Genentech is committed to lease the building for seven years. The commencement date of the lease is currently expected to be in the first half of 2024. The committed future cash outflows related to this agreement are estimated to be approximately USD 117 million based on current assumptions.

The Group as a lessor

In the Diagnostics Division the Group enters into certain contracts which include placement of diagnostics instruments, supply of reagents and other consumables, and servicing arrangements. Depending upon the term of the agreement, the instrument placement may result in either a finance lease or an operating lease. The Group performs a thorough customer assessment before new leasing agreements are signed. Usually the Group also retains rights to terminate or modify contracts if certain conditions are not met.

Finance leases. Certain assets, mainly diagnostics instruments, are leased to third parties through finance lease arrangements. Such assets are reported as receivables at an amount equal to the net investment in the lease. Income from finance leases is recognised as revenue at amounts that represent the fair value of the instrument, which approximates the present value of the minimum lease payments under the arrangement. Finance income for finance lease arrangements longer than twelve months is deferred and subsequently recognised based on a pattern that approximates the use of the effective interest method and recorded in royalty and other operating income.

The following amounts were recorded as income in respect of finance leases.

Finance leases: selected items of income in millions of CHF

	2022	2021
Selling profit as the difference between sales and cost of sales	7	6
Finance income on the net investment in the lease	6	6

Currently the Group does not have any income from the variable lease payments of finance leases. The carrying amount of the net investment in finance leases reported as receivables was CHF 144 million (2021: CHF 144 million).

Finance leases: future minimum lease receipts under non-cancellable leases in millions of CHF

	Gross investment in lease		Present value of minimum lease receipts	
	2022	2021	2022	2021
Within one year	58	61	52	54
Between one and two years	39	37	37	35
Between two and three years	29	27	26	25
Between three and four years	17	19	16	18
Between four and five years	9	9	9	8
More than five years	5	4	5	4
Total	157	157	145	144
Unearned finance income	(13)	(13)	n/a	n/a
Unguaranteed residual value	n/a	n/a	(1)	0
Net investment in lease	144	144	144	144

Operating leases. Certain assets, mainly diagnostics instruments, are leased to third parties through operating lease arrangements. Income from operating leases is recognised as revenue on a straight-line basis over the lease term or, when lease revenue is entirely based on variable lease payments and subject to subsequent reagent sales, as the performance obligations for reagents are satisfied.

Lease income in 2022 was CHF 787 million (2021: CHF 817 million) and was included in sales. Of this CHF 588 million (2021: CHF 584 million) relates to variable lease payments not depending upon an index or rate.

Leased assets are reported within property, plant and equipment, as shown in the table below.

Machinery and equipment subject to operating leases: movements in carrying value of assets in millions of CHF

	Leased out	Own use	2022 Total	Leased out	Own use	2021 Total
At 1 January						
Cost	5,641	16,357	21,998	5,508	15,619	21,127
Accumulated depreciation and impairment	(4,014)	(10,677)	(14,691)	(3,827)	(10,112)	(13,939)
Net book value	1,627	5,680	7,307	1,681	5,507	7,188
Year ended 31 December						
At 1 January	1,627	5,680	7,307	1,681	5,507	7,188
Business combinations	0	0	0	0	36	36
Asset acquisitions	0	0	0	0	0	0
Additions	711	235	946	714	323	1,037
Disposals	(43)	(41)	(84)	(42)	(29)	(71)
Transfers	3	1,124	1,127	0	1,089	1,089
Depreciation charge	(662)	(1,034)	(1,696)	(697)	(1,015)	(1,712)
Impairment reversal (charge)	0	(35)	(35)	0	(74)	(74)
Other	1	(60)	(59)	11	(92)	(81)
Currency translation effects	(83)	(193)	(276)	(40)	(65)	(105)
At 31 December	1,554	5,676	7,230	1,627	5,680	7,307
Cost	5,717	16,777	22,494	5,641	16,357	21,998
Accumulated depreciation and impairment	(4,163)	(11,101)	(15,264)	(4,014)	(10,677)	(14,691)
Net book value	1,554	5,676	7,230	1,627	5,680	7,307

The undiscounted amounts expected to be received from non-cancellable operating leases are shown in the table below.

Operating leases: future minimum lease receipts under non-cancellable leases in millions of CHF

	2022	2021
Within one year	172	160
Between one and two years	131	118
Between two and three years	99	92
Between three and four years	57	59
Between four and five years	28	24
More than five years	12	9
Total minimum receipts	499	462

29. Earnings per share and non-voting equity security

Basic earnings per share and non-voting equity security

	2022	2021
Net income attributable to Roche shareholders (CHF millions)	12,421	13,930
Weighted average number of outstanding shares (millions)	112	160
Number of outstanding non-voting equity securities (millions) ²²	703	703
Weighted average number of own shares and non-voting equity securities held (millions)	(15)	(13)
Weighted average number of outstanding shares and non-voting equity securities used to calculate basic earnings per share (millions)	800	850
Basic earnings per share and non-voting equity security (CHF)	15.52	16.38

Diluted earnings per share and non-voting equity security

	2022	2021
Net income attributable to Roche shareholders (CHF millions)	12,421	13,930
Increase in non-controlling interests' share of Group net income, assuming all outstanding Chugai stock options exercised (CHF millions)	(1)	(1)
Net income used to calculate diluted earnings per share (CHF millions)	12,420	13,929
Weighted average number of outstanding shares and non-voting equity securities (millions)	800	850
Adjustment for assumed exercise of equity compensation plans, where dilutive (millions)	8	10
Weighted average number of outstanding shares and non-voting equity securities used to calculate diluted earnings per share (millions)	808	860
Diluted earnings per share and non-voting equity security (CHF)	15.37	16.20

30. Statement of cash flows

Cash flows from operating activities

Cash flows from operating activities arise from the Group's primary activities in the Pharmaceuticals and Diagnostics Divisions. These are calculated using the indirect method by adjusting the Group's operating profit for any operating income and expenses that are not cash flows (for example depreciation, amortisation and impairment) in order to derive the cash generated from operations. This and other operating cash flows are shown in the statement of cash flows. Operating cash flows also include income taxes paid on all activities.

Cash generated from operations in millions of CHF

	2022	2021
Net income	13,531	14,935
Add back non-operating (income) expense		
- Financing costs ⁴	665	418
- Other financial (income) expense ⁴	484	339
- Income taxes ⁵	2,796	2,463
Operating profit	17,476	18,155
Depreciation of property, plant and equipment ⁸	2,565	2,524
Depreciation of right-of-use assets ²⁸	341	363
Amortisation of intangible assets ¹⁰	938	1,556
Impairment of goodwill ⁹	0	0
Impairment of intangible assets ¹⁰	2,837	651
Impairment (reversal) of property, plant and equipment ⁸	123	(3)
Impairment (reversal) of right-of-use assets ²⁸	5	5
Operating (income) expense for defined benefit plans ²⁶	611	678
Operating expense for equity-settled equity compensation plans ²⁷	738	663
Net (income) expense for provisions	514	1,864
Bad debt (reversal) expense	3	44
Inventory write-downs	509	620
Inventory fair value adjustments	0	11
Net (gain) loss on disposal of products	(612)	(496)
Other adjustments	(18)	(35)
Cash generated from operations	26,030	26,600

Cash flows from investing activities

Cash flows from investing activities are principally those arising from the Group's investments in property, plant and equipment and intangible assets, and from the acquisition and divestment of subsidiaries, associates and businesses. Cash flows connected with the Group's portfolio of marketable securities and other investments are also included, as are any interest and dividend payments received in respect of these securities and investments. These cash flows indicate the Group's net reinvestment in its operating assets and the cash flow effects of business combinations and divestments, as well as the cash generated by the Group's other investments.

Interest received (paid) and dividends received on marketable securities and other investments in millions of CHF

	2022	2021
Interest received (paid)	32	(2)
Dividends received	0	0
Total	32	(2)

Cash flows from financing activities

Cash flows from financing activities are primarily the proceeds from the issuance and repayment of the Group's equity and debt instruments. They also include interest payments and dividend payments on these instruments. Cash flows from short-term financing are also included. These cash flows indicate the Group's transactions with the providers of its equity and debt financing. Cash flows from lease payments are also included within financing activities. Cash flows from short-term borrowings are shown as a net movement, as these consist of a large number of transactions with short maturity.

Dividends paid in millions of CHF

	2022	2021
Dividends to Roche shareholders	(7,446)	(7,773)
Dividends to non-controlling shareholders		
– Chugai	(390)	(319)
– Other non-controlling interests	(16)	(19)
Dividend withholding tax	20	(21)
Total	(7,832)	(8,132)

Liabilities arising from financing activities

Movements in carrying value of recognised assets (liabilities) in millions of CHF

	Debt ²¹	Interest payable ¹⁹	Principal portion of lease liabilities	Derivative financial instruments, net ^{16, 19, 31}	Cash collateral receivables (payables), net ^{16, 19, 31}	Total
Year ended 31 December 2021						
At 1 January 2021	(14,216)	(160)	(1,193)	112	(161)	(15,618)
Cash flows						
– Outflows (inflows)	(16,730)	405	382	374	148	(15,421)
Non-cash changes						
– Financing costs	(8)	(317)	(16)	0	0	(341)
– Business combinations	(69)	(1)	(26)	0	0	(96)
– Asset acquisitions	0	0	0	0	0	0
– Fair value and other	26	(25)	(502)	(567)	(1)	(1,069)
– Foreign exchange rates	(201)	(4)	2	8	(3)	(198)
At 31 December 2021	(31,198)	(102)	(1,353)	(73)	(17)	(32,743)
Year ended 31 December 2022						
At 1 January 2022	(31,198)	(102)	(1,353)	(73)	(17)	(32,743)
Cash flows						
– Outflows (inflows)	5,698	557	405	327	199	7,186
Non-cash changes						
– Financing costs	(4)	(588)	(16)	0	0	(608)
– Business combinations	0	0	0	0	0	0
– Asset acquisitions	0	0	0	0	0	0
– Fair value and other	136	(8)	(262)	(735)	0	(869)
– Foreign exchange rates	17	1	35	22	(2)	73
At 31 December 2022	(25,351)	(140)	(1,191)	(459)	180	(26,961)

Significant non-cash transactions

In 2022 there were no significant non-cash transactions (2021: none) except for the leasing transactions where the Group is a lessee (see Note 28).

31. Risk management

Group risk management

Risk management is a fundamental element of the Group's business practice on all levels and encompasses different types of risks. At Group level, risk management is an integral part of the long-term forecasting and controlling processes. Material risks are monitored and regularly discussed with the Corporate Executive Committee and the Audit Committee of the Board of Directors.

Financial risk management

The Group is exposed to various financial risks arising from its underlying operations and corporate finance activities. The Group's financial risk exposures are predominantly related to changes in foreign exchange rates, interest rates and equity prices as well as the creditworthiness and the solvency of the Group's counterparties.

Financial risk management within the Group is governed by policies reviewed by the boards of directors of Roche and Chugai as appropriate to their areas of statutory responsibility. These policies cover credit risk, liquidity risk and market risk. The policies provide guidance on risk limits, types of authorised financial instruments and monitoring procedures. As a general principle, the policies prohibit the use of derivative financial instruments for speculative trading purposes. Policy implementation and day-to-day risk management are carried out by the relevant treasury functions and regular reporting on these risks is performed by the relevant accounting and controlling functions within Roche and Chugai.

Credit risk

Credit risk arises from the possibility that counterparties to transactions may default on their obligations, causing financial losses for the Group. The objective of managing counterparty credit risk is to prevent losses of liquid funds deposited with or invested in such counterparties. The maximum exposure to credit risk resulting from financial activities, without considering netting agreements and without taking account of any collateral held or other credit enhancements, is equal to the carrying value of the Group's financial assets.

The Group considers a financial asset to be in default when the counterparty is unlikely to pay its obligations to the Group in full. In assessing whether a counterparty is in default, the Group considers both qualitative and quantitative indicators (e.g. overdue status) that are based on data developed internally and for certain financial assets are also obtained from external sources. A major part of the Group's receivables which are past due more than 90 days relate to public customers. Risk of default of public customers is considered low. The Group has reasonable and supportable information to demonstrate that a more lagging default criterion is more appropriate for this particular customer segment.

Accounts receivable. At 31 December 2022 the Group had trade receivables of CHF 12.6 billion (2021: CHF 12.0 billion). These are subject to a policy of active credit risk management which focuses on the assessment of country risk, credit availability, ongoing credit evaluation and account monitoring procedures. The objective of trade receivables management is to maximise the collection of unpaid amounts.

The Group uses an allowance matrix to estimate the allowance for doubtful accounts for all trade receivables. The expected credit loss ('ECL') rate is based on the Group's historical experience and the Group's expectation of economic conditions over the period until receivables are expected to be paid.

Customer credit risk exposure based on accounts receivable days overdue in millions of CHF

	Total	Current	Overdue 1–3 months	Overdue 3–12 months	Overdue more than 1 year	Credit impaired
At 31 December 2022						
Gross carrying amount	12,096	10,373	708	369	604	42
Group's expected credit loss rate	4%	0%	1%	8%	64%	100%
Allowance for doubtful accounts	(490)	(27)	(6)	(31)	(384)	(42)
At 31 December 2021						
Gross carrying amount	11,344	9,405	786	386	716	51
Group's expected credit loss rate	5%	0%	1%	6%	58%	100%
Allowance for doubtful accounts	(538)	(38)	(10)	(25)	(414)	(51)

At 31 December 2022 the Group's combined trade receivables balance with three US national wholesale distributors, McKesson Corp., AmerisourceBergen Corp. and Cardinal Health, Inc., was equivalent to CHF 3.1 billion representing 25% of the Group's consolidated trade receivables (2021: CHF 2.8 billion representing 23%). There is no other significant concentration of counterparty credit risk due to the Group's large number of customers and their wide geographical spread. Risk limits and exposures are continuously monitored by country and by the nature of counterparties. The Group obtains credit insurance and similar enhancements when appropriate to protect the collection of trade receivables. At 31 December 2022 no collateral was considered to measure expected credit losses for trade receivables (2021: none).

The nature and geographic location of counterparties to accounts receivable that are not overdue or impaired are shown in the table below. These include the balances with US national wholesalers described above.

Accounts receivable (not overdue), net of allowances for doubtful accounts and other allowances: nature and geographical location of counterparties in millions of CHF

Regions	2022				2021			
	Total	Public	Whole-salers/ distributors	Private	Total	Public	Whole-salers/ distributors	Private
Switzerland	291	69	167	55	291	109	134	48
Europe	1,609	594	376	639	1,680	548	396	736
North America	3,904	130	3,272	502	3,409	135	2,893	381
Latin America	584	122	233	229	543	143	187	213
Japan	2,236	1,091	1,135	10	1,505	306	1,187	12
Asia, Australia and Oceania	1,221	212	888	121	1,493	248	1,105	140
Rest of the World	501	125	199	177	446	33	227	186
Total	10,346	2,343	6,270	1,733	9,367	1,522	6,129	1,716

Cash and marketable securities (excluding equity securities). At 31 December 2022 the Group had cash and marketable securities (excluding equity securities) of CHF 9.8 billion (2021: CHF 13.0 billion). These are subject to a policy of restricting exposures to high-quality counterparties and setting defined limits for individual counterparties. These limits and counterparty credit ratings are reviewed regularly.

Cash and cash equivalents are held with banks and financial institutions, which are predominantly rated as investment grade (95% in 2022 and 98% in 2021), based on Moody's and Standard & Poor's ratings. Cash and short-term time deposits are subject to rules which limit the Group's exposure to individual financial institutions.

Impairment on cash and cash equivalents is measured on a 12-month expected credit losses ('ECL') basis with a reference to external credit ratings of the counterparties. This reflects the short maturities of the exposures in cash and cash equivalents. The Group considers that its cash and cash equivalents have low credit risk based on these external credit ratings.

Investments in marketable securities (excluding equity securities) are entered into on the basis of guidelines with regard to liquidity, quality and maximum amount. As a general rule, the Group invests only in high-quality securities with adequate liquidity and with counterparties that have a credit rating of at least Baa3 from Moody's and BBB- from Standard & Poor's.

The credit risk of the counterparties with external ratings below investment grade or with no rating is closely monitored and reviewed on an individual basis.

Rating analysis of cash and marketable securities (excluding equity securities) – market values in millions of CHF

	2022			2021		
	Total	Fair value through OCI (12-month ECL)	Amortised costs (12-month ECL)	Total	Fair value through OCI (12-month ECL)	Amortised costs (12-month ECL)
AAA range	2,123	2,123	0	1,051	457	594
AA range	1,021	121	900	2,122	444	1,678
A range	5,946	1,754	4,192	9,136	1,946	7,190
BBB range	400	390	10	557	527	30
Total investment grade	9,490	4,388	5,102	12,866	3,374	9,492
Below BBB range (below investment grade)	77	5	72	70	6	64
Unrated	199	1	198	93	1	92
Total gross carrying amounts	9,766	4,394	5,372	13,029	3,381	9,648
Loss allowance^{a)}	1	0	1	1	0	1

a) The loss allowance related to fair value through OCI does not affect the carrying amount of marketable securities (excluding equity securities) but is booked against corresponding OCI reserve instead.

Debt securities at amortised cost and those at fair value through OCI are investment grade and therefore considered to be low risk, and thus the impairment allowance is determined at 12-month expected credit losses ('ECL') with a reference to external credit ratings of the counterparties. There were no debt securities for which the Group observed a significant increase in the credit risk which would require the application of the lifetime expected credit losses impairment model. In addition, there were no material movements in the loss allowance in 2022 and 2021, respectively.

Master netting agreements. The Group enters into derivative transactions and collateral agreements under International Swaps and Derivatives Association (ISDA) master netting agreements with the respective counterparties in order to mitigate counterparty risk. Under such agreements the amounts owed by each counterparty on a single day in respect of all transactions outstanding in the same currency are aggregated into a single net amount that is payable by one party to the other. The ISDA agreements do not meet the criteria for offsetting in the balance sheet as the Group does not have a currently enforceable right to offset recognised amounts, because the right to offset is only enforceable on the occurrence of future events, such as a default or other credit events.

Contract terms. At 31 December 2022 there were no significant financial assets whose terms had been renegotiated (2021: none).

Impairment losses on financial assets excluding equity investments/securities. During 2022 there were no impairment losses (2021: none).

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. Roche and Chugai enjoy strong credit quality and are rated by at least one major credit rating agency. The ratings will permit efficient access to the international capital markets in the event of major financing requirements. At 31 December 2022 the Group had an unused committed credit line with various financial institutions totalling CHF 7.2 billion (2021: CHF 7.2 billion), of which CHF 6.9 billion (2021: CHF 6.9 billion) serve as a back-stop line for the commercial paper program. On 3 July 2019 the previously existing committed credit lines were refinanced by one new committed credit line with an initial maturity of five years and two annual extension options, both of which were exercised extending the maturity to 2026.

The remaining undiscounted cash flow contractual maturities of financial liabilities, including estimated interest payments, are shown in the table below.

Contractual maturities of financial liabilities in millions of CHF

	Carrying value	Total	Less than 1 year	1-2 years	2-5 years	Over 5 years
At 31 December 2022						
Debt ²¹						
- Bonds and notes	23,158	28,153	2,264	3,671	9,319	12,899
- Other debt	2,193	2,193	2,193	0	0	0
Contingent consideration ²⁰	103	116	38	47	9	22
Accounts payable ¹⁷	4,556	4,556	4,556	-	-	-
Other non-current liabilities ¹⁸	1,189	1,258	-	530	386	342
- of which lease liabilities	891	960	-	249	383	328
Other current liabilities ¹⁹	13,288	13,301	13,150	61	90	0
- of which lease liabilities	302	315	315	-	-	-
- of which derivative financial instruments	626	626	475	61	90	0
Total financial liabilities	44,487	49,577	22,201	4,309	9,804	13,263
At 31 December 2021						
Debt ²¹						
- Bonds and notes	16,579	21,348	876	1,494	6,535	12,443
- Other debt	14,619	14,619	14,619	0	0	0
Contingent consideration ²⁰	141	149	58	48	34	9
Accounts payable ¹⁷	4,637	4,637	4,637	-	-	-
Other non-current liabilities ¹⁸	1,307	1,388	-	526	438	424
- of which lease liabilities	1,025	1,106	-	270	435	401
Other current liabilities ¹⁹	13,129	13,136	13,084	33	19	0
- of which lease liabilities	329	336	336	-	-	-
- of which derivative financial instruments	262	262	210	33	19	0
Total financial liabilities	50,412	55,277	33,274	2,101	7,026	12,876

Take-or-pay commitments. The Group has entered into contract manufacturing agreements with various companies to further develop manufacturing capacity and flexibility, mainly in the Pharmaceuticals Division. There are future minimum take-or-pay commitments within some of these agreements with a total potential commitment from the Group of CHF 1.9 billion at 31 December 2022 (2021: CHF 1.4 billion).

Commitments for capital calls. The Group holds investments in funds reported as debt investment at fair value through profit or loss in which it has committed to invest further upon future capital calls. As of 31 December 2022 the total uncalled capital commitments for the Group's investments in funds amounted to CHF 89 million.

Market risk

Market risk arises from changing market prices, mainly foreign exchange rates and interest rates, of the Group's financial assets or financial liabilities which affect the Group's financial result and equity.

Value-at-Risk. The Group uses Value-at-Risk (VaR) to measure the impact of market risk on its financial instruments. VaR 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. VaR is calculated using a historical simulation approach and for each scenario, all financial instruments are fully valued and the total change in value and earnings is determined. VaR calculations are based on a 95% confidence level and a holding period of 20 trading days over the past ten years. This holding period reflects the time required to change the corresponding risk exposure, should this be deemed appropriate.

Actual future gains and losses associated with our treasury activities may differ materially from the VaR analyses due to the inherent limitations associated with predicting the timing and amount of changes to interest rates, foreign exchange rates and equity investment prices, particularly in periods of high market volatilities. Furthermore, VaR does not include the effect of changes in credit spreads.

Market risk of financial instruments in millions of CHF

	2022	2021
VaR – Interest rate component	234	191
VaR – Foreign exchange component	40	43
VaR – Other price component	54	48
Diversification	(67)	(100)
VaR – Total market risk	261	182

The interest rate component increased due to the bond issuances in February, March and September 2022. The foreign exchange component and the other price component remained largely stable.

Foreign exchange risk

The Group uses the Swiss franc as its reporting currency and as a result is exposed to movements in foreign currencies, mainly the US dollar, Japanese yen and euro. The Group's foreign exchange risk management strategy is to preserve the economic value of its current and future assets and to minimise the volatility of the Group's financial result. The primary focus of the Group's foreign exchange risk management activities is on hedging transaction exposures arising through foreign currency flows or monetary positions held in foreign currencies. The Group uses forward contracts, foreign exchange options and cross-currency swaps to hedge transaction exposures. Application of these instruments intends to continuously immunise against unfavourable developments of foreign exchange rates.

Interest rate risk

The Group mainly raises debt on a fixed rate basis for bonds and notes. The Group is exposed to movements in interest rates, mainly for its US dollar, Swiss franc and euro floating rate financial instruments and short-term debt. The Group's interest rate risk management strategy is to optimise the net interest result. The Group may use forward contracts, options and interest rate swaps to hedge its interest rate exposures. Depending on the interest rate environment of major currencies, the Group will use these instruments to generate an appropriate mix of fixed and floating rate exposures.

Other price risk

Other price risk arises mainly from movements in the prices of equity securities. The Group manages the price risk through placing limits on individual and total equity investments. These limits are defined both as a percentage of total liquid funds and as an absolute number for individual equity investments.

Capital management

The Group defines the capital that it manages as the Group's total capitalisation, being the sum of debt plus equity, including non-controlling interests. The Group's objectives when managing capital are:

- To safeguard the Group's ability to continue as a going concern, so that it can continue to provide benefits for patients and returns to investors.
- To provide an adequate return to investors based on the level of risk undertaken.
- To have available the necessary financial resources to allow the Group to invest in areas that may deliver future benefits for patients and returns to investors.
- To maintain sufficient financial resources to mitigate against risks and unforeseen events.

The capitalisation is reported to senior management as part of the Group's regular internal management reporting and is shown in the table below.

Capital in millions of CHF

	2022	2021	2020
Capital and reserves attributable to Roche shareholders ²²	27,992	24,489	36,341
Equity attributable to non-controlling interests ²⁴	4,023	3,856	3,432
Total equity	32,015	28,345	39,773
Total debt²¹	25,351	31,198	14,216
Capitalisation	57,366	59,543	53,989

The Group's net equity was significantly impacted by the share repurchase in 2021 (see Note 22).

The Group is not subject to regulatory capital adequacy requirements as known in the financial services industry. The Group has a majority shareholding in Chugai (see Note 23). Chugai is a public company and its objectives, policies and processes for managing its own capital are determined by Chugai management.

Financial instrument accounting classifications and fair values

The fair values of financial assets and liabilities, together with the carrying value shown in the consolidated balance sheet, are as follows:

Carrying value and fair value of financial instruments – 2022 in millions of CHF

	Financial instruments mandatorily at fair value through profit or loss	Financial instruments at fair value through OCI	Fair value – hedging instruments	Financial assets at amortised cost	Other financial liabilities	Total carrying value	Fair value
At 31 December 2022							
Other non-current assets ¹⁵							
- Equity and debt investments	315	356	-	-	-	671	671
- Other financial non-current assets	-	-	-	126	-	126	126
Accounts receivable ¹²	-	-	-	11,606	-	11,606	11,606
Marketable securities ¹³							
- Equity securities	1	-	-	-	-	1	1
- Debt securities	0	583	-	-	-	583	583
- Money market instruments	-	3,811	-	-	-	3,811	3,811
- Time accounts over three months	-	-	-	381	-	381	381
Cash and cash equivalents ¹⁴	-	-	-	4,991	-	4,991	4,991
Other current assets ¹⁶							
- Derivative financial instruments	-	-	167	-	-	167	167
- Other financial current assets	-	-	-	1,082	-	1,082	1,082
Total financial assets	316	4,750	167	18,186	-	23,419	23,419
Debt ²¹							
- Bonds and notes	-	-	-	-	(23,158)	(23,158)	(21,443)
- Other debt	-	-	-	-	(2,193)	(2,193)	(2,193)
Contingent consideration ²⁰	(103)	-	-	-	-	(103)	(103)
Accounts payable ¹⁷	-	-	-	-	(4,556)	(4,556)	(4,556)
Other non-current liabilities ¹⁸	-	-	-	-	(1,189)	(1,189)	(1,189)
Other current liabilities ¹⁹	-	-	(626)	-	(12,662)	(13,288)	(13,288)
Total financial liabilities	(103)	-	(626)	-	(43,758)	(44,487)	(42,772)

Carrying value and fair value of financial instruments – 2021 in millions of CHF

	Financial instruments mandatorily at fair value through profit or loss	Financial instruments at fair value through OCI	Fair value – hedging instruments	Financial assets at amortised cost	Other financial liabilities	Total carrying value	Fair value
At 31 December 2021							
Other non-current assets ¹⁵							
– Equity and debt investments	410	328	–	–	–	738	738
– Other financial non-current assets	–	–	–	134	–	134	134
Accounts receivable ¹²	–	–	–	10,806	–	10,806	10,806
Marketable securities ¹³							
– Equity securities	2	–	–	–	–	2	2
– Debt securities	71	494	–	–	–	565	565
– Money market instruments	–	2,816	–	–	–	2,816	2,816
– Time accounts over three months	–	–	–	2,798	–	2,798	2,798
Cash and cash equivalents ¹⁴	–	–	–	6,850	–	6,850	6,850
Other current assets ¹⁶							
– Derivative financial instruments	–	–	189	–	–	189	189
– Other financial current assets	–	–	–	892	–	892	892
Total financial assets	483	3,638	189	21,480	–	25,790	25,790
Debt ²¹							
– Bonds and notes	–	–	–	–	(16,579)	(16,579)	(17,714)
– Other debt	–	–	–	–	(14,619)	(14,619)	(14,619)
Contingent consideration ²⁰	(141)	–	–	–	–	(141)	(141)
Accounts payable ¹⁷	–	–	–	–	(4,637)	(4,637)	(4,637)
Other non-current liabilities ¹⁸	–	–	–	–	(1,307)	(1,307)	(1,307)
Other current liabilities ¹⁹	–	–	(262)	–	(12,867)	(13,129)	(13,129)
Total financial liabilities	(141)	–	(262)	–	(50,009)	(50,412)	(51,547)

The fair value of bonds and notes is Level 1 and is calculated based on the observable market prices of the debt instruments or the present value of the future cash flows on the instrument, discounted at a market rate of interest for instruments with similar credit status, cash flows and maturity periods.

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 31 December 2022				
Marketable securities ¹³				
- Equity securities at fair value through profit or loss	1	-	-	1
- Debt securities at fair value through OCI	518	65	-	583
- Debt securities at fair value through profit or loss	0	0	-	0
- Money market instruments at fair value through OCI	0	3,811	-	3,811
Derivative financial instruments ¹⁶	-	167	-	167
Equity investments at fair value through OCI ¹⁵	356	0	-	356
Equity and debt investments at fair value through profit or loss ¹⁵	114	179	22	315
Financial assets recognised at fair value	989	4,222	22	5,233
Derivative financial instruments ¹⁹	-	(626)	-	(626)
Contingent consideration ²⁰	-	-	(103)	(103)
Financial liabilities recognised at fair value	-	(626)	(103)	(729)
At 31 December 2021				
Marketable securities ¹³				
- Equity securities at fair value through profit or loss	2	-	-	2
- Debt securities at fair value through OCI	494	0	-	494
- Debt securities at fair value through profit or loss	0	71	-	71
- Money market instruments at fair value through OCI	0	2,816	-	2,816
Derivative financial instruments ¹⁶	-	189	-	189
Equity investments at fair value through OCI ¹⁵	309	19	-	328
Equity and debt investments at fair value through profit or loss ¹⁵	228	182	-	410
Financial assets recognised at fair value	1,033	3,277	-	4,310
Derivative financial instruments ¹⁹	-	(262)	-	(262)
Contingent consideration ²⁰	-	-	(141)	(141)
Financial liabilities recognised at fair value	-	(262)	(141)	(403)

Level 1 financial assets consist of treasury bills, bonds 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.
- Equity and debt investments at fair value through OCI and at fair value through profit or loss are based on a valuation model that uses the most recently published observable market data.

The Group recognises transfers between levels of the fair value hierarchy as at the end of the reporting period during which the transfer has occurred. There were no significant transfers between Level 1 and Level 2 and vice versa during the year (2021: none).

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

	2022	2021
At 1 January	(141)	(150)
Arising from business combinations	0	0
Utilised for settlements ⁶	0	23
Total gains and losses included in the income statement		
– Unused amounts reversed – recorded within general and administration	41	2
– Additional amount created – recorded within general and administration	(2)	(10)
– Discount unwind included in financing costs	1	(2)
Total gains and losses included in other comprehensive income		
– Currency translation effects	(2)	(4)
At 31 December	(103)	(141)

Contingent consideration arrangements

The Group is party to certain contingent consideration arrangements, including those from business combinations. The fair values of contingent consideration from business combinations are determined considering the expected payments and, where payments are expected to be made beyond the next 12 months, discounted to present value using a risk-adjusted average discount rate of 5.3% (2021: 2.7%). 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 31 December 2022 the total potential payments under contingent consideration arrangements arising from business combinations could be up to CHF 0.4 billion (2021: CHF 0.4 billion) as follows:

Potential payments under contingent consideration arrangements in millions of CHF

Acquisition	Year acquired	Operating segment	2022	2021
Dutalys	2014	Roche Pharmaceuticals	203	201
Genia	2014	Diagnostics	150	149
Others	Various	Diagnostics	0	9
At 31 December			353	359

Derivative financial instruments

Cash collateral agreements are in place with the counterparties to certain derivative financial instruments to mitigate counterparty risk. The following table sets out the carrying value of derivative financial instruments and the amounts that are subject to master netting agreements.

Derivative financial instruments in millions of CHF

	2022	2021	Assets 2020	2022	2021	Liabilities 2020
Foreign currency derivatives						
- Forward exchange contracts	167	187	389	(471)	(242)	(249)
- Cross-currency swaps	0	0	0	0	0	(37)
- Other	0	0	0	0	0	0
Interest rate derivatives						
- Swaps	0	2	9	(155)	(20)	0
- Other	0	0	0	0	0	0
Other derivatives	0	0	0	0	0	0
Carrying value of derivative financial instruments^{16, 19}	167	189	398	(626)	(262)	(286)
Derivatives subject to master netting agreements	(92)	(54)	(140)	92	54	140
Collateral arrangements	(12)	(32)	(184)	192	15	23
Net amount	63	103	74	(342)	(193)	(123)

Collateral arrangements

Movements in cash collateral other receivable (accrued liability) in millions of CHF

	2022	2021
At 1 January	(17)	(161)
Net cash delivered by (to) the Group	199	148
Fair value and other	0	(1)
Currency translation effects	(2)	(3)
At 31 December	180	(17)

Hedge accounting

As described above the Group's risk management strategy is to hedge the transaction exposures arising through foreign currency flows or monetary positions held in foreign currencies as well as to generate an appropriate mix of fixed and floating rate exposures. The level of hedging depends on market conditions and business requirements of the Group. The Group designates a specific interest rate risk management objective to ensure that a predetermined level of its interest rate risk exposure is at a floating rate.

Hedge effectiveness is determined at the inception of the hedge relationship, and through periodic prospective effectiveness assessments at each reporting date to ensure that an economic relationship exists between the hedged item and the hedging instrument. The Group performs a qualitative assessment of the hedge effectiveness using a critical terms match method. As the critical terms of the hedged items and the hedging instruments match, the Group concludes that risks being hedged for the hedged items and the hedging instruments are sufficiently aligned, that there is no inherent mismatch in the hedging relationship and that a 100% hedge ratio applies both for the actual quantities hedged and for the hedge accounting.

Accounting treatment, sources of ineffectiveness and prospective effectiveness assessment method by risk category

	Accounting treatment	Potential sources of ineffectiveness	Prospective effectiveness assessment method
Interest rate and/or foreign exchange rate fluctuations	Cash flow hedge	Counterparty credit risk	Critical terms match
Foreign exchange rate fluctuations	Cash flow hedge	Lower volume of hedged items / counterparty credit risk	Critical terms match
Interest rate fluctuations	Fair value hedge	Counterparty credit risk	Critical terms match

The ineffective portion of the hedge accounting is recognised in the income statement and included in other financial income (expense). It is measured using the hypothetical derivative method for cash flow hedges and the cumulative dollar offset method for fair value hedges. At 31 December 2022 and 2021 none of the above potential sources of ineffectiveness, individually or collectively, resulted in material amounts of actual ineffectiveness being reported for any hedge accounting relationships.

The table below shows fair values and nominal amounts of derivative financial instruments, including a range of the maturity of the nominal amount of the hedging instruments, which are designated as hedging instruments in a cash flow hedge and a fair value hedge. At 31 December 2022 and 2021, respectively, the Group had the following cash flow hedges and fair value hedges which are designated in a qualifying hedge relationship:

Fair values and nominal amounts of derivatives used for hedge accounting – at 31 December 2022

	Nominal amount	Fair value asset in million CHF	Fair value liability in million CHF	Maturity range
Cash flow hedges				
Risk hedged: interest rate and foreign exchange rate fluctuations				
– Cross-currency swaps	0	0	0	n/a
Risk hedged: foreign exchange rate fluctuations				
– Forward exchange contracts	JPY 635 billion	39	(173)	2023–2024
Risk hedged: interest rate fluctuations				
– Treasury locks	0	0	0	n/a
Total		39	(173)	
Fair value hedges				
Risk hedged: interest rate fluctuations				
– Interest rate swaps	USD 1,540 million	0	(96)	2023–2026
– Interest rate swaps	EUR 500 million	0	(17)	2023–2025
– Interest rate swaps	CHF 1,050 million	0	(42)	2024
Total		0	(155)	

Fair values and nominal amounts of derivatives used for hedge accounting – at 31 December 2021

	Nominal amount	Fair value asset in million CHF	Fair value liability in million CHF	Maturity range
Cash flow hedges				
Risk hedged: interest rate and foreign exchange rate fluctuations				
– Cross-currency swaps	0	0	0	n/a
Risk hedged: foreign exchange rate fluctuations				
– Forward exchange contracts	JPY 612 billion	67	(120)	2022–2023
Risk hedged: interest rate fluctuations				
– Treasury locks	0	0	0	n/a
Total		67	(120)	
Fair value hedges				
Risk hedged: interest rate fluctuations				
– Interest rate swaps	USD 1,940 million	0	(18)	2022–2026
– Interest rate swaps	EUR 500 million	1	(1)	2023–2025
– Interest rate swaps	CHF 1,250 million	1	(1)	2022–2024
Total		2	(20)	

The fair values of derivative financial instruments used for hedge accounting are included in other current assets (see Note 16) or other current liabilities (see Note 19). The Group's approach to managing market risk, including interest rate risk and foreign currency risk, is discussed in the 'Market risk' section in this Note.

Cash flow hedges. The Group had entered into cross-currency swaps to hedge foreign exchange and interest rate risk on some of the bonds and notes issued by the Group which were denominated in euro. On the due date of 4 March 2021 the Group redeemed the remaining notes with an outstanding amount of EUR 1.14 billion (see Note 21) and the related remaining cross-currency swaps expired at the same time. In 2021 there was no ineffective portion.

In November and December 2021 the Group entered into treasury locks to hedge interest rate risk of fixed rate notes issued by the Group on 13 December 2021. At this date the treasury locks were settled. At 31 December 2022 a relating hedging reserve of CHF 41 million (excluding income taxes, CHF 35 million net of tax) was held as a deduction within equity (31 December 2021: CHF 43 million excluding income taxes, CHF 37 million net of tax), which will be released and transferred to the income statement within financing costs (see Note 4) until redemption of the fixed rate notes. There was no ineffective portion.

Chugai has entered into forward exchange contracts to hedge a part of its foreign translation exposure to Swiss franc and US dollar. At 31 December 2022 such instruments were recorded as fair value assets of CHF 39 million and as fair value liabilities of CHF 173 million (2021: fair value assets of CHF 67 million and fair value liabilities of CHF 120 million). There was no ineffective portion.

Carrying amount of items designated as hedged items in a cash flow hedging relationship in millions of CHF

	Assets	2022 Liabilities	Assets	2021 Liabilities
At 31 December				
Bonds and notes				
Risk hedged by cross-currency swaps: interest rate and foreign exchange rate fluctuations				
– Bonds and notes	–	0	–	0
Inventories				
Risk hedged by forward exchange contracts: foreign exchange rate fluctuations				
– Inventories	4,410	–	4,861	–

Hedging reserve for continuing hedging relationships in millions of CHF

	Total	Treasury locks	Cross- currency swaps	2022 Forward exchange contracts	Total	Treasury locks	Cross- currency swaps	2021 Forward exchange contracts
At 1 January	(60)	(37)	0	(23)	(16)	–	7	(23)
Gains (losses) taken to equity	(92)	0	0	(92)	(56)	(43)	(9)	(4)
Transferred to income statement ^{a)}	2	2	0	0	0	0	0	0
Income taxes	28	0	0	28	9	6	2	1
Non-controlling interests	25	0	0	25	1	0	0	1
Currency translation effects	5	0	0	5	2	0	0	2
At 31 December	(92)	(35)	0	(57)	(60)	(37)	0	(23)

a) The entire amount transferred to the income statement was reported in financing costs in 2022 and other financial income (expense) in 2021, see Note 4.

On the due date of 4 March 2021 the Group redeemed the remaining notes with an outstanding amount of EUR 1.14 billion (see Note 21) and the related remaining cross-currency swaps expired at the same time. As a result, there was no remaining hedging reserve for cross-currency swaps at 31 December 2021. In 2022 and 2021 there were no hedging relationships for which hedge accounting is no longer applied. The changes in the hedging reserve within equity are shown in Note 22.

The expected undiscounted cash flows from qualifying cash flow hedges, including interest payments during the duration of the derivative contract and final settlement on maturity, are shown in the table below.

Expected cash flows of qualifying cash flow hedges in millions of CHF

	Total	Less than 1 year	2022 More than 1 year	Total	Less than 1 year	2021 More than 1 year
Cash inflows	6,857	6,114	743	4,926	3,916	1,010
Cash outflows	(7,155)	(6,407)	(748)	(4,972)	(3,946)	(1,026)
Total cash inflows (outflows)	(298)	(293)	(5)	(46)	(30)	(16)

The undiscounted cash flows in the table above will affect profit or loss as shown below. These include interest payments during the duration of the derivative contract but do not include the final settlement on maturity.

Expected cash flows of qualifying cash flow hedges with impact on profit or loss in millions of CHF

	Total	Less than 1 year	2022 More than 1 year	Total	Less than 1 year	2021 More than 1 year
Cash inflows	0	0	0	0	0	0
Cash outflows	0	0	0	0	0	0
Total cash inflows (outflows)	0	0	0	0	0	0

Fair value hedges. The Group has entered into some interest rate swaps to hedge its exposure to changes in the fair value of some of its fixed-term debt instruments in respect of a benchmark interest rate. At 31 December 2022 such instruments were recorded as fair value assets of CHF 0 million and as fair value liabilities of CHF 155 million (2021: fair value assets of CHF 2 million and fair value liabilities of CHF 20 million). During 2022 fair value adjustments of CHF 137 million were recorded as expense on these interest rate swaps (2021: CHF 27 million as expense). As the fair value hedge had been highly effective since inception, the result of the interest rate swaps was largely offset by changes in the fair value of the hedged debt instruments. The Group's approach to managing market risk, including interest rate risk, is discussed in the 'Market risk' section in this Note.

Carrying amount of items designated as hedged items in a fair value hedging relationship in millions of CHF

	Liabilities	Fair value adjustments cumulative	Fair value adjustments in current year
At 31 December 2022			
Bonds and notes			
Risk hedged by interest rate swaps: interest rate fluctuations			
- Bonds and notes	2,826	(155)	(137)
At 31 December 2021			
Bonds and notes			
Risk hedged by interest rate swaps: interest rate fluctuations			
- Bonds and notes	3,153	(18)	(27)

Net investment hedges. The Group does not have any net investment hedges.

32. Related parties

Controlling shareholders

Following the share capital reduction described in Note 22, at 31 December 2022 the share capital of Roche Holding Ltd, which is the Group's parent company, consisted of 106,691,000 bearer shares with a nominal value of CHF 1.00 each (31 December 2021: 160,000,000 bearer shares).

At 31 December 2022, based on information supplied to the Group, a shareholder group with pooled voting rights owned 72,018,000 shares representing 67.50% of the issued shares (31 December 2021: 72,018,000 shares representing 45.01% of the issued shares and, excluding the treasury shares held by the Group that were cancelled in February 2022, 67.50% of the voting power). These figures do not include any shares without pooled voting rights held outside this group by individual members of the group. On 5 December 2019 the shareholder group announced that it would continue the shareholder pooling agreement with a modified shareholder composition. This group now consists of Mr André Hoffmann, Ms Marie-Anne Hoffmann, Ms Vera Michalski, Mr Alexander Hoffmann, Mr Frederic Hoffmann, Ms Isabel Hoffmann, Mr Lucas Hoffmann, Ms Marina Hoffmann, Ms Kasia Barbotin-Larrieu, Ms Tatiana Fabre, Mr Andreas Oeri, Ms Catherine Oeri, Ms Sabine Duschmalé, Mr Jörg Duschmalé, Mr Lukas Duschmalé, the charitable foundation Wolf and Artuma Holding Ltd. The shareholder pooling agreement has existed since 1948. The duration of the pool was extended for an indefinite period in 2009. At 31 December 2022, based on information supplied to the Group, Ms Maja Oeri, formerly a member of the pool, held 8,091,900 shares independently of the pool, representing 7.58% of the issued shares (31 December 2021: 8,091,900 shares representing 5.057% of the issued shares and, excluding the treasury shares held by the Group that were cancelled in February 2022, 7.58% of the voting power).

Mr André Hoffmann and Dr Jörg Duschmalé are members of the Board of Directors of Roche Holding Ltd. Mr Hoffmann received remuneration totalling CHF 406,734 (2021: CHF 425,181) and Dr Duschmalé received remuneration totalling CHF 334,475 (2021: CHF 334,499).

There were no other transactions between the Group and the individual members of the above shareholder group.

Subsidiaries and associates

A listing of the Group subsidiaries and associates is included in Note 33. This listing excludes Chugai's subsidiaries as well as companies that are not material, notably companies that are inactive, dormant or in liquidation. Transactions between the parent company and its subsidiaries and between subsidiaries are eliminated on consolidation. There were no significant transactions between the Group and its associates.

Key management personnel

Total remuneration of key management personnel was CHF 48 million (2021: CHF 45 million).

Members of the Board of Directors of Roche Holding Ltd receive an annual remuneration and payment for their time and expenses related to their membership of Board Committees. The Chairman of the Board of Directors and members of the Corporate Executive Committee (CEC) of Roche Holding Ltd receive remuneration which consists of an annual salary, a bonus and an expense allowance. The Group pays social insurance contributions in respect of the above remuneration and pays contributions to pension and other post-employment benefit plans for the Chairman of the Board of Directors and the members of the CEC. The members of the CEC also participate in certain equity compensation plans as described below. The terms, vesting conditions and fair value of these awards are disclosed in Note 27. New members of the CEC are included in the table below for the full calendar year in which they joined the CEC. Similarly, members of the CEC retiring partway through the year are included for the full calendar year in which they left the CEC.

Remuneration of the members of the Board of Directors and the Corporate Executive Committee in millions of CHF

	2022	2021
Salaries, including cash-settled bonus	22	21
Bonus Stock Awards	8	7
Social security costs	2	4
Pensions and other post-employment benefits	3	3
Equity compensation plans	7	5
Board fees	3	3
Other employee benefits	3	2
Total	48	45

For the purposes of these remuneration disclosures the values for equity compensation plans, including the Bonus Stock Awards, are calculated based on the fair value used in Note 27. These represent the cost to the Group of such awards at grant date and reflect, amongst other matters, the observed exercise behaviour and exit rate for the whole population that receive the awards and initial simulations of any performance conditions.

The detailed disclosures regarding executive remuneration that are required by Swiss law are included in the Remuneration Report disclosed in the Annual Report on pages 182 to 207. In those disclosures the values for equity compensation plans, including the Bonus Stock Awards, represent the fair value that the employee receives taking into account the preliminary assessment of any completed performance conditions. These fair values are shown in the table below, which reconciles those disclosures required by Swiss law to the above related party disclosures for key management personnel.

Reconciliation to executive remuneration disclosures required by Swiss law in millions of CHF

	2022	2021
Total remuneration of the members of the Board of Directors and Corporate Executive Committee (IFRS basis – see table above)	48	45
Deduct		
– Bonus Stock Awards (IFRS basis)	(8)	(7)
– Equity compensation plans (IFRS basis)	(7)	(5)
Add back		
– Bonus Stock Awards (Swiss legal basis)	4	4
– Equity compensation plans (Swiss legal basis)	12	11
Total remuneration of the members of the Board of Directors and Corporate Executive Committee (Swiss legal basis)	49	48
Of which (including social security costs)		
– Board of Directors (page 196 of the Annual Report)	10	10
– Corporate Executive Committee (page 203 of the Annual Report)	39	38

Bonus Stock Awards. The Chairman of the Board of Directors and the Chief Executive Officer will be granted Bonus Stock Awards in lieu of their cash-settled bonus for the financial year 2022. These are subject to approval by the 2023 Annual General Meeting in March 2023 and will be issued in March 2023. The number of awards and fair value per award will be calculated at the grant date.

Equity compensation plans. The members of the Corporate Executive Committee received equity compensation as shown in the following tables.

Number of rights, options and awards granted to members of the Corporate Executive Committee

	2022	2021
Roche Stock-settled Stock Appreciation Rights	183,420	239,276
Roche Restricted Stock Unit Plan	7,190	8,266

Contributions paid for members of the Corporate Executive Committee in millions of CHF

	2022	2021
Roche Connect	0.2	0.2

Defined benefit plans

Transactions between the Group and the various defined benefit plans for the employees of the Group are described in Note 26.

33. List of subsidiaries and associates

The following is a listing of the Group subsidiaries and associates. It excludes Chugai's subsidiaries as well as companies that are not material, notably companies that are inactive, dormant or in liquidation.

Listed companies

Location	Company	City	Share capital (in millions)	Equity interest (in %)
Switzerland	Roche Holding Ltd Stock Exchange: SIX Swiss Exchange Zurich Stock code (Share): RO, Valor: 1203211 Stock code (<i>Genussschein</i>): ROG, Valor: 1203204 ISIN Share: CH0012032113 ISIN <i>Genussschein</i> : CH0012032048 Market capitalisation: CHF 239,405 million	Basel	CHF 106.7	
Japan	Chugai Pharmaceutical Co., Ltd. Stock Exchange: Tokyo Stock code: TSE:4519 ISIN: JP3519400000 Market capitalisation: JPY 5,540,428 million	Tokyo	JPY 1,679.1	61.1

Non-listed companies

Location	Company	City	Share capital (in millions)	Equity interest (in %)
Algeria	Roche Algérie SPA	Hydra	DZD 1.0	48
Argentina	Productos Roche S.A. Química e Industrial	Buenos Aires	ARS 7,721.3	100
	Roche Diabetes Care Argentina S.A.	Buenos Aires	ARS 87.4	100
Australia	Roche Diabetes Care Australia Pty Limited	North Ryde	AUD 14.1	100
	Roche Diagnostics Australia Pty Limited	North Ryde	AUD 5.0	100
	Roche Products Pty Limited	Sydney	AUD 65.0	100
Austria	mySugr GmbH	Vienna	EUR 5.7	100
	Roche Austria GmbH	Vienna	EUR 14.5	100
	Roche Diabetes Care Austria GmbH	Vienna	EUR (-)	100
	Roche Diagnostics GmbH	Vienna	EUR 1.1	100
Bangladesh	Roche Bangladesh Limited	Dhaka	BDT 27.2	100
Belarus	FLLC "Roche Products Limited"	Minsk	USD 1.5	100
Belgium	Roche Diagnostics Belgium NV	Diegem	EUR 3.8	100
	Roche SA/NV	Brussels	EUR 32.0	100
Bermuda	Chemical Manufacturing and Trading Company Limited	Pembroke	USD (-)	100
	Hoffmann-La Roche Products Limited	Pembroke	USD (-)	100
	Roche Capital Services Ltd.	Pembroke	RUB (-)	100
	Roche Catalyst Investments Ltd.	Pembroke	USD (-)	100
	Roche Financial Investments Ltd.	Pembroke	USD (-)	100
	Roche Financial Management Ltd.	Pembroke	USD (-)	100
	Roche Financial Services Ltd.	Pembroke	USD (-)	100
	Roche International Ltd.	Pembroke	USD (-)	100
	Roche Intertrade Limited	Pembroke	USD 10.0	100
	Roche Operations Ltd.	Pembroke	USD (-)	100
	Roche Services Holdings Ltd.	Pembroke	USD (-)	100
Bolivia	Roche Bolivia S.R.L.	Santa Cruz	BOB 0.1	100
Bosnia and Herzegovina	Roche d.o.o. farmaceutsko drustvo - Roche Ltd. Pharmaceutical Company	Sarajevo	BAM 13.1	100
Brazil	Produtos Roche Químicos e Farmacêuticos S.A.	São Paulo	BRL 1,141.7	100
	Roche Diabetes Care Brasil Ltda.	São Paulo	BRL 44.4	100
	Roche Diagnostica Brasil Ltda.	São Paulo	BRL 683.5	100
Bulgaria	Roche Bulgaria EOOD	Sofia	BGN 5.1	100
Cameroon	Roche Cameroun SARL	Douala	XAF 60.0	100
Canada	Hoffmann-La Roche Limited	Mississauga	CAD 40.3	100
Chile	Roche Chile Limitada	Santiago de Chile	CLP 70.9	100

Location	Company	City		Share capital (in millions)	Equity interest (in %)
China	Roche (China) Holding Ltd.	Shanghai	USD	37.3	100
	Roche (Shanghai) Pharmaceuticals Consulting Co., Ltd.	Shanghai	CNY	30.0	100
	Roche (Shanghai) Pharmaceuticals Trading Co., Ltd.	Shanghai	USD	90.0	100
	Roche Diagnostics (Hong Kong) Limited	Hong Kong	HKD	10.0	100
	Roche Diagnostics (Shanghai) Ltd.	Shanghai	USD	31.0	100
	Roche Diagnostics (Suzhou) Limited	Suzhou	USD	160.0	100
	Roche Hong Kong Limited	Hong Kong	HKD	10.0	100
	Roche R&D Center (China) Ltd.	Shanghai	USD	35.8	100
	Shanghai Roche Pharmaceuticals Limited	Shanghai	USD	278.7	70
Colombia	Productos Roche S.A.	Bogotá	COP	26,923.7	100
	TIB Molbiol S.A.S.	Santiago de Cali	COP	3.0	100
Congo Democratic Republic	Roche DRC SARLU	Kinshasa	USD	0.3	100
Costa Rica	Roche Services Americas, Sociedad de Responsabilidad Limitada	San Jose	CRC	361.4	100
	Roche Servicios S.A.	Heredia	USD	8.1	100
Côte d'Ivoire	Roche Côte d'Ivoire SARL	Abidjan	XOF	50.0	100
Croatia	Roche d.o.o.	Zagreb	HRK	4.8	100
Czech Republic	Roche s.r.o.	Prague	CZK	200.0	100
Denmark	OBI Aps	Hadsund	DKK	4.4	100
	Roche Diagnostics a/s	Copenhagen	DKK	1.3	100
	Roche Innovation Center Copenhagen A/S	Hoersholm	DKK	100.1	100
	Roche Pharmaceuticals A/S	Copenhagen	DKK	4.0	100
Dominican Republic	Productos Roche Dominicana, S.R.L.	Santo Domingo	DOP	0.6	100
Ecuador	Roche Ecuador S.A.	Quito	USD	28.1	100
Egypt	Roche Diagnostics Egypt for Trading S.A.E.	Giza	EGP	5.0	100
	Roche Egypt for Manufacturing and Trading SAE	Cairo	EGP	229.0	100
	Roche Egypt LLC	Cairo	EGP	228.1	100
El Salvador	Productos Roche (El Salvador) S.A. de C.V.	Antiguo Cuscatlan	USD	(-)	100
Estonia	Roche Eesti OÜ	Tallinn	EUR	0.1	100
Finland	Roche Diagnostics Oy	Espoo	EUR	0.2	100
	Roche Oy	Espoo	EUR	(-)	100
France	Institut Roche SAS	Boulogne-Billancourt	EUR	0.5	100
	Roche Diabetes Care France SAS	Montbonnot-Saint-Martin	EUR	4.5	100
	Roche Diagnostics France SAS	Meylan	EUR	16.0	100
	Roche SAS	Boulogne-Billancourt	EUR	38.2	100
	Timkl SAS	Montbonnot-Saint-Martin	EUR	0.8	100
	Trophos SA	Marseille	EUR	1.9	100
Georgia	Roche Georgia LLC	Tbilisi	GEL	0.5	100
Germany	Ascur Versicherungsvermittlungs GmbH	Grenzach-Wyhlen	EUR	(-)	100
	Flatiron Health GmbH	Cologne	EUR	(-)	100
	Foundation Medicine GmbH	Penzberg	EUR	(-)	100
	Galenus Mannheim Pharma GmbH	Mannheim	EUR	(-)	100
	Roche Beteiligungs GmbH	Grenzach-Wyhlen	EUR	3.6	100
	Roche Deutschland Holding GmbH	Grenzach-Wyhlen	EUR	6.0	100
	Roche Diabetes Care Deutschland GmbH	Mannheim	EUR	(-)	100
	Roche Diabetes Care GmbH	Mannheim	EUR	(-)	100
	Roche Diagnostics Automation Solutions GmbH	Ludwigsburg	EUR	(-)	100
	Roche Diagnostics Deutschland GmbH	Mannheim	EUR	1.0	100
	Roche Diagnostics GmbH	Mannheim	EUR	94.6	100
	Roche mtm laboratories AG	Mannheim	EUR	1.4	100
	Roche Pharma AG	Grenzach-Wyhlen	EUR	61.4	100
	Roche Privacy GmbH	Grenzach-Wyhlen	EUR	(-)	100
	Roche Real Estate Services Mannheim GmbH	Mannheim	EUR	1.8	100
	Roche Registration GmbH	Grenzach-Wyhlen	EUR	(-)	100
	RoX Health GmbH	Berlin	EUR	(-)	100
	Signature Diagnostics GmbH	Potsdam	EUR	0.1	100
	TIB Molbiol Syntheselabor GmbH	Berlin	EUR	(-)	100
Ghana	Roche Products Ghana Limited	Accra	GHS	1.2	100
Greece	Roche (Hellas) S.A.	Marousi	EUR	19.2	100
	Roche Diagnostics (Hellas) S.A.	Marousi	EUR	8.3	100
Guatemala	Productos Roche Guatemala (Sociedad Anónima)	Guatemala City	GTQ	0.6	100
Honduras	Productos Roche (Honduras), S.A.	Tegucigalpa	HNL	(-)	100
Hungary	Roche (Hungary) Ltd	Budapest	HUF	30.0	100
	Roche Services (Europe) Ltd	Budapest	HUF	3.0	100

Location	Company	City		Share capital (in millions)	Equity interest (in %)
India	Roche Diabetes Care India Private Limited	Mumbai	INR	15.2	100
	Roche Diagnostics India Private Limited	Mumbai	INR	149.2	100
	Roche Information Solutions India Private Limited	Pune	INR	(-)	100
	Roche Products (India) Private Limited	Mumbai	INR	14.0	100
Indonesia	P.T. Roche Indonesia	Jakarta	IDR	43,770.0	100
Iran	Roche Pars Co. (Ltd.)	Tehran	IRR	41,610.0	100
Ireland	Inflazome Limited	Dublin	EUR	(-)	100
	Roche Ireland Limited	Clarecastle	EUR	2.4	100
	Roche Products (Ireland) Limited	Dublin	EUR	(-)	100
	Spark Therapeutics Ireland Limited	Dublin	EUR	(-)	100
Israel	Medingo Ltd.	Yokneam Illit	ILS	8.0	100
	Roche Pharmaceuticals (Israel) Ltd.	Hod Hasharon	ILS	(-)	100
Italy	Roche Diabetes Care Italy S.p.A.	Monza	EUR	40.2	100
	Roche Diagnostics S.p.A.	Monza	EUR	18.1	100
	Roche S.p.A.	Monza	EUR	34.1	100
	TIB Molbiol S.r.l.	Genoa	EUR	0.1	100
Japan	Flatiron Health K.K.	Tokyo	JPY	10.0	100
	Roche DC Japan K. K.	Tokyo	JPY	10.0	100
	Roche Diagnostics K.K.	Tokyo	JPY	2,500.0	100
Jordan	F. Hoffmann-La Roche Ltd / Jordan P.S.C.	Amman	JOD	(-)	100
Kazakhstan	Roche Kazakhstan LLP	Almaty	KZT	150.0	100
Kenya	Roche Kenya Limited	Nairobi	KES	50.0	100
Kuwait	Roche for Trading in Medicines, Equipment, Devices and Medical Supplies SPC	Kuwait City	KWD	1.8	100
Latvia	Roche Latvija SIA	Riga	EUR	1.7	100
Lebanon	Roche Lebanon S.A.R.L.	Beirut	LBP	1,000.0	100
Lithuania	UAB Roche Lietuva	Vilnius	EUR	0.2	100
Malaysia	Roche (Malaysia) Sdn. Bhd.	Kuala Lumpur	MYR	4.0	100
	Roche Diagnostics (Malaysia) Sdn. Bhd.	Petaling Jaya	MYR	0.9	100
	Roche Services (Asia Pacific) Sdn. Bhd.	Kuala Lumpur	MYR	0.5	100
Mauritius	Roche Products (Mauritius) Ltd	Moka	MUR	4.0	100
Mexico	Productos Roche, S.A. de C.V.	Mexico City	MXN	82.6	100
	Roche DC México, S.A. de C.V.	Mexico City	MXN	3.9	100
Morocco	Roche S.A.	Casablanca	MAD	59.5	100
Myanmar	Roche Myanmar Company Limited	Yangon	USD	(-)	100
Netherlands	Roche Diabetes Care Nederland B.V.	Almere	EUR	0.6	100
	Roche Diagnostics Nederland B.V.	Almere	EUR	2.3	100
	Roche Finance Europe B.V.	Woerden	EUR	2.0	100
	Roche Nederland B.V.	Woerden	EUR	10.9	100
	Roche Pharmholding B.V.	Woerden	EUR	467.8	100
New Zealand	Roche Diagnostics NZ Limited	Auckland	NZD	3.0	100
	Roche Products (New Zealand) Limited	Auckland	NZD	13.5	100
Nicaragua	Productos Roche (Nicaragua), S.A.	Managua	NIO	0.9	100
Nigeria	Roche Products Limited	Lagos	NGN	200.0	100
North Macedonia	Roche Makedonija DOOEL	Skopje	EUR	0.3	100
Norway	Roche Diagnostics Norge A/S	Oslo	NOK	5.8	100
	Roche Norge A/S	Oslo	NOK	6.2	100
Pakistan	Roche Pakistan Limited	Karachi	PKR	2,063.3	100
Panama	Productos Roche (Panama), S.A.	Panama City	PAB	(-)	100
	Productos Roche Interamericana S.A. (PRISA)	Panama City	USD	0.1	100
	Roche Products Inc.	Panama City	USD	0.5	100
	Syntex Puerto Rico, Inc.	Panama City	USD	(-)	100
Paraguay	Roche Diagnostics Paraguay S.A.	Asunción	PYG	10,197.6	100
Peru	Productos Roche Q.F.S.A.	Lima	PEN	11.1	100
	Roche Farma (Peru) S.A.	Lima	PEN	38.1	100
Philippines	Roche (Philippines) Inc.	Taguig City	PHP	300.0	100
Poland	Roche Diabetes Care Polska sp. z o.o.	Warsaw	PLN	2.0	100
	Roche Diagnostics Polska Sp. z o.o.	Warsaw	PLN	8.0	100
	Roche Polska Sp. z o.o.	Warsaw	PLN	25.0	100
Portugal	Roche Farmacêutica Química, Lda.	Amadora	EUR	1.1	100
	Roche Sistemas de Diagnósticos, Sociedade Unipessoal, Lda.	Amadora	EUR	2.6	100
Puerto Rico	Genentech P.R., Inc.	San Juan	USD	(-)	100
Romania	Roche Romania S.R.L.	Bucharest	RON	472.2	100

Location	Company	City		Share capital (in millions)	Equity interest (in %)
Russian Federation	"Roche-Moscow" JSC.	Moscow	RUB	2.6	100
	Limited Liability Company Roche Diabetes Care Rus	Moscow	RUB	100.0	100
	Limited Liability Company Roche Diagnostics Rus	Moscow	RUB	250.0	100
Saudi Arabia	Roche Diagnostics Saudi Arabia LLC	Riyadh	SAR	200.0	75
	Roche Products Saudi Arabia LLC	Jeddah	SAR	30.0	100
Serbia	Roche d.o.o. Beograd	Belgrade	RSD	939.1	100
Singapore	Roche Diabetes Care Asia Pacific Pte. Ltd.	Singapore	SGD	0.6	100
	Roche Diagnostics Asia Pacific Pte. Ltd.	Singapore	SGD	20.4	100
	Roche Singapore Pte. Ltd.	Singapore	SGD	4.0	100
	Roche Singapore Technical Operations, Pte. Ltd.	Singapore	USD	35.0	100
Slovakia	Roche Slovensko, S.R.O.	Bratislava	EUR	0.3	100
Slovenia	Roche farmacevtska družba d.o.o.	Ljubljana	EUR	0.2	100
South Africa	Kapa Biosystems (Pty) Ltd	Cape Town	ZAR	(-)	100
	Roche Diabetes Care South Africa Proprietary Limited	Midrand	ZAR	15.0	100
	Roche Diagnostics Proprietary Limited	Midrand	ZAR	(-)	100
	Roche Products (Proprietary) Limited	Midrand	ZAR	60.0	100
South Korea	Roche Diagnostics Korea Co., Ltd.	Seoul	KRW	22,969.0	100
	Roche Korea Company Ltd.	Seoul	KRW	13,375.0	100
Spain	Roche Diabetes Care Spain, S.L.	Sant Cugat del Vallès	EUR	1.0	100
	Roche Diagnostics S.L.	Sant Cugat del Vallès	EUR	17.0	100
	Roche Farma, S.A.	Madrid	EUR	45.0	100
	TIB Molbiol S.L.	Madrid	EUR	(-)	100
Sweden	Roche AB	Solna	SEK	20.0	100
	Roche Diagnostics Scandinavia AB	Solna	SEK	9.0	100
Switzerland	Biopharm AG	Basel	CHF	0.3	100
	F. Hoffmann-La Roche Ltd	Basel	CHF	150.0	100
	Hoffmann - La Roche Ltd	Basel	CHF	0.5	100
	InterMune International AG	Basel	CHF	10.0	100
	Museum Tinguely AG	Basel	CHF	0.1	100
	Phaor AG	Basel	CHF	0.2	100
	Rabbit-Air Ltd	Bachenbülach	CHF	3.0	100
	Roche Capital Market Ltd	Basel	CHF	1.0	100
	Roche Chemische Unternehmungen AG	Basel	CHF	1.3	100
	Roche Diabetes Care (Switzerland) Ltd	Rotkreuz	CHF	0.1	100
	Roche Diagnostics (Switzerland) Ltd	Rotkreuz	CHF	1.0	100
	Roche Diagnostics International Ltd	Rotkreuz	CHF	20.0	100
	Roche Finance Ltd	Basel	CHF	409.2	100
	Roche Forum Buonas Ltd	Buonas	CHF	0.1	100
	Roche Glycart Ltd	Schlieren	CHF	0.3	100
	Roche Long Term Foundation	Basel	CHF	0.5	100
	Roche Pharma (Switzerland) Ltd	Basel	CHF	2.0	100
	Roche Sapac Ltd.	Basel	CHF	0.5	100
	Syntex Pharm AG	Rotkreuz	CHF	0.5	100
	Tavero AG	Basel	CHF	0.1	100
Taiwan	Roche Diagnostics Ltd.	Taipei	TWD	562.0	100
	Roche Products Ltd.	Taipei	TWD	1,900.0	100
Thailand	Roche Diagnostics (Thailand) Limited	Bangkok	THB	103.0	100
	Roche Thailand Limited	Bangkok	THB	12.0	100
Tunisia	Roche Tunisie SA	Tunis	TND	0.8	100
Türkiye	Infogenetik Moleküler Bilgi Hizmetleri Anonim Şirketi	Istanbul	TRY	3.5	100
	Roche Diagnostics Turkey Anonim Şirketi	Istanbul	TRY	250.0	100
	Roche Müstahzarları Sanayi Anonim Şirketi	Istanbul	TRY	249.5	100
Ukraine	Roche Ukraine LLC	Kiev	UAH	124.0	100
United Arab Emirates	Roche Diabetes Care Middle East FZCO	Dubai	AED	0.5	100
	Roche Diagnostics Middle East FZCO	Dubai	AED	19.0	100
	Roche Pharmaceuticals Middle East FZCO	Dubai	AED	0.5	100

Location	Company	City		Share capital (in millions)	Equity interest (in %)
United Kingdom	Flatiron Health UK Ltd	St Albans	GBP	(-)	100
	Inflazome UK Limited	Welwyn Garden City	GBP	(-)	100
	InterMune Holdings Limited	Welwyn Garden City	GBP	(-)	100
	Roche Diabetes Care Limited	Burgess Hill	GBP	0.4	100
	Roche Diagnostics Limited	Burgess Hill	GBP	32.6	100
	Roche Holding (UK) Limited	Welwyn Garden City	GBP	100.0	100
	Roche Products Limited	Welwyn Garden City	GBP	98.3	100
	Roche Registration Limited	Welwyn Garden City	GBP	(-)	100
	Spark Therapeutics UK Ltd	London	GBP	(-)	100
	TMEM16A Limited	Welwyn Garden City	GBP	0.2	100
	Tusk Therapeutics Limited	Welwyn Garden City	GBP	(-)	100
United States	Adheron Therapeutics, Inc.	South San Francisco	USD	(-)	100
	Anadys Pharmaceuticals, Inc.	South San Francisco	USD	(-)	100
	Bina Technologies, Inc.	Pleasanton	USD	(-)	100
	BioVeris Corporation	Indianapolis	USD	(-)	100
	Flatiron Health, Inc.	New York	USD	(-)	100
	ForSight VISION4, Inc.	South San Francisco	USD	(-)	100
	Foundation Medicine, Inc.	Cambridge	USD	(-)	100
	Freenome Holdings, Inc.	South San Francisco	USD	(-)	16
	Genentech USA, Inc.	South San Francisco	USD	(-)	100
	Genentech, Inc.	South San Francisco	USD	(-)	100
	GenMark Diagnostics, Inc.	Carlsbad	USD	(-)	100
	GenMark Holdings, Inc.	Carlsbad	USD	(-)	100
	Good Therapeutics, Inc.	South San Francisco	USD	(-)	100
	Hoffmann-La Roche Inc.	Little Falls	USD	3.0	100
	I5 Surviving Corp.	South San Francisco	USD	(-)	100
	IGEN International, Inc.	Pleasanton	USD	(-)	100
	IGEN LS LLC	Pleasanton	USD	(-)	100
	Ignyta, Inc.	South San Francisco	USD	(-)	100
	InterMune, Inc.	South San Francisco	USD	(-)	100
	IQuum, Inc.	Marlborough	USD	(-)	100
	Jecure Therapeutics, Inc.	South San Francisco	USD	(-)	100
	Kapa Biosystems, Inc.	Wilmington	USD	(-)	100
	Lexent Bio, Inc.	Cambridge	USD	(-)	100
	Memory Pharmaceuticals Corp.	Little Falls	USD	(-)	100
	Prescient Design Corp.	South San Francisco	USD	(-)	100
	Promedior, Inc.	South San Francisco	USD	(-)	100
	Protocol First, Inc.	Salt Lake City	USD	(-)	100
	Roche Diabetes Care, Inc.	Indianapolis	USD	(-)	100
	Roche Diagnostics Corporation	Indianapolis	USD	(-)	100
	Roche Diagnostics Hematology, Inc.	Westborough	USD	(-)	100
	Roche Diagnostics Operations, Inc.	Indianapolis	USD	(-)	100
	Roche Diagnostics Seattle, Inc.	Seattle	USD	(-)	100
	Roche Holdings, Inc.	South San Francisco	USD	1.0	100
	Roche Laboratories Inc.	Little Falls	USD	(-)	100
	Roche Molecular Systems, Inc.	Pleasanton	USD	(-)	100
	Roche Palo Alto LLC	South San Francisco	USD	(-)	100
	Roche Sequencing Solutions, Inc.	Pleasanton	USD	(-)	100
	Roche TCRC, Inc.	Little Falls	USD	(-)	100
	Seragon Pharmaceuticals Inc.	South San Francisco	USD	(-)	100
	Spark Therapeutics International Holdings, Inc.	Philadelphia	USD	(-)	100
	Spark Therapeutics, Inc.	Philadelphia	USD	(-)	100
	Tanox, Inc.	South San Francisco	USD	(-)	100
	Tensha Therapeutics, Inc.	South San Francisco	USD	(-)	100
	Therapeutic Human Polyclonals, Inc.	South San Francisco	USD	(-)	100
	Ventana Medical Systems, Inc.	Tucson	USD	(-)	100
	Viewics, Inc.	Santa Clara	USD	(-)	100
Uruguay	Roche International Ltd. (Montevideo Branch)	Montevideo	UYU	(-)	100
Venezuela	Productos Roche S.A.	Caracas	VEF	156.9	100
Vietnam	Roche Pharma (Vietnam) Company Limited	Ho Chi Minh City	VND	75,600.0	100
	Roche Vietnam Company Limited	Ho Chi Minh City	USD	25.0	100

(-) = share capital of less than 100,000 local currency units.

34. Significant accounting policies

Consolidation policy

Subsidiaries are all companies over which the Group has control. The Group controls an entity when the Group is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. Companies acquired during the year are consolidated from the date on which control is transferred to the Group, and subsidiaries to be divested are included up to the date on which control passes from the Group. Intercompany balances, transactions and resulting unrealised income are eliminated in full. Changes in ownership interests in subsidiaries are accounted for as equity transactions if they occur after control has already been obtained and if they do not result in a loss of control. Associates are companies over which the Group exercises, or has the power to exercise, significant influence, but which it does not control, and they are accounted for using the equity method.

Segment reporting

For the purpose of segment reporting the Group's Corporate Executive Committee (CEC) is considered to be the Group's Chief Operating Decision Maker. The determination of the Group's operating segments is based on the organisation units for which information is reported to the CEC on a regular basis. The information provided is used as the basis of the segment revenue and profit disclosures reported in Note 2, with the geographic analysis based on the location of customers. Selected segment balance sheet information is also routinely provided to the CEC.

Transfer prices between operating segments are set on an arm's length basis. Operating assets and liabilities consist of property, plant and equipment, goodwill and intangible assets, trade receivables/payables, inventories and other assets and liabilities, such as provisions, which can be reasonably attributed to the reported operating segments. Non-operating assets and liabilities mainly include current and deferred income tax balances, post-employment benefit assets/liabilities and financial assets/liabilities such as cash, marketable securities, investments and debt.

Foreign currency translation

The Annual Financial Statements are presented in Swiss francs. Most Group companies use their local currency as their functional currency. Certain Group companies use other currencies (such as US dollar, Swiss franc or euro) as their functional currency where this is the currency of the primary economic environment in which the entity operates. Local transactions in other currencies are initially reported using the exchange rate at the date of the transaction. Gains and losses from the settlement of such transactions and gains and losses on translation of monetary assets and liabilities denominated in other currencies are included in income, except when they are qualifying cash flow hedges or arise on monetary items that, in substance, form part of the Group's net investment in a foreign entity. In such cases the gains and losses are deferred into other comprehensive income.

Upon consolidation, assets and liabilities of Group companies using functional currencies other than Swiss francs are translated into Swiss francs using year-end rates of exchange. The income statement and statement of cash flows are translated at the average rates of exchange for the year. Translation differences due to the changes in exchange rates between the beginning and the end of the year and the difference between net income translated at the average and year-end exchange rates are taken directly to other comprehensive income.

Revenue

Sales. Revenue from the sale of goods supplied (product sales) and services rendered are recorded as 'Sales'.

Sales are recognised when a promise in a customer contract (performance obligation) has been satisfied by transferring control over the promised goods and services to the customer. Control over a promised good or service refers to the ability to direct the use of, and obtain substantially all of the remaining benefits from, those goods or services. Control is usually transferred upon shipment, delivery to, upon receipt of goods by the customer, or as services are rendered, in accordance with the delivery and acceptance terms agreed with the customers. For goods subject to installation, such as instruments sold in the Diagnostics Division, sales are generally recognised upon completion of the installation at the customer's site and customer acceptance. The amount of sales to be recognised (transaction price) is based on the consideration the Group expects to receive in exchange for its goods and services, excluding amounts collected on behalf of third parties such as value added taxes or other taxes directly linked to sales. If a contract contains more than one performance obligation, the transaction price is allocated to each performance obligation based on their relative stand-alone selling prices.

Instruments in the Diagnostics Division may be sold together with other goods such as reagents and other consumables as well as services under a single contract or under several contracts that are combined for revenue recognition purposes. Sales are recognised upon satisfaction of each of the performance obligations in the contract. Instruments are either sold in cash and instalment sales transactions or otherwise made available to customers under finance lease and operating lease transactions.

- **Finance leases:** Arrangements in which the Group transfers substantially all of the risks and rewards of ownership to the customer are treated as finance lease arrangements. Income from finance leases is recognised as revenue at amounts that represent the fair value of the instrument, which approximates the present value of the minimum lease payments under the arrangement. As interest rates embedded in finance lease arrangements are approximately market rates, income from finance leases is comparable to revenue for outright sales. Finance income for finance lease arrangements longer than twelve months is deferred and subsequently recognised based on a pattern that approximates the use of the effective interest rate method and recorded in royalty and other operating income.
- **Operating leases:** Income from operating leases is recognised as revenue on a straight-line basis over the lease term or, when lease revenue is entirely variable and subject to subsequent reagent sales, as the performance obligation to deliver reagents is satisfied.

Sales, net of discounts, are based on estimates regarding the related obligations, including their stand-alone selling prices or fair values. It requires judgement to determine when different obligations are satisfied, including whether enforceable purchase commitments for further obligations exist and when they arise.

For contracts with distributors, no sales are recognised when goods are physically transferred to the distributor under a consignment arrangement, or if the distributor acts as an agent. In such cases, sales are recognised when control over the goods transfers to the end-customer, and distributor's commissions are presented within marketing and distribution. Commissions and similar payments to distributors acting as principals are deducted from sales unless such payments are in exchange for a distinct service.

The consideration received by the Group in exchange for its goods and services may be fixed or variable. Variable consideration is only recognised when it is considered highly probable that a significant revenue reversal will not occur once the underlying uncertainty related to variable consideration is subsequently resolved. The most common elements of variable consideration in the Pharmaceuticals Division are listed below:

- **Government and regulatory mandatory price reductions.** The major elements of these mandatory price reductions are the 340B Drug Discount Program, Medicaid and other plans in the US.
- **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.

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 need to be adjusted, with an effect on sales and earnings in the period of the adjustment. 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.

The Group recognises a deferred income (contract liability) if consideration has been received (or has become receivable) before the Group transfers the promised goods or services to the customer. Deferred income mainly relates to remaining performance obligations for goods free of charge under certain patient access or similar programmes, reagents and other consumables and services.

Remaining performance obligations in (partially) unsatisfied long-term contracts are either included in deferred income or are related to amounts the Group expects to receive for goods and services that have not yet been transferred to customers under existing, non-cancellable or otherwise enforceable contracts. These are mainly associated with contracts with minimum purchase commitments related to reagents and consumables for previously sold instruments as well as monitoring and maintenance services. For contracts that have an original duration of one year or less, the Group has elected the practical expedient to not disclose the transaction price for remaining performance obligations at the end of each reporting period and at which point in time the Group expects to recognise these sales.

Royalty and other operating income. Royalty and other operating income includes royalty income, income from out-licensing agreements and income from disposal of products and other items.

Royalty income earned through a licence is recognised as the underlying sales are recorded by the licensee.

Income from out-licensing agreements typically arises from the receipt of upfront, milestone and other similar payments from third parties for granting a licence to product- or technology-related intellectual property (IP). Out-licensing agreements may be entered into with no further obligation or may include commitments to conduct research, late-stage development, regulatory approval, co-marketing or manufacturing. Licences granted are usually rights to use IP and are generally unique. Therefore the basis of allocating revenue to performance obligations makes use of the residual approach. Upfront payments and other licensing fees are usually recognised upon granting the licence unless some of the income shall be deferred for other performance obligations using the residual approach. Such deferred income is released and recognised as revenue when other performance obligations are satisfied. Milestone payments are typically received upon reaching a specific scientific milestone (development milestone) or upon achieving a certain annual sales milestone (commercial milestone). Development milestone income is recognised at the point in time when it is highly probable that the respective milestone event criteria is achieved, and the risk of revenue reversal is considered remote. Commercial milestone income is accrued and recognised as revenue when it is highly probable that the annual sales milestone is reached during the period.

Payments received for the disposal of product and similar rights are recognised as revenue upon transfer of control over such rights. To the extent that some of these payments relate to other performance obligations, a portion is deferred using the residual approach and recognised as revenue when or as activities such as manufacturing or other services are rendered. Income from profit-sharing agreements with collaboration partners is recognised as underlying sales and cost of sales are recorded by the collaboration partners. Also included is income from other services rendered which are usually not part of the Group's primary business activities, to the extent that such revenue is not recorded under 'Sales', and is recognised when control transfers and performance obligations are satisfied.

Cost of sales

Cost of sales includes the corresponding direct production costs and related production overheads of goods sold and services rendered. Royalties, alliance and collaboration expenses, including all collaboration profit-sharing agreements, are also reported as part of cost of sales. Start-up costs between validation and the achievement of normal production capacity are expensed as incurred.

Research and development

Internal research and development activities are expensed as incurred for the following:

- Internal research costs incurred for the purpose of gaining new scientific or technical knowledge and understanding.
- Internal development costs incurred for the application of research findings or other knowledge to plan and develop new products for commercial production. The development projects undertaken by the Group are subject to technical, regulatory and other uncertainties, such that, in the opinion of management, the criteria for capitalisation as intangible assets are not met prior to obtaining marketing approval by the regulatory authorities in major markets.
- Post-marketing studies after regulatory approval, such as phase IV costs in the pharmaceuticals business, generally involve safety surveillance and ongoing technical support of a drug after it receives marketing approval to be sold. They may be required by regulatory authorities or may be undertaken for safety or commercial reasons. The costs of such post-marketing studies are not capitalised as intangible assets as, in the opinion of management, they do not generate separately identifiable incremental future economic benefits that can be reliably measured.

Acquired in-process research and development resources obtained through in-licensing arrangements, business combinations or separate asset purchases, including asset acquisitions, are capitalised as intangible assets. The acquired asset must be controlled by the Group, be separately identifiable and expected to generate future economic benefits, even if uncertainty exists as to whether the research and development will ultimately result in a marketable product. Consequently, upfront and milestone payments to third parties for pharmaceutical products or compounds before regulatory marketing approval are recognised as intangible assets. Assets acquired through such arrangements are measured on the basis set out in the 'Intangible assets' policy. Subsequent internal research and development costs incurred post-acquisition are treated in the same way as other internal research and development costs. If research and development are embedded in contracts for strategic alliances, the Group carefully assesses whether upfront or milestone payments constitute funding of research and development work or acquisition of an asset.

Employee benefits

Short-term employee benefits include wages, salaries, social security contributions, paid annual leave and sick leave, profit sharing and bonuses, and non-monetary benefits for current employees. The costs are recognised within the operating results when the employee has rendered the associated service. The Group recognises a liability for profit sharing and bonuses where contractually obliged or where there is a past practice that has created a constructive obligation.

Long-term employee benefits include long-service or sabbatical leave, long-service benefits and long-term disability benefits. The expected costs of these benefits are accrued over the period of employment. Any changes in the carrying value of other long-term employee benefit liabilities are recognised within the operating results.

Termination benefits are payable when employment is terminated by the Group before the normal retirement date, or whenever an employee accepts voluntary redundancy in exchange for these benefits. Termination costs are recognised at the earlier of when the Group can no longer withdraw the offer of the benefits or when the Group recognises any related restructuring costs.

Pensions and other post-employment benefits

For defined contribution plans the Group contributions are recognised within the operating results when the employee has rendered the associated service. Prepaid contributions are recognised as an asset to the extent that a cash refund or a reduction in future payments is available.

For defined benefit plans the liability recognised in the balance sheet is the present value of the defined benefit obligation less the fair value of the plan assets. All changes in the net defined benefit liability are recognised as they occur as follows:

Recognised in the income statement:

- Current service cost is charged to the appropriate income statement heading within the operating results.
- Past service cost, including curtailment gains or losses, is recognised immediately in general and administration within the operating results.
- Settlement gains or losses are recognised in general and administration within the operating results.
- Net interest on the net defined benefit liability is recognised in financing costs.

Recognised in other comprehensive income:

- Actuarial gains and losses arising from experience adjustments (the difference between previous assumptions and what has actually occurred) and changes in actuarial assumptions.
- The return on plan assets, excluding amounts included in net interest on the net defined benefit liability.
- Any change in the limit on the recognition of plan assets, excluding amounts included in net interest on the net defined benefit liability.

Net interest on the net defined benefit liability is comprised of interest income on plan assets, interest cost on the defined benefit obligation and interest on the effect of the limit on the recognition of pension assets. The net interest is calculated using the same discount rate that is used in calculating the defined benefit obligation, applied to the net defined liability at the start of the period, taking into account any changes from contribution or benefit payments.

Pension assets and liabilities in different defined benefit plans are not offset unless the Group has a legally enforceable right to use the surplus in one plan to settle obligations in the other plan.

Equity compensation plans

The fair value of all equity compensation awards granted to employees is estimated at the grant date and recorded as an expense over the vesting period. The expense is charged to the appropriate income statement heading within the operating results. For equity-settled plans, an increase in equity is recorded for this expense and any subsequent cash flows from exercises of vested awards are recorded as changes in equity.

Property, plant and equipment

Property, plant and equipment are initially recorded at cost of purchase or construction, and include all costs directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management. These include items such as costs of site preparation, installation and assembly costs, and professional fees. The net costs of testing whether the asset is functioning properly, including validation costs, are also included in the initially recorded cost of construction. Interest and other borrowing costs incurred with respect to qualifying assets are capitalised and included in the carrying value of the assets. Property, plant and equipment are depreciated on a straight-line basis, except for land, which is not depreciated. The estimated useful lives of major classes of depreciable assets are as follows:

Land improvements	40 years
Buildings	10–50 years
Machinery and equipment	4–15 years
Diagnostic instruments	3–5 years
Office equipment	3–6 years
Motor vehicles	5–8 years

Where parts of an item of property, plant and equipment have different useful lives, they are accounted for as separate components. The estimated useful lives of the assets are regularly reviewed and, if necessary, the future depreciation charges are accelerated. Repairs and maintenance costs are expensed as incurred.

Leases

Where the Group is the lessee. At inception of a contract the Group assesses whether a contract is, or contains, a lease. A contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration. The Group recognises a right-of-use asset and a corresponding lease liability for each contract that is, or contains, a lease at the lease commencement date, except for short-term leases and leases of low-value assets. Payments for short-term leases and leases of low-value assets are recognised as an expense on a straight-line basis over the term of the respective lease. The lease liability is initially measured at the present value of the future lease payments that are not paid at the lease commencement date. The lease payments are discounted using the interest rate implicit in the lease or, if not readily determinable, the Group's incremental borrowing rate in the respective markets. Lease payments include fixed payments, variable payments that depend on an index or rate known at the lease commencement date and payments from exercising extension or purchase options if the Group is reasonably certain to exercise. The lease liability is subsequently measured at amortised costs using the effective interest method. It is remeasured, with a corresponding adjustment to the related right-of-use asset, when there is a change in future lease payments following a contract renegotiation, a change of an index or rate or a reassessment of options. The right-of-use asset is initially measured at cost, which comprises the initial amount of the lease liability adjusted for any payments made at or before the lease commencement date and which includes any initial direct costs incurred and expected costs of obligations to dismantle, remove or refurbish the underlying asset, less any incentives received. Right-of-use assets are depreciated on a straight-line basis from the lease commencement date over the shorter of the lease term or the useful life of the underlying asset. Right-of-use assets are assessed for impairment whenever there is an indication for impairment.

Where the Group is the lessor. Certain assets, mainly diagnostics instruments, are leased to third-party customers through both finance and operating lease arrangements. Such transactions may be entered into in separate contracts or in combined contracts including reagents and other consumables and services. The treatment of leasing transactions is mainly determined by whether the lease is considered to be an operating or finance lease, which requires judgement. In making this assessment, management looks at the substance of the lease, as well as the legal form, and makes a judgement about whether substantially all of the risks and rewards of ownership are transferred. If this is the case, then the lease is a finance lease. If not, then it is an operating lease. Arrangements which do not take the legal form of a lease but that nevertheless convey the right to use an asset are also covered by such judgemental assessments.

- **Finance leases:** Finance lease assets are reported as receivables at an amount equal to the net investment in the lease. Income from finance leases is recognised as revenue at amounts that represent the stand-alone selling price of the instrument, which approximates the present value of the minimum lease payments under the arrangement. Minimum lease payments exclude any variable lease payments or contingent rent. Finance income for finance lease arrangements longer than twelve months is deferred and subsequently recognised based on a pattern that approximates the use of the effective interest method and recorded in royalty and other operating income.
- **Operating leases:** Income from operating leases is recognised as revenue on a straight-line basis over the lease term at amounts that represent the stand-alone selling price of the instrument, which approximates the present value of the minimum lease payments under the arrangement. Minimum lease payments exclude any variable lease payments or contingent rent. When lease revenue is entirely based on variable lease payments and subject to subsequent reagent sales, it is recognised as the performance obligations for reagents are satisfied.

Sales, net of discounts, are based on estimates regarding the related obligations, including their stand-alone selling prices. It requires judgement to determine when different obligations are satisfied, including whether enforceable purchase commitments for further obligations exist and when they arise.

Mergers and acquisitions

Business combinations. Business combinations are accounted for using the acquisition method of accounting. At the date of the acquisition the Group initially recognises the fair value of the identifiable assets acquired, the liabilities assumed and any non-controlling interest in the acquired business. The consideration transferred is measured at fair value at the date of acquisition. Where the Group does not acquire 100% ownership of the acquired business, non-controlling interests are recorded either at fair value or as the proportion of the fair value of the acquired net assets attributable to the non-controlling interest. Directly attributable acquisition-related costs are expensed as incurred within general and administration expenses.

Asset acquisitions. Asset acquisitions are acquisitions of legal entities that do not qualify as business combinations. At the date of the acquisition the Group initially recognises the individual identifiable assets acquired and liabilities assumed. The cost to the Group at the date of the acquisition is allocated to the individual identifiable assets and liabilities on the basis of their relative fair values at the date of the acquisition. Subsequent consideration for performance-related development milestones is recognised as intangible assets when the specific milestones have been achieved and other recognition criteria are met. Such transactions do not give rise to goodwill. Material directly attributable acquisition-related costs are included in the cost of the acquired assets.

Goodwill

Goodwill arises in a business combination and is the excess of the consideration transferred to acquire the business over the underlying fair value of the net identified assets acquired. Goodwill is not amortised but is tested for impairment at least annually and upon the occurrence of an indication of impairment.

Intangible assets

Purchased patents, licences, trademarks and other intangible assets are initially recorded at cost. Assets that have been acquired through a business combination are initially recorded at fair value. Commercial software development costs are capitalised when certain recognition criteria such as technical feasibility and commercial viability are met. Once available for use, intangible assets are amortised on a straight-line basis over their useful lives. Intangible assets are reviewed for impairment at each reporting date. The estimated useful life is the lower of the legal duration and the economic useful life. The estimated useful lives of intangible assets are regularly reviewed. Estimated useful lives of major classes of amortisable intangible assets are as follows:

Product intangibles in use	up to 20 years
Marketing intangibles in use	up to 15 years
Technology intangibles in use	up to 20 years

Impairment of property, plant and equipment, right-of-use assets and intangible assets

An impairment assessment is carried out when there is evidence that an asset may be impaired. In addition, intangible assets that are not yet available for use are tested for impairment annually. When the recoverable amount of an asset, being the higher of its fair value less costs of disposal and its value in use, is less than its carrying value, then the carrying value is reduced to its recoverable amount. This reduction is reported in the income statement as an impairment loss. Value in use is calculated using estimated cash flows, generally over a five-year period, with extrapolating projections for subsequent years. These are discounted using an appropriate long-term interest rate. When an impairment loss arises, the useful life of the asset is reviewed and, if necessary, the future depreciation/amortisation charge is accelerated. If the amount of impairment loss subsequently decreases and the decrease can be related objectively to an event occurring after the impairment was recognised, then the previously recognised impairment loss is reversed through the income statement as an impairment reversal.

Impairment of goodwill

Goodwill is assessed for impairment at each reporting date and is additionally tested annually for impairment. Goodwill is allocated to cash-generating units and when the recoverable amount of the cash-generating unit, being the higher of its fair value less costs of disposal or its value in use, is less than its carrying value, then the carrying value of the goodwill is reduced to its recoverable amount. This reduction is reported in the income statement as an impairment loss. When an acquired business that is included within a cash-generating unit permanently ceases to operate, then it is treated as a disposal of that business. For separately identifiable goodwill that was generated on the initial acquisition of that business and where all of the factors that made up that goodwill are entirely unrelated to the continuing operations of the cash-generating unit, then the goodwill is deemed to have been disposed of and is fully impaired. As described in Note 9, this also applies if acquired products permanently cease to generate economic benefits or if acquired technologies permanently cease to operate. The impairment testing methodology is further described in Note 9.

Inventories

Inventories are stated at the lower of cost and net realisable value. The cost of finished goods, work in process and intermediates includes raw materials, direct labour and other directly attributable costs and overheads based upon the normal capacity of production facilities. Cost is determined using the weighted average method. Net realisable value is the estimated selling price less cost to completion and selling expenses.

Receivables, including accounts receivable

Receivables are carried at the original invoice amount less allowances made for doubtful accounts, trade discounts, cash discounts, volume rebates and similar allowances. A receivable represents a right to consideration that is unconditional and excludes contract assets. An allowance for doubtful accounts is recorded for expected credit losses over the term of the receivables. These estimates are based on specific indicators, such as the ageing of customer balances, specific credit circumstances and the Group's historical loss rates for each category of customers, and adjusted for forward-looking macroeconomic data. Expenses for doubtful trade receivables are recognised within marketing and distribution expenses. Trade discounts, cash discounts, volume rebates and similar allowances are recorded on an accrual basis consistent with the recognition of the related sales, using estimates based on existing contractual obligations, historical trends and the Group's experience.

Receivables are written off (either partly or in full) when there is no reasonable expectation of recovery. Where receivables have been written off, the Group continues to engage in enforcement activities to attempt to recover the receivable due. Where recoveries are made, these are recognised in profit or loss.

For trade and lease receivables, the Group applies the simplified approach prescribed by IFRS 9, which requires/permits the use of the lifetime expected loss provision from initial recognition of the receivables. The Group measures an allowance for doubtful accounts equal to the credit losses expected over the lifetime of the trade and lease receivables.

Cash and cash equivalents

Cash and cash equivalents include cash on hand and time, call and current balances with banks and similar institutions. Such balances are only reported as cash equivalents if they are readily convertible to known amounts of cash, are subject to insignificant risk of changes in their fair value and have a maturity of three months or less from the date of acquisition.

Provisions and contingencies

Provisions are recognised where a legal or constructive obligation has been incurred which will probably lead to an outflow of resources that can be reliably estimated. In particular, restructuring provisions are recognised when the Group has a detailed formal plan that has either commenced implementation or has been announced. Provisions are recorded for the estimated ultimate liability that is expected to arise and are discounted when the time value of money is material. A contingent liability is disclosed where the existence of the obligation will only be confirmed by future events or where the amount of the obligation cannot be measured with reasonable reliability. Contingent assets are not recognised, but are disclosed where an inflow of economic benefits is probable.

Fair values

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. It is determined by reference to quoted market prices or by the use of established valuation techniques such as option pricing models and the discounted cash flow method if quoted prices in an active market are not available.

Financial instruments

The Group classifies its financial instruments in the following measurement categories which are disclosed in Note 31: amortised cost; fair value through OCI; fair value through OCI – equity investments; or fair value through profit or loss (including hedging instruments).

The classification depends on the Group's business model for managing the financial assets and the contractual terms of the cash flows. The Group reclassifies debt securities and financial assets at amortised cost when and only when its business model for managing those assets changes.

At initial recognition, the Group measures a financial asset at its fair value plus, in the case of a financial asset not at fair value through profit or loss, transaction costs that are directly attributable to the acquisition of the financial asset. Transaction costs of financial assets carried at fair value through profit or loss are expensed in profit or loss.

Amortised cost. Assets that are held for collection of contractual cash flows where those cash flows represent solely payments of principal and interest are measured at amortised cost, less provision for impairment. A gain or loss on a debt security that is subsequently measured at amortised cost and is not part of a hedging relationship is recognised in profit or loss when the asset is derecognised or impaired. Interest income from these financial assets is included in other financial income using the effective interest rate method. Assets at amortised cost are mainly comprised of accounts receivable, cash and cash equivalents and time accounts over three months.

Fair value through other comprehensive income (fair value through OCI). These are financial assets that are held for collection of contractual cash flows and for selling the financial assets, where the assets' cash flows represent solely payments of principal and interest. Those are initially recorded and subsequently carried at fair value. Changes in the fair value are recorded in other comprehensive income, except for the recognition of impairment gains or losses, interest revenue and foreign exchange gains and losses which are recognised in profit or loss. When the financial asset is derecognised, the cumulative gain or loss previously recognised in OCI is reclassified from equity to profit or loss. Interest income from these financial assets is included in other financial income using the effective interest rate method. Fair value through other comprehensive income assets are mainly comprised of money market instruments and debt securities.

Equity investments at fair value through other comprehensive income (fair value through OCI). These are equity investments in private biotechnology companies, which are kept as part of the Group's strategic alliance efforts. These assets are subsequently measured at fair value. Dividends are recognised as other financial income in profit or loss unless the dividend clearly represents a recovery of part of the cost of the investment. Other net gains and losses are recognised in OCI and included in the fair value reserve. When such an asset is derecognised, the cumulative gain or loss previously recognised in OCI is reclassified within equity from the fair value reserve to retained earnings and never to profit or loss.

Fair value through profit or loss. These are financial assets whose performance is evaluated on a fair value basis. A gain or loss on a financial asset that is subsequently measured at fair value through profit or loss and is not part of a hedging relationship is recognised in profit or loss and presented within other financial income (expense) in the period in which it arises. Fair value through profit or loss assets are mainly comprised of equity investments/securities and debt investments. Contingent consideration liabilities are initially recorded and subsequently carried at fair value with changes in fair value recorded in general and administration within the operating results of the income statement.

Fair value through profit or loss – hedging instruments. These are derivative financial instruments that are used to manage the exposures to foreign currency, interest rate, equity market and credit risks. These instruments are initially recorded and subsequently carried at fair value. Apart from those derivatives designated as qualifying cash flow hedging instruments, all changes in fair value are recorded as other financial income (expense).

Other financial liabilities. These are non-derivative financial liabilities. Other financial liabilities are initially recorded at fair value, less transaction costs, and subsequently carried at amortised cost using the effective interest rate method. Other financial liabilities are mainly comprised of debt and trade payables.

Debt. Debt instruments are initially recorded at cost, which is the proceeds received, net of transaction costs. Subsequently they are reported at amortised cost. Any discount between the net proceeds received and the principal value due on redemption is amortised over the duration of the debt instrument and is recognised as part of financing costs using the effective interest rate method.

Derecognition. A financial asset is derecognised when the contractual cash flows from the asset expire or when the Group transfers the rights to receive the contractual cash flows from the financial assets in a transaction in which substantially all the risks and rewards of ownership of the financial asset are transferred. A financial liability is derecognised when the contractual obligations are discharged, cancelled or expire.

Impairment of financial assets

The Group recognises loss allowances for expected credit losses ('ECL') for financial assets measured at amortised cost and debt securities measured at fair value through OCI.

For trade and lease receivables the Group measures the allowance for doubtful accounts at an amount equal to lifetime ECL.

For debt securities carried at fair value through OCI and debt securities and other financial assets at amortised cost, which are determined to have low credit risk based on external credit ratings of the counterparties, the Group measures loss allowances at an amount equal to 12-month ECL. The Group considers debt securities to have low credit risk when their credit risk rating is equivalent to the globally understood definition of 'investment grade'. The Group considers this to be at least Baa3 from Moody's and BBB- from Standard & Poor's. When the credit risk of debt securities carried at fair value through OCI and debt securities and other financial assets at amortised cost has increased significantly since their initial recognition, the Group measures loss allowances at an amount equal to lifetime ECL. The Group assumes that the credit risk of such instruments have increased significantly if they are more than 30 days past due.

Financial assets are written off (either partially or in full) when there is no realistic prospect of recovery. This is generally the case when the Group determines that the customer does not have assets or sources of income that could generate sufficient cash flows to repay the amounts subject to the write-off. However, financial assets that are written off are still subject to enforcement activities in order to comply with the Group's policy for recovery of amounts due.

Hedge accounting

The Group uses derivatives to manage its exposures to foreign currency, interest rate, equity market and credit risks. The instruments used may include interest rate swaps, cross-currency swaps, forwards contracts and options. The Group generally limits the use of hedge accounting to certain significant transactions. To qualify for hedge accounting, the hedging relationship must meet several strict conditions on eligibility of hedging and hedged instruments, formal designation and documentation, as well as hedge effectiveness and reliability of measurement. While many of these transactions can be considered as hedges in economic terms, if the required conditions are not met, then the relationship does not qualify for hedge accounting. In this case the hedging instrument and the hedged item are reported independently as if there were no hedging relationship, which means that any derivatives are reported at fair value, with changes in fair value included in other financial income (expense).

Cash flow hedge. This is a hedge of the exposure to variability in cash flows that is attributable to a particular risk associated with a recognised asset or liability or a highly probable forecasted transaction and could affect profit or loss. The hedging instrument is recorded at fair value. The effective portion of the hedge is included in other comprehensive income and any ineffective portion is reported in other financial income (expense). If the hedging relationship is the hedge of the foreign currency risk of a firm commitment or highly probable forecasted transaction that results in the recognition of a non-financial item, the cumulative changes in the fair value of the hedging instrument that have been recorded in other comprehensive income are included in the initial carrying value of the non-financial item at the date of recognition. For all other cash flow hedges, the cumulative changes in the fair value of the hedging instrument that have been recorded in other comprehensive income are included in other financial income (expense) when the forecasted transaction affects net income.

Fair value hedge. This is a hedge of the exposure to changes in fair value of a recognised asset or liability, or an unrecognised firm commitment, or an identified portion of such an asset, liability or firm commitment, that is attributable to a particular risk and could affect profit or loss. The hedging instrument is recorded at fair value and the hedged item is recorded at its previous carrying value, adjusted for any changes in fair value that are attributable to the hedged risk. Changes in the fair values are reported in other financial income (expense).

Taxation

Income taxes include all taxes based upon the taxable profits of the Group, including withholding taxes payable on the distribution of retained earnings within the Group. Other taxes not based on income, such as property and capital taxes, are included within general and administration expenses.

Liabilities for income taxes, mainly withholding taxes, which could arise on the remittance of retained earnings, principally relating to subsidiaries, are only recognised where it is probable that such earnings will be remitted in the foreseeable future. Where the amount of tax liabilities is uncertain, accruals are recorded within income tax liabilities for management's best estimate of the ultimate liability that is expected to arise based on the specific circumstances and the Group's historical experience.

Deferred tax assets and liabilities are recognised on temporary differences between the tax bases of assets and liabilities and their carrying values. Deferred tax assets are recognised to the extent that it is probable that future taxable profit will be available against which the unused tax losses can be utilised.

Current and deferred tax assets and liabilities are offset when the income taxes are levied by the same taxation authority and when there is a legally enforceable right to offset them. Deferred taxes are determined based on the currently enacted tax rates applicable in each tax jurisdiction where the Group operates.

Own equity instruments

The Group's holdings in its own equity instruments are recorded as a deduction from equity. The original purchase cost, consideration received for subsequent resale of these equity instruments and other movements are reported as changes in equity. These instruments are held for the Group's potential conversion obligations that may arise from the Group's equity compensation plans.

Changes in accounting policies

In 2022 the Group has implemented various minor amendments to existing standards and interpretations, which have no material impact on the Group's overall results and financial position.

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 2023 which the Group has not yet applied. Based on an analysis to date, the Group does not anticipate that these will have a material impact on the Group's overall results and financial position. The Group is also assessing other new and revised standards which are not mandatory until after 2023.

Report of Roche Management on Internal Control over Financial Reporting

Report of Roche Management on Internal Control over Financial Reporting

The Board of Directors and management of Roche Holding Ltd are responsible for establishing and maintaining adequate control over financial reporting. The internal control system was designed to provide reasonable assurance over the reliability of financial reporting and the preparation and fair presentation of consolidated financial statements in accordance with International Financial Reporting Standards.

All internal control systems, no matter how well designed, have inherent limitations. Therefore, even those systems determined to be effective may not prevent or detect misstatements and can provide only reasonable assurance with respect to financial statement preparation and presentation. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions or that the degree of compliance with the policies or procedures may deteriorate.

Management assessed the effectiveness of its system of internal control over financial reporting as of 31 December 2022 based on the criteria for effective internal control over financial reporting described in *Internal Control – Integrated Framework 2013* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on this assessment, management has concluded that the system of internal control over financial reporting was effective as of 31 December 2022.

The Statutory Auditor KPMG AG has audited the consolidated financial statements of Roche Holding Ltd for the year ended 31 December 2022, in accordance with Swiss Auditing Standards and with the International Standards on Auditing (ISA).



Christoph Franz
Chairman of the Board of Directors



Alan Hippe
Chief Financial Officer

Basel, 31 January 2023



Statutory Auditor's Report

To the General Meeting of Roche Holding Ltd, Basel

Report on the Audit of the Consolidated Financial Statements

Opinion

We have audited the consolidated financial statements of Roche Holding Ltd and its subsidiaries (the Group), which comprise the consolidated balance sheet as at 31 December 2022 and the consolidated income statement, consolidated statement of comprehensive income, consolidated statement of changes in equity and consolidated statement of cash flows for the year then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies.

In our opinion, the consolidated financial statements (pages 43–152) give a true and fair view of the consolidated financial position of the Group as at 31 December 2022, and its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with International Financial Reporting Standards (IFRS) and comply with Swiss law.

Basis for Opinion

We conducted our audit in accordance with Swiss law, International Standards on Auditing (ISAs) and Swiss Standards on Auditing (SA-CH). Our responsibilities under those provisions and standards are further described in the 'Auditor's Responsibilities for the Audit of the Consolidated Financial Statements' section of our report. We are independent of the Group in accordance with the provisions of Swiss law, together with the requirements of the Swiss audit profession, as well as the International Ethics Standards Board for Accountants' International Code of Ethics for Professional Accountants (including International Independence Standards) (IESBA Code), and we have fulfilled our other ethical responsibilities in accordance with these requirements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Key Audit Matters



Chargebacks, other rebates and sales returns in the US pharmaceuticals business



Carrying value of product intangible assets not available for use in the Pharmaceuticals Division



Income tax – uncertain tax positions

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the consolidated financial statements of the current period. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.



Chargebacks, other rebates and sales returns in the US pharmaceuticals business

Key Audit Matter

The Group's pharmaceuticals business makes sales to various customers in the US that fall under certain government-mandated and commercial contracts, purchasing and reimbursement arrangements, of which the most significant is the 340B Drug Discount Program. The Group also provides a right of return to its US customers for certain products, with return periods that in some cases extend several years into the future. These arrangements result in deductions to gross amounts invoiced in arriving at sales and create obligations for the Group to provide customers with credits, chargebacks or rebate payments. The estimated amounts are deducted from gross sales and recorded as accrued liabilities (rebates) or allowances for sales returns, or as a deduction from accounts receivable (chargebacks). These estimates are based on analyses of existing contractual or legislatively mandated obligations, recent trends and historical experience.

Management has determined accrued liabilities and deductions to accounts receivable for expected chargebacks and other rebates, predominantly contractual price reductions, of CHF 1,610 million to be necessary at 31 December 2022. Additionally, provisions for sales returns mainly relating to products with loss of exclusivity of CHF 510 million were recorded at 31 December 2022.

We focused on this area because the arrangements are complex and because establishing an appropriate year-end position requires significant judgement and estimation by management. The assumptions required for these estimates are also made more complicated given the recent loss of exclusivity in the US for some of the Group's pharmaceutical products.

For further information on chargebacks, other rebates and sales returns in the US pharmaceuticals business refer to the following:

Page 142 (Note 34 Significant accounting policies), page 49 (Note 1 General accounting principles – Key accounting judgements, estimates and assumptions) and pages 56, 79 and 82–88 (Note 3 Revenue, Note 12 Accounts receivable, Note 19 Other current liabilities and Note 20 Provisions and contingent liabilities).

Our response

Our audit procedures included, amongst others, on a sample basis, obtaining management's calculations for accrued liabilities, provisions and accounts receivable deductions, testing the accuracy of the calculations and assessing the appropriateness of key inputs and assumptions used in the estimates. In performing our assessment, we referenced internal and external sources of information, including the terms of the applicable contracts, US government pricing information, historical rates of chargebacks and other rebates, historical rates of sales returns and consideration of current trends.

We also evaluated the accuracy of management's estimates by comparing rates used in historical estimates to the rates of actual rebate payments and chargebacks. We assessed changes in the accrual rates used within the estimates for 2022 by comparing the accrual rates to current chargeback, other rebate payment and sales return trends.

We also evaluated the appropriateness of the Group's revenue recognition accounting policies, including the recognition and measurement of deductions to gross sales relating to chargebacks, other rebates and sales returns and related disclosures.



Carrying value of product intangible assets not available for use in the Pharmaceuticals Division

Key Audit Matter

Product intangibles not available for use in the Pharmaceuticals Division (CHF 4,610 million) mostly represent in-process research and development assets. These were acquired through business combinations, asset acquisitions or in-licensing arrangements.

Due to the inherent uncertainties in the research and development processes, intangible assets not available for use are particularly at risk of impairment. The impairment assessment requires management to make key assumptions and judgements on the clinical, technical and commercial viability of the new products. Accordingly, we also focused our audit work on these areas. Risks include an inability to achieve successful trial results, obtain required clinical and/or regulatory approvals and a highly competitive business environment in the therapeutic areas where the Group has significant assets in research or development.

Our response

Our audit procedures included, amongst others, challenging the robustness of the key assumptions used to determine the recoverable amounts, including forecast revenues and the discount rate.

Our challenge was based on our understanding of the commercial prospects of the individual products, as well as the relevant business areas and markets in which they operate. We used our valuation specialists to assist us in evaluating the assumptions and methodologies used by management in relation to the discount rate. We assessed the key inputs such as projected pricing and volumes, and the products' projected share of the therapeutic area, by comparing relevant assumptions to industry forecasts and by reviewing analyst commentaries. We compared management's assumptions with external data where it was available. We performed sensitivity analyses over individual intangible asset impairment models to assess the levels of sensitivity to key assumptions so we could focus our work on those areas and assess management's allowance for risk. In addition, we assessed the reasonableness of management's assumptions regarding the probability of obtaining regulatory approval through comparison to industry practice, past history, and consideration of the Group's internal governance and approval processes.

For further information on the carrying value of product intangible assets not available for use in the Pharmaceuticals Division refer to the following:

Page 142 (Note 34 Significant accounting policies), page 49 (Note 1 General accounting principles – Key accounting judgements, estimates and assumptions) and pages 75–78 (Note 10 Intangible assets).



Income tax – uncertain tax positions

Key Audit Matter

The Group operates across a wide range of different tax jurisdictions around the world and thus its tax treatments in tax filings are subject to challenge by local tax authorities in respect of cross-border transfer pricing arrangements for goods and services, financing and transaction-related tax matters in connection with the integration of investments, divestments and licensing contracts. Tax treatments involving uncertainty include agreements and transfer pricing arrangements between affiliates involved in the Group's global manufacturing supply chains.

Where it is not probable that the tax authority will accept a treatment, the tax liability recognised in the financial statements reflects management's best estimate of the outcome based on the facts known in the relevant jurisdiction. The Group has open tax and transfer pricing matters with various tax authorities where the range of possible outcomes is broad. At 31 December 2022, the Group has recognised current income tax liabilities of CHF 3,187 million which includes accruals for uncertain tax positions.

We focused on this area as there is uncertainty regarding the estimates of the amounts of tax receivable or payable, and these therefore require a significant level of expertise and judgement.

For further information on uncertain tax positions refer to the following:

Page 142 (Note 34 Significant accounting policies), page 49 (Note 1 General accounting principles – Key accounting judgements, estimates and assumptions) and pages 61–63 (Note 5 Income taxes).

Our response

Our audit procedures included, amongst others, obtaining an understanding of uncertain tax positions through inquiry of employees of the tax department and management of affiliates. We inspected documentation in relation to tax exposure items including correspondence with tax authorities and reports issued by tax advisors to verify whether uncertain tax positions have been considered and provided for where necessary.

For significant items we challenged and assessed management's judgement regarding the eventual resolution of the uncertainties with the assistance of our local country tax specialists and re-performed the calculation of the estimated exposure, also taking into account statutes of limitations. We inspected third-party transfer pricing studies and evaluated, where applicable, past experience of management's interactions with the tax authorities in the respective jurisdiction. Additionally, we used our own tax specialists' expertise to assess the appropriateness of the key assumptions made by management and to conclude on a best estimate of the outcome.

Our audit approach included additional audit procedures to consider uncertain tax positions arising for the Group in particular with respect to transfer pricing arrangements for goods and services and transaction-related tax matters.



Other Information

The Board of Directors is responsible for the other information. The other information comprises the information included in the finance report and the annual report, but does not include the consolidated financial statements, the stand-alone financial statements of the company, the remuneration report and our auditor's reports thereon.

Our opinion on the consolidated financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the consolidated financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the consolidated financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated.

If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Board of Directors' Responsibilities for the Consolidated Financial Statements

The Board of Directors is responsible for the preparation of the consolidated financial statements that give a true and fair view in accordance with IFRS and the provisions of Swiss law, and for such internal control as the Board of Directors determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, the Board of Directors is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Board of Directors either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Swiss law, ISAs and SA-CH will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with Swiss law, ISAs and SA-CH, we exercise professional judgement and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made.
- Conclude on the appropriateness of the Board of Directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.



- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the Group audit. We remain solely responsible for our audit opinion.

We communicate with the Board of Directors or its relevant committee regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide the Board of Directors or its relevant committee with a statement that we have complied with relevant ethical requirements regarding independence, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, actions taken to eliminate threats or safeguards applied.

From the matters communicated with the Board of Directors or its relevant committee, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report, unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

Report on Other Legal and Regulatory Requirements

In accordance with article 728a para. 1 item 3 CO and PS-CH 890, we confirm that an internal control system exists, which has been designed for the preparation of consolidated financial statements according to the instructions of the Board of Directors.

We recommend that the consolidated financial statements submitted to you be approved.

KPMG AG

A handwritten signature in black ink, appearing to read 'F. Rouiller'.

François Rouiller
Licensed Audit Expert
Auditor in Charge

Basel, 31 January 2023

A handwritten signature in black ink, appearing to read 'Paul Nichols'.

Paul Nichols

Multi-Year Overview and Supplementary Information

Multi-year overview

Statistics, as reported

	2013	2014	2015
Income statement in millions of CHF			
Sales	46,780	47,462	48,145
EBITDA	19,802	19,558	19,479
Operating profit	16,376	14,090	13,821
Net income attributable to Roche shareholders	11,164	9,332	8,863
Research and development	9,270	9,895	9,581
Balance sheet in millions of CHF			
Non-current assets	33,003	44,426	47,581
Current assets	29,164	31,114	28,182
Total assets	62,167	75,540	75,763
Non-current liabilities	(25,166)	(30,874)	(28,695)
Current liabilities	(15,760)	(23,108)	(23,768)
Total liabilities	(40,926)	(53,982)	(52,463)
Net assets	21,241	21,558	23,300
Capital and reserves attributable to Roche shareholders	19,294	19,586	20,979
Equity attributable to non-controlling interests	1,947	1,972	2,321
Additions to property, plant and equipment	2,458	2,905	4,077
Personnel			
Number of employees at end of year	85,080	88,509	91,747
Key ratios			
Net income attributable to Roche shareholders as % of sales	24	20	18
Net income attributable to Roche shareholders as % of equity	58	48	42
Research and development as % of sales	20	21	20
Current ratio %	185	135	119
Equity and non-controlling interests as % of total assets	34	29	31
Human capital return on investment ratio	2.45	2.16	2.06
Data on shares and non-voting equity securities			
Number of shares	160,000,000	160,000,000	160,000,000
Number of non-voting equity securities (<i>Genussscheine</i>)	702,562,700	702,562,700	702,562,700
Total shares and non-voting equity securities	862,562,700	862,562,700	862,562,700
Total dividend in millions of CHF	6,728	6,901	6,987
Earnings per share and non-voting equity security (diluted) in CHF	12.93	10.81	10.28
Dividend per share and non-voting equity security in CHF	7.80	8.00	8.10

Information in this table is stated as reported and changes in accounting policies arising from changes in International Financial Reporting Standards are not applied retrospectively.

2016	2017	2018	2019	2020	2021	2022
50,576	53,299	56,846	61,466	58,323	62,801	63,281
20,483	21,201	22,825	25,419	24,281	24,692	25,015
14,069	13,003	14,769	17,548	18,543	18,155	17,476
9,576	8,633	10,500	13,497	14,295	13,930	12,421
11,532	11,292	12,092	12,774	13,009	14,799	16,023
48,149	45,104	46,273	51,837	53,196	56,690	54,335
28,670	31,572	32,244	31,254	32,942	35,627	33,816
76,819	76,676	78,517	83,091	86,138	92,317	88,151
(27,817)	(25,509)	(25,118)	(23,105)	(20,964)	(25,556)	(28,897)
(22,600)	(22,160)	(23,033)	(24,119)	(25,401)	(38,416)	(27,239)
(50,417)	(47,669)	(48,151)	(47,224)	(46,365)	(63,972)	(56,136)
26,402	29,007	30,366	35,867	39,773	28,345	32,015
23,911	26,441	27,622	32,747	36,341	24,489	27,992
2,491	2,566	2,744	3,120	3,432	3,856	4,023
3,790	3,477	3,796	3,479	3,693	3,826	3,402
94,052	93,734	94,442	97,735	101,465	100,920	103,613
19	16	19	22	25	22	20
40	33	38	41	39	57	44
23	21	21	21	22	24	25
127	142	140	130	130	93	124
34	38	39	43	46	31	36
2.06	1.89	1.96	2.07	2.18	2.08	2.08
160,000,000	160,000,000	160,000,000	160,000,000	160,000,000	160,000,000	106,691,000
702,562,700	702,562,700	702,562,700	702,562,700	702,562,700	702,562,700	702,562,700
862,562,700	862,562,700	862,562,700	862,562,700	862,562,700	862,562,700	809,253,700
7,073	7,159	7,504	7,763	7,849	7,526	7,688 ^{a)}
11.13	10.04	12.21	15.62	16.52	16.20	15.37
8.20	8.30	8.70	9.00	9.10	9.30	9.50 ^{a)}

a) 2022 dividend proposed by the Board of Directors.

Sales by division in millions of CHF

	2018	2019	2020	2021	2022
Pharmaceuticals	43,967	48,516	44,532	45,041	45,551
Diagnostics	12,879	12,950	13,791	17,760	17,730
Total	56,846	61,466	58,323	62,801	63,281

Sales by geographical area in millions of CHF

	2018	2019	2020	2021	2022
Switzerland	627	590	670	731	683
Germany	3,147	3,050	3,323	4,292	3,295
Rest of Europe	9,828	9,654	9,780	11,375	10,326
Europe	13,602	13,294	13,773	16,398	14,304
United States	26,105	29,724	27,187	26,519	27,939
Rest of North America	931	985	882	915	1,101
North America	27,036	30,709	28,069	27,434	29,040
Latin America	2,870	2,858	2,393	2,746	2,870
Japan	4,175	4,545	4,156	4,999	5,695
Rest of Asia	7,689	8,701	8,614	9,749	9,852
Asia	11,864	13,246	12,770	14,748	15,547
Africa, Australia and Oceania	1,474	1,359	1,318	1,475	1,520
Total	56,846	61,466	58,323	62,801	63,281

Additions to property, plant and equipment by division in millions of CHF

	2018	2019	2020	2021	2022
Pharmaceuticals	2,340	1,864	2,141	2,134	1,694
Diagnostics	1,376	1,552	1,502	1,628	1,622
Corporate	80	63	50	64	86
Total	3,796	3,479	3,693	3,826	3,402

Additions to property, plant and equipment by geographical area in millions of CHF

	2018	2019	2020	2021	2022
Switzerland	858	754	754	857	639
Germany	543	459	515	635	668
Rest of Europe	329	339	345	344	278
Europe	1,730	1,552	1,614	1,836	1,585
United States	900	900	987	925	881
Rest of North America	4	3	2	2	3
North America	904	903	989	927	884
Latin America	113	120	106	116	138
Japan	647	502	668	609	456
Rest of Asia	371	367	291	293	299
Asia	1,018	869	959	902	755
Africa, Australia and Oceania	31	35	25	45	40
Total	3,796	3,479	3,693	3,826	3,402

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 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 year 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 10), with the exception of commercial software intangible assets, and impairment of goodwill (see Note 9) are excluded.
- Acquisition accounting and other impacts from the accounting for mergers and acquisitions (M&A) and alliance transactions (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 (see Note 26) 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 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 – 2022 in millions of CHF

	IFRS	Global restruc- turing	Intan- gibles amorti- sation	Intan- gibles impair- ment	M&A and alliance trans- actions	Legal and environ- mental	Pension plan settle- ments	Global issues	Normali- sation of ECP tax benefit	Core
Sales	63,281	–	–	–	–	–	–	–	–	63,281
Royalties and other operating income	3,145	0	–	–	–	–	–	–	–	3,145
Cost of sales	(20,397)	295	555	1,472	0	–	–	–	–	(18,075)
Marketing and distribution	(9,639)	59	34	0	–	–	–	–	–	(9,546)
Research and development	(16,023)	261	344	1,365	–	–	–	–	–	(14,053)
General and administration	(2,891)	354	–	0	(20)	(22)	0	–	–	(2,579)
Operating profit	17,476	969	933	2,837	(20)	(22)	0	–	–	22,173
Financing costs	(665)	0	–	–	(1)	(20)	–	–	–	(686)
Other financial income (expense)	(484)	–	–	–	(44)	–	–	–	–	(528)
Profit before taxes	16,327	969	933	2,837	(65)	(42)	0	–	–	20,959
Income taxes	(2,796)	(193)	(80)	(435)	(1)	8	0	0	68	(3,429)
Net income	13,531	776	853	2,402	(66)	(34)	0	0	68	17,530
Attributable to										
– Roche shareholders	12,421	761	849	2,402	(66)	(34)	0	0	68	16,401
– Non-controlling interests	1,110	15	4	0	–	0	0	0	–	1,129

Core results reconciliation – 2021 in millions of CHF

	IFRS	Global restruc- turing	Intan- gibles amorti- sation	Intan- gibles impair- ment	M&A and alliance trans- actions	Legal and environ- mental	Pension plan settle- ments	Global issues	Normali- sation of ECP tax benefit	Core
Sales	62,801	–	–	–	–	–	–	–	–	62,801
Royalties and other operating income	3,049	0	–	–	–	–	–	–	–	3,049
Cost of sales	(19,647)	192	1,205	101	11	–	–	–	–	(18,138)
Marketing and distribution	(9,920)	424	37	15	–	–	–	–	–	(9,444)
Research and development	(14,799)	242	314	535	–	–	–	–	–	(13,708)
General and administration	(3,329)	504	–	0	44	118	0	–	–	(2,663)
Operating profit	18,155	1,362	1,556	651	55	118	0	–	–	21,897
Financing costs	(418)	0	–	–	2	4	–	–	–	(412)
Other financial income (expense)	(339)	–	–	–	0	–	–	–	–	(339)
Profit before taxes	17,398	1,362	1,556	651	57	122	0	–	–	21,146
Income taxes	(2,463)	(267)	(205)	(111)	(10)	(15)	0	0	(4)	(3,075)
Net income	14,935	1,095	1,351	540	47	107	0	0	(4)	18,071
Attributable to										
– Roche shareholders	13,930	1,081	1,343	534	47	107	0	0	(4)	17,038
– Non-controlling interests	1,005	14	8	6	–	0	0	0	–	1,033

Divisional core results reconciliation – 2022 in millions of CHF

	IFRS	Global restructuring	Intan-gibles amorti-sation	Intan-gibles impair-ment	M&A and alliance trans-actions	Legal and environ-mental	Pension plan settle-ments	Core
Pharmaceuticals								
Sales	45,551	-	-	-	-	-	-	45,551
Royalties and other operating income	3,077	0	-	-	-	-	-	3,077
Cost of sales	(11,397)	251	412	1,472	0	-	-	(9,262)
Marketing and distribution	(6,725)	55	13	0	-	-	-	(6,657)
Research and development	(14,060)	263	336	1,365	-	-	-	(12,096)
General and administration	(1,632)	213	-	0	(6)	(16)	0	(1,441)
Operating profit	14,814	782	761	2,837	(6)	(16)	0	19,172
Diagnostics								
Sales	17,730	-	-	-	-	-	-	17,730
Royalties and other operating income	68	0	-	-	-	-	-	68
Cost of sales	(9,000)	44	143	0	0	-	-	(8,813)
Marketing and distribution	(2,914)	4	21	0	-	-	-	(2,889)
Research and development	(1,963)	(2)	8	0	-	-	-	(1,957)
General and administration	(597)	30	-	0	(14)	(2)	0	(583)
Operating profit	3,324	76	172	0	(14)	(2)	0	3,556
Corporate								
General and administration	(662)	111	-	-	0	(4)	0	(555)
Operating profit	(662)	111	-	-	0	(4)	0	(555)

Divisional core results reconciliation – 2021 in millions of CHF

	IFRS	Global restructuring	Intan-gibles amorti-sation	Intan-gibles impair-ment	M&A and alliance trans-actions	Legal and environ-mental	Pension plan settle-ments	Core
Pharmaceuticals								
Sales	45,041	-	-	-	-	-	-	45,041
Royalties and other operating income	2,969	0	-	-	-	-	-	2,969
Cost of sales	(10,634)	1	1,083	101	0	-	-	(9,449)
Marketing and distribution	(6,874)	324	18	15	-	-	-	(6,517)
Research and development	(12,993)	209	297	535	-	-	-	(11,952)
General and administration	(1,979)	326	-	0	23	86	0	(1,544)
Operating profit	15,530	860	1,398	651	23	86	0	18,548
Diagnostics								
Sales	17,760	-	-	-	-	-	-	17,760
Royalties and other operating income	80	0	-	-	-	-	-	80
Cost of sales	(9,013)	191	122	0	11	-	-	(8,689)
Marketing and distribution	(3,046)	100	19	0	-	-	-	(2,927)
Research and development	(1,806)	33	17	0	-	-	-	(1,756)
General and administration	(656)	63	-	0	21	29	0	(543)
Operating profit	3,319	387	158	0	32	29	0	3,925
Corporate								
General and administration	(694)	115	-	-	0	3	0	(576)
Operating profit	(694)	115	-	-	0	3	0	(576)

Core EPS (basic)

	2022	2021
Core net income attributable to Roche shareholders (CHF millions)	16,401	17,038
Weighted average number of outstanding shares and non-voting equity securities used to calculate basic earnings per share (millions) ²⁹	800	850
Core earnings per share (basic) (CHF)	20.49	20.04

Core EPS (diluted)

	2022	2021
Core net income attributable to Roche shareholders (CHF millions)	16,401	17,038
Increase in non-controlling interests' share of core net income, assuming all outstanding Chugai stock options exercised (CHF millions)	(1)	(1)
Net income used to calculate diluted earnings per share (CHF millions)	16,400	17,037
Weighted average number of outstanding shares and non-voting equity securities used to calculate diluted earnings per share (millions)²⁹	808	860
Core earnings per share (diluted) (CHF)	20.30	19.81

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 non-cash items, movements in net working capital and capital expenditures (investments in property, plant and equipment and intangible assets as well as the principal portion of lease liabilities paid for leased 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 are within the responsibility of divisional management) and excludes income taxes paid (which are 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

	2022	2021
Cash flows from operating activities (IFRS basis in accordance with IAS 7)	18,415	20,976
Add back		
– Income taxes paid	4,102	3,343
Deduct		
– Investments in property, plant and equipment	(3,449)	(3,693)
– Principal portion of lease liabilities paid	(405)	(382)
– Investments in intangible assets	(1,103)	(856)
– Disposal of property, plant and equipment	82	61
– Disposal of intangible assets	0	0
Pensions and other post-employment benefits		
– Add back total payments for defined benefit plans	655	619
– Deduct allocation of payments to operating free cash flow	(630)	(708)
Acquisition-related items, including transaction costs	6	53
Other operating items	0	(2)
Operating free cash flow	17,673	19,411

Free cash flow reconciliation in millions of CHF

	2022	2021
Cash flows from operating activities (IFRS basis in accordance with IAS 7)	18,415	20,976
Deduct		
– Investments in property, plant and equipment	(3,449)	(3,693)
– Principal portion of lease liabilities paid	(405)	(382)
– Investments in intangible assets	(1,103)	(856)
– Disposal of property, plant and equipment	82	61
– Disposal of intangible assets	0	0
– Interest paid	(557)	(405)
Other operating items, including acquisition-related items	6	51
Other treasury items	52	(61)
Free cash flow	13,041	15,691

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

	Pharmaceuticals		Diagnostics		Corporate		Group
	2022	2021	2022	2021	2022	2021	2021
Depreciation, amortisation and impairment							
Depreciation of property, plant and equipment	1,381	1,278	1,128	1,188	56	58	2,524
Depreciation of right-of-use assets	211	234	117	117	13	12	363
Amortisation of intangible assets	764	1,398	174	158	–	–	1,556
Impairment (reversal) of property, plant and equipment	108	(108)	15	105	0	0	(3)
Impairment (reversal) of right-of-use assets	5	5	0	0	0	0	5
Impairment of goodwill	0	0	0	0	–	–	0
Impairment of intangible assets	2,837	651	0	0	–	–	651
Total	5,306	3,458	1,434	1,568	69	70	5,096
Other adjustments							
Add back							
– Expenses for equity-settled equity compensation plans	571	513	106	98	61	52	663
– Net (income) expense for provisions	495	1,380	19	456	0	28	1,864
– Net (gain) loss from disposals	(606)	(486)	11	13	(9)	(1)	(474)
– Non-cash working capital and other items	138	281	331	315	0	2	598
Deduct							
– Utilisation of provisions	(743)	(719)	(244)	(331)	(61)	(73)	(1,123)
– Proceeds from disposals	618	513	49	43	27	1	557
Total	473	1,482	272	594	18	9	2,085
Operating profit cash adjustments	5,779	4,940	1,706	2,162	87	79	7,181

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. Operating free cash flow also includes the cash used for investments in property, plant and equipment, leased assets and intangible assets, whereas EBITDA excludes all costs and cash outflows for these items.

For the convenience of those readers who 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

	Pharmaceuticals		Diagnostics		Corporate		Group
	2022	2021	2022	2021	2022	2021	2021
EBITDA							
Core operating profit	19,172	18,548	3,556	3,925	(555)	(576)	21,897
Depreciation and impairment of property, plant and equipment – Core basis	1,310	1,109	1,130	1,268	56	58	2,435
Depreciation and impairment of right-of-use assets – Core basis	211	231	117	117	13	12	360
Amortisation and impairment of commercial software intangible assets – Core basis	3	0	2	0	–	–	0
EBITDA	20,696	19,888	4,805	5,310	(486)	(506)	24,692
– Margin, % of sales	45.4	44.2	27.1	29.9	–	–	39.3

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, leased assets ('right-of-use assets'), 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 of the Annual Financial Statements is shown in the tables below.

Net operating assets reconciliation – 2022 in millions of CHF

	Pharmaceuticals	Diagnostics	Corporate	Treasury and taxation	Group
Property, plant and equipment	15,788	7,016	271	–	23,075
Right-of-use assets	845	239	49	–	1,133
Goodwill	5,810	5,010	–	–	10,820
Intangible assets	7,866	1,819	–	–	9,685
Inventories	5,259	3,346	–	–	8,605
Provisions	(2,392)	(832)	(135)	–	(3,359)
Current income tax net liabilities	–	–	–	(2,874)	(2,874)
Deferred tax net assets	–	–	–	5,782	5,782
Defined benefit plan net liabilities	–	–	–	(3,604)	(3,604)
Lease liabilities	–	–	–	(1,193)	(1,193)
Marketable securities	–	–	–	4,776	4,776
Cash and cash equivalents	–	–	–	4,991	4,991
Debt	–	–	–	(25,351)	(25,351)
Other net assets (liabilities)					
– Net working capital	(1,468)	(78)	(337)	–	(1,883)
– Other long-term net operating assets	848	(2)	(3)	–	843
– Other	–	–	–	569	569
Total net assets	32,556	16,518	(155)	(16,904)	32,015

Net operating assets reconciliation – 2021 in millions of CHF

	Pharmaceuticals	Diagnostics	Corporate	Treasury and taxation	Group
Property, plant and equipment	16,055	6,852	256	–	23,163
Right-of-use assets	916	273	60	–	1,249
Goodwill	5,775	5,034	–	–	10,809
Intangible assets	10,212	1,905	–	–	12,117
Inventories	4,728	2,987	–	–	7,715
Provisions	(2,704)	(1,062)	(202)	–	(3,968)
Current income tax net liabilities	–	–	–	(2,682)	(2,682)
Deferred tax net assets	–	–	–	4,955	4,955
Defined benefit plan net liabilities	–	–	–	(4,605)	(4,605)
Lease liabilities	–	–	–	(1,354)	(1,354)
Marketable securities	–	–	–	6,181	6,181
Cash and cash equivalents	–	–	–	6,850	6,850
Debt	–	–	–	(31,198)	(31,198)
Other net assets (liabilities)					
– Net working capital	(2,323)	43	(314)	–	(2,594)
– Other long-term net operating assets	756	28	2	–	786
– Other	–	–	–	921	921
Total net assets	33,415	16,060	(198)	(20,932)	28,345

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 long-term and short-term debt less marketable securities, cash and cash equivalents.

Net debt calculations, including details of movements during the current year, are shown in the table on page 35 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 22 (Pharmaceuticals Division), page 28 (Diagnostics Division) and page 30 (Corporate) in the Financial Review.

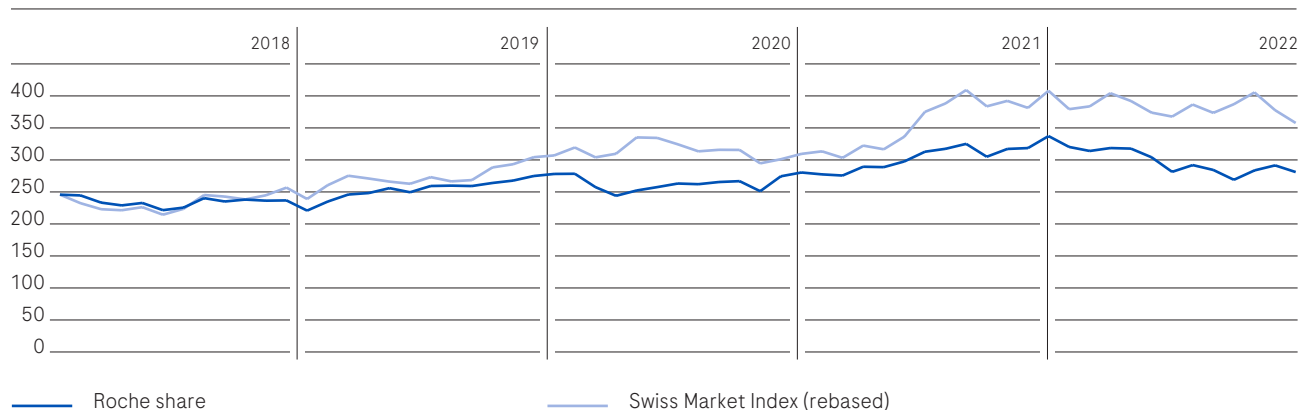
Constant exchange rates

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 2022 line item and its 2021 equivalent is calculated using the average exchange rate for the year ended 31 December 2021 for both the 2022 line item and the 2021 line item and subsequently calculating the change in percent with respect to the two recalculated numbers.

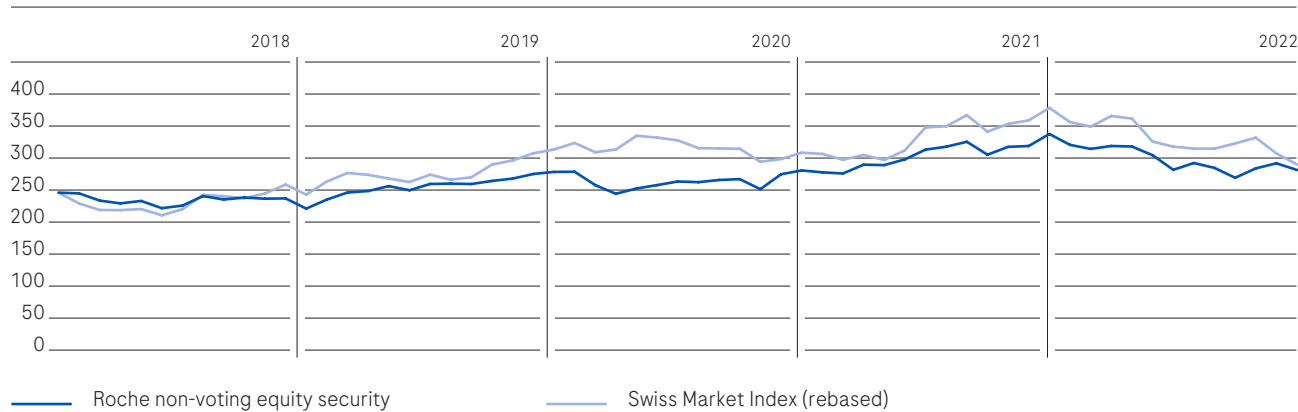
Foreign exchange gains and losses and the gains (losses) on the net monetary positions in hyperinflationary economies are excluded from the calculation of CER growth rates in the earnings per share disclosures. In countries where there is a significant devaluation in the local currency in the current year, the simulations use the average exchange rate of the current year instead of the prior year to avoid that CER growth rates are artificially inflated.

Roche Securities

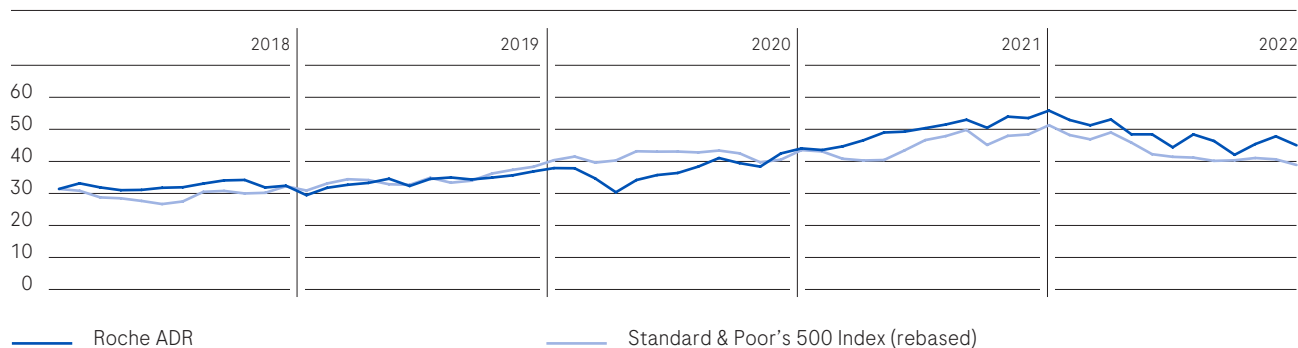
Price development of share in CHF



Price development of non-voting equity security (*Genussschein*) in CHF



Price development of American Depositary Receipt (ADR) in USD



Eight Roche American Depositary Receipts (ADRs) are equivalent to one non-voting equity security (*Genussschein*). ADRs have been traded in the US over-the-counter market since July 1992.

Number of shares and non-voting equity securities^{a)}

	2018	2019	2020	2021	2022
Number of shares (nominal value: CHF 1.00)	160,000,000	160,000,000	160,000,000	160,000,000	106,691,000
Number of non-voting equity securities (<i>Genussscheine</i>) (no nominal value)	702,562,700	702,562,700	702,562,700	702,562,700	702,562,700
Total issued	862,562,700	862,562,700	862,562,700	862,562,700	809,253,700
Number of own shares and non-voting equity securities (<i>Genussscheine</i>) held	(8,134,699)	(6,806,245)	(9,436,750)	(62,159,409)	(10,073,029)
Total outstanding	854,428,001	855,756,455	853,125,950	800,403,291	799,180,671

Following the closing of the share repurchase transaction on 6 December 2021, the number of own shares and non-voting equity securities (*Genussscheine*) held by the Roche Group at 31 December 2021 as summarised in the table above included 53,309,000 bearer shares which were cancelled in February 2022. Further details can be found in Note 22 of the Roche Group Consolidated Financial Statements.

Data per share and non-voting equity security in CHF

	2018	2019	2020	2021	2022
Earnings (basic)	12.29	15.77	16.73	16.38	15.52
Earnings (diluted)	12.21	15.62	16.52	16.20	15.37
Core earnings (basic)	18.25	20.35	19.40	20.04	20.49
Core earnings (diluted)	18.14	20.16	19.16	19.81	20.30
Equity attributable to Roche shareholders	32.33	38.27	42.60	30.60	35.03
Dividend	8.70	9.00	9.10	9.30	9.50 ^{c)}
Stock price of share ^{b)}					
Opening	246.20	239.40	307.60	310.00	408.80
High	258.00	312.20	352.20	420.00	433.00
Low	211.60	239.40	267.40	303.80	343.00
Year-end	239.40	307.60	310.00	408.80	358.40
Stock price of non-voting equity security (<i>Genussschein</i>) ^{b)}					
Opening	246.50	243.40	314.00	309.00	379.10
High	259.50	317.25	354.05	383.60	400.55
Low	207.70	243.40	274.45	297.05	290.50
Year-end	243.40	314.00	309.00	379.10	290.50

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.

c) 2022 dividend proposed by the Board of Directors.

Market capitalisation in millions of CHF

	2018	2019	2020	2021	2022
Year-end	207,328	267,684	263,776	306,601	239,405

Key ratios (year-end)

	2018	2019	2020	2021	2022
Dividend yield of shares in %	3.6	2.9	2.9	2.3	2.7
Dividend yield of non-voting equity securities (<i>Genussscheine</i>) in %	3.6	2.9	2.9	2.5	3.3
Price/earnings of shares	20	20	19	25	23
Price/earnings of non-voting equity securities (<i>Genussscheine</i>)	20	20	19	23	19

Stock codes

	Share	Non-voting equity security	American Depositary Receipt (ADR)
SIX Swiss Exchange	RO	ROG	–
Bloomberg	RO SW	ROG VX	RHHBY US
Reuters	RO.S	ROG.VX	RHHBY.PK

Roche Holding Ltd, Basel

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Financial Statements

Balance sheet in millions of CHF

	31 December 2022	31 December 2021
Current assets		
Cash and cash equivalents	681	1,498
Marketable securities	133	1,110
Accounts receivable from Group companies	5,300	3,694
Short-term loans to Group companies	0	1,400
Accrued dividends receivable from subsidiaries	0	2,800
Other short-term receivables	1	2
Total current assets	6,115	10,504
Non-current assets		
Long-term loans to Group companies	0	3,054
Investments	9,088	8,869
Total non-current assets	9,088	11,923
Total assets	15,203	22,427
Short-term liabilities		
Accounts payable to Group companies	3	8
Interest-bearing liabilities to banks	0	13,486
Interest-bearing liabilities to Group companies	2,547	0
Other short-term liabilities	59	10
Provisions	0	18
Total short-term liabilities	2,609	13,522
Long-term liabilities		
Provisions	35	35
Total long-term liabilities	35	35
Total liabilities	2,644	13,557
Shareholders' equity		
Share capital	107	160
Non-voting equity securities (<i>Genussscheine</i>)	p. m.	p. m.
Legal retained earnings:		
– General legal retained earnings	300	300
Voluntary reserves and retained earnings:		
– Free reserve	0	6,000
– Special reserve	0	2,152
– Available earnings		
– Balance brought forward from previous year	937	1,165
– Net income for the year	11,215	18,087
Own equity instruments	0	(18,994)
Total shareholders' equity	12,559	8,870
Total shareholders' equity and liabilities	15,203	22,427

p.m. = pro memoria. Non-voting equity securities (*Genussscheine*) have no nominal value.

Income statement in millions of CHF

	Year ended 31 December	
	2022	2021
Income		
Income from investments (dividend income)	10,682	18,115
Other financial income		
– Interest income from loans to Group companies	24	30
– Income from marketable securities and other	83	33
Guarantee fee income from Group companies	67	49
Other income	558	0
Total income	11,414	18,227
Expenses		
Administration expenses	(49)	(44)
Other expenses	(71)	(14)
Financial expenses	(16)	(75)
Direct taxes	(63)	(7)
Total expenses	(199)	(140)
Net income	11,215	18,087

Notes to the Financial Statements

1. Summary of significant accounting policies

Basis of preparation

The financial statements of Roche Holding Ltd, Basel, (the 'Company') have been prepared in accordance with the provisions of Swiss Law on Accounting and Financial Reporting (32nd title of the Swiss Code of Obligations, 'CO'). Where not prescribed by law, the significant accounting principles applied are described below.

The Company has prepared its consolidated financial statements in accordance with a recognised accounting standard (International Financial Reporting Standards). In accordance with the CO, the Company decided to forgo presenting additional information on audit fees in the notes as well as a cash flow statement.

Valuation methods and translation of foreign currencies

Marketable securities are reported at the lower of cost or market value. All other financial assets, including investments, are reported at cost less appropriate write-downs. Own equity instruments are recognised at cost and deducted from equity at the time of purchase. If the own equity instruments are sold, the gain or loss is recognised through the income statement. Assets and liabilities denominated in foreign currencies are translated into Swiss francs using year-end rates of exchange, except investments which are translated at historical rates. Transactions during the year which are denominated in foreign currencies are translated at the exchange rates effective at the relevant transaction dates. Resulting exchange gains and losses are recognised in the income statement with the exception of unrealised gains which are deferred.

Investments

The direct and indirect investments of the Company into subsidiaries are listed in Note 33 to the Roche Group Annual Financial Statements. This listing excludes Chugai's subsidiaries as well as companies that are not material, notably companies that are inactive, dormant or in liquidation. Ownership interests equal voting rights.

Own equity instruments, including treasury shares

Own equity instruments, including treasury shares, are recognised at the purchase price and deducted from shareholders' equity at the time of the purchase. In case of a resale, the gain or loss is recognised through other financial income or financial expenses. Upon cancellation of bearer shares repurchased, such shares are derecognised with a corresponding decrease of share capital for the nominal value of the cancelled shares and of voluntary reserves and retained earnings for any exceeding amount. No dividend distributions are made for own equity instruments held by the Company, including treasury shares.

Income from investments (dividend income)

Dividend income from distributions from subsidiaries are accrued for in the financial statements of the Company provided that the annual general meetings of the subsidiaries approve the distribution of the dividend prior to the approval of the Annual Financial Statements of Roche Holding Ltd by its Board of Directors. In 2021 income from investments included a dividend income of CHF 2.8 billion declared by one subsidiary for the 2021 business year as approved by its annual general meeting in January 2022. This was accrued for at 31 December 2021 and was included in 'Accrued dividends receivable from subsidiaries'.

Taxes

Direct taxes include corporate income and capital taxes.

Other income

In 2022 other income related to a reversal of an allowance for a loan receivable and previously recorded impairments for investments. This other income included CHF 289 million from a release of hidden reserves which had already been taxed in prior years.

Other expenses

In 2022 other expenses mainly consisted of an impairment for an investment due to a dividend payment.

2. Shareholders' equity

Share repurchase and share capital reduction

On 26 November 2021, an Extraordinary General Meeting of the Company's shareholders approved a share capital reduction by CHF 53.3 million from CHF 160.0 million to CHF 106.7 million through the cancellation of all such shares to be repurchased from Novartis. On 6 December 2021, the Company repurchased 53,309,000 bearer shares, with a nominal value of CHF 1.00 each, held by Novartis for a total consideration of CHF 19.0 billion. At 31 December 2021, the repurchased shares were reported as treasury shares at the repurchase price, excluding transaction costs. These shares were cancelled in February 2022 when the necessary legal procedures had been completed. Upon cancellation of these shares, the Company's share capital decreased by CHF 53.3 million from CHF 160.0 million to CHF 106.7 million. The reduction in the share capital became effective at the beginning of February 2022, with the entry of the share capital reduction in the commercial register of the Canton of Basel-Stadt on 3 February 2022 and the publication of the share capital reduction in the Swiss Official Gazette of Commerce on 8 February 2022. The CHF 19.0 billion bridge loan facility drawn in December 2021 to finance the share repurchase was fully repaid by May 2022. At 31 December 2021 the amount of the bridge loan facility outstanding was CHF 13.5 billion.

Share capital

Following the share capital reduction described above, at 31 December 2022 share capital amounted to CHF 106.7 million. The share capital consists of 106,691,000 bearer shares with a nominal value of CHF 1.00 each (31 December 2021: 160,000,000 bearer shares). Included in equity are 702,562,700 non-voting equity securities (*Genussscheine*). They are not part of the share capital and confer no voting rights. However, each non-voting equity security confers the same rights as any of the shares to participate in the available earnings and in any remaining proceeds from liquidation following repayment of the nominal value of the share capital and, if any, participation certificates.

Own equity instruments, including treasury shares

At 31 December 2021 the Company held 53,309,000 bearer shares as treasury shares which had been repurchased for a total consideration of CHF 19.0 billion. The repurchase price, excluding transaction costs, was deducted from shareholders' equity. During 2022 the Company neither purchased nor sold bearer shares (2021: no sales of bearer shares). As described above, all the 53,309,000 bearer shares held as treasury shares were cancelled in February 2022 when the necessary legal procedures had been completed.

At 31 December 2022 the Company did not hold any non-voting equity securities (2021: none). During 2022 and 2021 the Company neither purchased nor sold non-voting equity securities.

Article 659b of the revised Swiss Code of Obligations (CO) effective as of 1 January 2023 requires the creation of an additional legal reserve for own equity instruments held by subsidiaries over which the Company as parent company of the Roche Group has control, including foundations as included in the IFRS consolidation scope which did not qualify as subsidiaries under Article 659b CO effective on 31 December 2022. At 31 December 2022 such foundations held 19,811 bearer shares and 10,053,218 non-voting equity securities at cost of CHF 3,322 million. In accordance with Article 659b of the revised CO the Company will record a legal reserve for own equity instruments of CHF 3,322 million in January 2023, which will be included within legal retained earnings.

Movement in recognised amounts in millions of CHF

	Share capital	Legal retained earnings	Voluntary reserves and retained earnings			Own equity instruments	Total equity
			Free reserve	Special reserve	Available earnings		
As at 1 January 2020	160	300	6,000	2,152	8,905	0	17,517
Net income	-	-	-	-	7,872	-	7,872
Dividends	-	-	-	-	(7,763)	-	(7,763)
Transactions in own equity instruments	-	-	-	-	-	0	0
As at 31 December 2020	160	300	6,000	2,152	9,014	0	17,626
Net income	-	-	-	-	18,087	-	18,087
Dividends	-	-	-	-	(7,849)	-	(7,849)
Transactions in own equity instruments	-	-	-	-	-	0	0
Share repurchase	-	-	-	-	-	(18,994)	(18,994)
As at 31 December 2021	160	300	6,000	2,152	19,252	(18,994)	8,870
Net income	-	-	-	-	11,215	-	11,215
Dividends	-	-	-	-	(7,526)	-	(7,526)
Release of free reserve and special reserve	-	-	(6,000)	(2,152)	8,152	-	0
Share capital reduction	(53)	-	-	-	(18,941)	18,994	0
Transactions in own equity instruments	-	-	-	-	-	0	0
As at 31 December 2022	107	300	0	0	12,152	0	12,559

3. Contingent liabilities

Guarantees

The Company has issued guarantees for certain bonds and notes, commercial paper notes and credit facilities of Group companies. The nominal amount outstanding at 31 December 2022 was CHF 24.9 billion (2021: CHF 16.9 billion). These are described in Note 21 to the Roche Group Annual Financial Statements.

4. Significant shareholders

All shares in the Company are bearer shares, and for this reason the Company does not keep a register of shareholders. The following figures are based on information received from shareholders, the exercise of voting rights at the Annual General Meeting of 15 March 2022 and on other information available to the Company.

Controlling shareholders

At 31 December 2022, based on information supplied to the Group, a shareholder group with pooled voting rights owned 72,018,000 shares representing 67.50% of the issued shares (31 December 2021: 72,018,000 shares representing 45.01% of the issued shares and, excluding the treasury shares held by the Company that were cancelled in February 2022, 67.50% of the voting power, see Note 2). These figures do not include any shares without pooled voting rights that are held outside this group by individual members of the group. On 5 December 2019 the shareholder group announced that it would continue the shareholder pooling agreement with a modified shareholder composition. This group consists now of Mr André Hoffmann, Ms Marie-Anne Hoffmann, Ms Vera Michalski, Mr Alexander Hoffmann, Mr Frederic Hoffmann, Ms Isabel Hoffmann, Mr Lucas Hoffmann, Ms Marina Hoffmann, Ms Kasia Barbotin-Larrieu, Ms Tatiana Fabre, Mr Andreas Oeri, Ms Catherine Oeri, Ms Sabine Duschmalé, Mr Jörg Duschmalé, Mr Lukas Duschmalé, the charitable Foundation Wolf and Artuma Holding Ltd. The shareholder pooling agreement has existed since 1948. The duration of the pool was extended for an indefinite period in 2009. At 31 December 2022, based on information supplied to the Group, Ms Maja Oeri, formerly a member of the pool, held 8,091,900 shares independently of the pool, representing 7.58% of the issued shares (31 December 2021: 8,091,900 shares representing 5.057% of the issued shares and, excluding the treasury shares held by the Company that were cancelled in February 2022, 7.58% of the voting power).

5. Full-time equivalent employees

The annual average number of full-time equivalent employees for 2022 and 2021 did not exceed ten people.

6. Board and Executive shareholdings

Board of Directors

Directors Mr André Hoffmann and Dr Jörg Duschmalé and certain other members of the founder's families who are closely associated with them belong to a shareholder group with pooled voting rights. At the end of 2022 and 2021 this shareholder group held 72,018,000 shares. Detailed information about this group is given in Note 4. In addition, at the end of the year the members of the Board of Directors and persons closely associated with them held shares and non-voting equity securities (*Genussscheine*) as shown in the table below.

Shareholdings of members of the Board of Directors

	2022	Shares 2021	Non-voting equity securities (<i>Genussscheine</i>)		Other
			2022	2021	
C. Franz	32,155	27,951	4,810	4,810	
A. Hoffmann	0 ^{a)}	0 ^{a)}	200	200	
J. Brown	n/a	1,000	n/a	0	
P. Bulcke	n/a	0	n/a	4,000	
H. Clevers	n/a	0	n/a	750	
J. Duschmalé	0 ^{a)}	0 ^{a)}	0	0	
P. Frost	2,000	2,000	0	0	
A. Hauser	3,000	3,000	150	150	d)
R. P. Lifton	0	0	0	0	e)
J. Mahmood	0	n/a	0	n/a	
B. Poussot	500	500	500	500	
S. Schwan	–	–	–	–	b)
C. Suessmuth Dyckerhoff	0	0	2,710 ^{c)}	2,100 ^{c)}	
Total	37,655	34,451	8,370	12,510	

a) Does not include shares held in the shareholder group with pooled voting rights.

b) As a member of the Corporate Executive Committee, Dr S. Schwan's shareholdings are disclosed in the tables below.

c) Jointly held with close relative.

d) Close relatives of A. Hauser held 20 non-voting equity securities (*Genussscheine*) (2021: 20).

e) Prof. Dr R. P. Lifton held 300 Roche American Depositary Receipts (ADRs) (2021: 300). Eight ADRs are equivalent to one non-voting equity security (*Genussschein*). ADRs have been traded in the US over-the-counter market since July 1992.

Corporate Executive Committee

At the end of the year members of the Corporate Executive Committee and persons closely associated with them held shares and non-voting equity securities (*Genussscheine*) as shown in the table below.

Shareholdings of members of the Corporate Executive Committee

	2022	Shares 2021	Non-voting equity securities (<i>Genussscheine</i>)		Other
			2022	2021	
S. Schwan	215,956	203,592	91,966	90,342	a)
B. Anderson	0	0	7,745	7,745	a)
A. Hippe	6,970	6,970	40,390	37,937	a), b)
T. Schinecker	0	0	2,752	2,093	a)
C. A. Wilbur	0	0	14,640	14,324	a)
Total	222,926	210,562	157,493	152,441	

a) Equity compensation awards: S-SARs (Stock-settled Stock Appreciation Rights) and RSUs (Restricted Stock Units).

b) Close relatives of A. Hippe held 21 non-voting equity securities (*Genussscheine*) (2021: none).

The remuneration from equity compensation plans to members of the Corporate Executive Committee is composed of 80% Stock-settled Stock Appreciation Rights (S-SARs) and 20% Restricted Stock Units (RSUs).

At 31 December 2022 members of the Corporate Executive Committee held Stock-settled Stock Appreciation Rights (S-SARs) as shown in the table below. The terms and vesting conditions of these awards are disclosed in Note 27 to the Roche Group Annual Financial Statements and additional supplementary information is given in the Remuneration Report included in the Annual Report on pages 182 to 207. S-SARs awards granted to members of the Corporate Executive Committee vest after four years (awards granted before 2019 vested after three years).

S-SARs awards held at 31 December 2022

Year of issue	2022	2021	2020	2019	2018	2017	2016	Total
S. Schwan	75,635	100,746	103,260	122,322	100,677	85,476	59,517	647,633
B. Anderson	37,819	50,374	46,467	55,045	19,854	0	0	209,559
A. Hippe	30,255	40,300	41,304	48,930	40,275	2,191	0	203,255
T. Schinecker	20,801	22,669	20,652	3,872	0	0	0	67,994
C. A. Wilbur	18,910	25,187	25,815	29,052	21,402	16,032	0	136,398
Total	183,420	239,276	237,498	259,221	182,208	103,699	59,517	1,264,839
Strike price (CHF)	359.70	306.45	308.05	271.65	220.80	251.90	251.50	
Expiry date	Mar. 2032	Mar. 2031	Mar. 2030	Mar. 2029	Mar. 2025	Mar. 2024	Mar. 2023	

At 31 December 2022 members of the Corporate Executive Committee held Restricted Stock Units (RSUs) as shown in the table below. The terms and vesting conditions of these awards are disclosed in Note 27 to the Roche Group Annual Financial Statements and additional supplementary information is given in the Remuneration Report included in the Annual Report on pages 182 to 207. RSU awards granted to members of the Corporate Executive Committee vest after four years. Thereafter, the non-voting equity securities and/or shares may remain blocked for up to ten years.

RSU awards held at 31 December 2022

Year of issue	2022	2021	2020	2019	Total
S. Schwan	2,965	3,481	3,463	3,927	13,836
B. Anderson	1,483	1,740	1,558	1,767	6,548
A. Hippe	1,186	1,392	1,385	1,571	5,534
T. Schinecker	815	783	693	248	2,539
C. A. Wilbur	741	870	866	933	3,410
Total	7,190	8,266	7,965	8,446	31,867

Information relating to the number and value of rights, options and awards granted to employees of the Roche Group and members of the Board of Directors and the Corporate Executive Committee of the Company are disclosed in Note 27 and Note 32 to the Roche Group Annual Financial Statements.

Appropriation of Available Earnings

Proposals to the Annual General Meeting in CHF

	2022	2021
Available earnings		
Balance brought forward from previous year	937,167,310	1,164,996,707
Net profit for the year	11,215,484,626	18,086,636,971
Transfer to legal reserve for own equity instruments ^{a)}	(3,322,588,462)	–
Release of free reserve	0	6,000,000,000
Release of special reserve	0	2,152,083,979
Reduction as per the resolution of the Extraordinary General Meeting of 26 November 2021 for 53,309,000 shares that were cancelled in February 2022 when the necessary legal procedures had been completed	–	(18,940,490,937)
Total available earnings	8,830,063,474	8,463,226,720
Appropriation of available earnings		
Distribution of an ordinary dividend of CHF 9.50 gross per share entitled to dividend and non-voting equity security (<i>Genussschein</i>) as against CHF 9.30 last year	(7,687,910,150)	(7,526,059,410)
Total appropriation of available earnings	(7,687,910,150)	(7,526,059,410)
To be carried forward on this account	1,142,153,324	937,167,310

a) Article 659b of the revised Swiss Code of Obligations (CO) effective as of 1 January 2023 requires the creation of an additional legal reserve for own equity instruments held by subsidiaries over which the Company as parent company of the Roche Group has control, including foundations as included in the IFRS consolidation scope which do not qualify as subsidiaries under Article 659b CO effective on 31 December 2022.



Statutory Auditor's Report

To the General Meeting of Roche Holding Ltd, Basel

Report on the Audit of the Financial Statements

Opinion

We have audited the financial statements of Roche Holding Ltd (the Company), which comprise the balance sheet as at 31 December 2022, and the income statement for the year then ended, and notes to the financial statements, including a summary of significant accounting policies.

In our opinion, the financial statements (pages 175–184) comply with Swiss law and the Company's articles of incorporation.

Basis for Opinion

We conducted our audit in accordance with Swiss law and Swiss Standards on Auditing (SA-CH). Our responsibilities under those provisions and standards are further described in the 'Auditor's Responsibilities for the Audit of the Financial Statements' section of our report. We are independent of the Company in accordance with the provisions of Swiss law, together with the requirements of the Swiss audit profession and we have fulfilled our other ethical responsibilities in accordance with these requirements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Key Audit Matters

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the financial statements of the current period. We have determined that there are no key audit matters to communicate in our report.

Other Information

The Board of Directors is responsible for the other information. The other information comprises the information included in the finance report and the annual report, but does not include the consolidated financial statements, the stand-alone financial statements of the Company, the compensation report and our auditor's reports thereon.

Our opinion on the financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated.

If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.



Board of Directors' Responsibilities for the Financial Statements

The Board of Directors is responsible for the preparation of the financial statements in accordance with the provisions of Swiss law and the Company's articles of incorporation, and for such internal control as the Board of Directors determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Board of Directors is responsible for assessing the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Board of Directors either intends to liquidate the Company or to cease operations, or has no realistic alternative but to do so.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Swiss law and SA-CH will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with Swiss law and SA-CH, we exercise professional judgement and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made.
- Conclude on the appropriateness of the Board of Directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Company to cease to continue as a going concern.

We communicate with the Board of Directors or its relevant committee regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide the Board of Directors or its relevant committee with a statement that we have complied with relevant ethical requirements regarding independence, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, actions taken to eliminate threats or safeguards applied.

From the matters communicated with the Board of Directors or its relevant committee, we determine those matters that were of most significance in the audit of the financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report, unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.



Report on Other Legal and Regulatory Requirements

In accordance with article 728a para. 1 item 3 CO and PS-CH 890, we confirm that an internal control system exists, which has been designed for the preparation of financial statements according to the instructions of the Board of Directors.

We further confirm that the proposed appropriation of available earnings complies with Swiss law and the Company's articles of incorporation. We recommend that the financial statements submitted to you be approved.

KPMG AG

A handwritten signature in black ink, appearing to read 'F. Rouiller'.

François Rouiller
Licensed Audit Expert
Auditor in Charge

Basel, 31 January 2023

A handwritten signature in black ink, appearing to read 'Paul Nichols'.

Paul Nichols

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Next Annual General Meeting:

14 March 2023

Cautionary statement regarding forward-looking statements

This Finance Report contains certain forward-looking statements. These forward-looking statements may be identified by words such as 'believes', 'expects', 'anticipates', 'projects', 'intends', 'should', 'seeks', 'estimates', 'future' or similar expressions or by discussion of, among other things, strategy, goals, plans or intentions. Various factors may cause actual results to differ materially in the future from those reflected in forward-looking statements contained in this Annual Report, among others: (1) pricing and product initiatives of competitors; (2) legislative and regulatory developments and economic conditions; (3) delay or inability in obtaining regulatory approvals or bringing products to market; (4) fluctuations in currency exchange rates and general financial market conditions; (5) uncertainties in the discovery, development or marketing of new products or new uses of existing products, including without limitation negative results of clinical trials or research projects, unexpected side effects of pipeline or marketed products; (6) increased government pricing pressures; (7) interruptions in production; (8) loss of or inability to obtain adequate protection for intellectual property rights; (9) litigation; (10) loss of key executives or other employees; and (11) adverse publicity and news coverage.

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 2023 or any subsequent period will necessarily match or exceed the historical published earnings or earnings per share of Roche.

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

Our reporting consists of the actual Annual Report and of the Finance Report and contains the annual financial statements and the consolidated financial statements. With regards to content, the Management Report as per the Articles of Incorporation consists of both aforementioned reports with the exception of the Remuneration Report.

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