Consolidated Statement of Comprehensive Income

for the year ended 31 December

	Notes	2023 $m	2022 $m	2021 $m
Product Sales	1	**43,789**	42,998	36,541
Alliance Revenue	1	**1,428**	755	388
Collaboration Revenue	1	**594**	598	488
Total Revenue		**45,811**	44,351	37,417
Cost of sales		**(8,268)**	(12,391)	(12,437)
Gross profit		**37,543**	31,960	24,980
Distribution expense		**(539)**	(536)	(446)
Research and development expense	2	**(10,935)**	(9,762)	(9,736)
Selling, general and administrative expense	2	**(19,216)**	(18,419)	(15,234)
Other operating income and expense	2	**1,340**	514	1,492
Operating profit		**8,193**	3,757	1,056
Finance income	3	**344**	95	43
Finance expense	3	**(1,626)**	(1,346)	(1,300)
Share of after tax losses in associates and joint ventures	11	**(12)**	(5)	(64)
Profit/(loss) before tax		**6,899**	2,501	(265)
Taxation	4	**(938)**	792	380
Profit for the period		**5,961**	3,293	115
Other comprehensive income:				
Items that will not be reclassified to profit or loss:				
Remeasurement of the defined benefit pension liability	22	**(406)**	1,118	626
Net gains/(losses) on equity investments measured at fair value through other comprehensive income		**278**	(88)	(187)
Fair value movements related to own credit risk on bonds designated as fair value through profit or loss		**(6)**	2	–
Tax on items that will not be reclassified to profit or loss	4	**101**	(216)	105
		(33)	816	544
Items that may be reclassified subsequently to profit or loss:				
Foreign exchange arising on consolidation	23	**608**	(1,446)	(483)
Foreign exchange arising on designated liabilities in net investment hedges	23	**24**	(282)	(321)
Fair value movements on cash flow hedges		**266**	(97)	(167)
Fair value movements on cash flow hedges transferred to profit and loss		**(145)**	73	208
Fair value movements on derivatives designated in net investment hedges	23	**44**	(8)	34
Costs of hedging		**(19)**	(7)	(6)
Tax on items that may be reclassified subsequently to profit or loss	4	**(12)**	73	46
		766	(1,694)	(689)
Other comprehensive income/(expense) for the period, net of tax		**733**	(878)	(145)
Total comprehensive income/(expense) for the period		**6,694**	2,415	(30)
Profit attributable to:				
Owners of the Parent		**5,955**	3,288	112
Non-controlling interests	26	**6**	5	3
Total comprehensive income/(expense) attributable to:				
Owners of the Parent		**6,688**	2,413	(33)
Non-controlling interests	26	**6**	2	3
Basic earnings per $0.25 Ordinary Share	5	**$3.84**	$2.12	$0.08
Diluted earnings per $0.25 Ordinary Share	5	**$3.81**	$2.11	$0.08
Weighted average number of Ordinary Shares in issue (millions)	5	**1,549**	1,548	1,418
Diluted weighted average number of Ordinary Shares in issue (millions)	5	**1,562**	1,560	1,427
Dividends declared and paid in the period	25	**4,487**	4,485	3,882

All activities were in respect of continuing operations.

$m means millions of US dollars.

Consolidated Statement of Financial Position

at 31 December

	Notes	2023 $m	2022 $m	2021 $m
Assets				
Non-current assets				
Property, plant and equipment	7	**9,402**	8,507	9,183
Right-of-use assets	8	**1,100**	942	988
Goodwill	9	**20,048**	19,820	19,997
Intangible assets	10	**38,089**	39,307	42,387
Investments in associates and joint ventures	11	**147**	76	69
Other investments	12	**1,530**	1,066	1,168
Derivative financial instruments	13	**228**	74	102
Other receivables	14	**803**	835	895
Deferred tax assets	4	**4,718**	3,263	4,330
		76,065	73,890	79,119
Current assets				
Inventories	15	**5,424**	4,699	8,983
Trade and other receivables	16	**12,126**	10,521	9,644
Other investments	12	**122**	239	69
Derivative financial instruments	13	**116**	87	83
Intangible assets	10	**–**	–	105
Income tax receivable		**1,426**	731	663
Cash and cash equivalents	17	**5,840**	6,166	6,329
Assets held for sale	18	**–**	150	368
		25,054	22,593	26,244
Total assets		**101,119**	96,483	105,363
Liabilities				
Current liabilities				
Interest-bearing loans and borrowings	19	**(5,129)**	(5,314)	(1,660)
Lease liabilities	8	**(271)**	(228)	(233)
Trade and other payables	20	**(22,374)**	(19,040)	(18,938)
Derivative financial instruments	13	**(156)**	(93)	(79)
Provisions	21	**(1,028)**	(722)	(768)
Income tax payable		**(1,584)**	(896)	(916)
		(30,542)	(26,293)	(22,594)
Non-current liabilities				
Interest-bearing loans and borrowings	19	**(22,365)**	(22,965)	(28,134)
Lease liabilities	8	**(857)**	(725)	(754)
Derivative financial instruments	13	**(38)**	(164)	(45)
Deferred tax liabilities	4	**(2,844)**	(2,944)	(6,206)
Retirement benefit obligations	22	**(1,520)**	(1,168)	(2,454)
Provisions	21	**(1,127)**	(896)	(956)
Other payables	20	**(2,660)**	(4,270)	(4,933)
		(31,411)	(33,132)	(43,482)
Total liabilities		**(61,953)**	(59,425)	(66,076)
Net assets		**39,166**	37,058	39,287
Equity				
Capital and reserves attributable to equity holders of the Company				
Share capital	24	**388**	387	387
Share premium account		**35,188**	35,155	35,126
Capital redemption reserve		**153**	153	153
Merger reserve		**448**	448	448
Other reserves	23	**1,464**	1,468	1,444
Retained earnings	23	**1,502**	(574)	1,710
		39,143	37,037	39,268
Non-controlling interests	26	**23**	21	19
Total equity		**39,166**	37,058	39,287

The Financial Statements from pages 148 to 215 were approved by the Board and were signed on its behalf by

Pascal Soriot
Director
8 February 2024

Aradhana Sarin
Director

Consolidated Statement of Changes in Equity
for the year ended 31 December

	Share capital $m	Share premium account $m	Capital redemption reserve $m	Merger reserve $m	Other reserves $m	Retained earnings $m	Total attributable to owners $m	Non-controlling interests $m	Total equity $m
At 1 January 2021	328	7,971	153	448	1,423	5,299	15,622	16	15,638
Profit for the period	–	–	–	–	–	112	112	3	115
Other comprehensive expense[1]	–	–	–	–	–	(145)	(145)	–	(145)
Transfer to other reserves[2]	–	–	–	–	21	(21)	–	–	–
Transactions with owners									
Dividends (Note 25)	–	–	–	–	–	(3,882)	(3,882)	–	(3,882)
Issue of Ordinary Shares	59	27,155	–	–	–	–	27,214	–	27,214
Share-based payments charge for the period (Note 29)	–	–	–	–	–	615	615	–	615
Settlement of share plan awards	–	–	–	–	–	(781)	(781)	–	(781)
Issue of replacement Alexion share awards upon acquisition (Note 27)[3]	–	–	–	–	–	513	513	–	513
Net movement	59	27,155	–	–	21	(3,589)	23,646	3	23,649
At 31 December 2021	387	35,126	153	448	1,444	1,710	39,268	19	39,287
Profit for the period	–	–	–	–	–	3,288	3,288	5	3,293
Other comprehensive expense[1]	–	–	–	–	–	(875)	(875)	(3)	(878)
Transfer to other reserves[2]	–	–	–	–	24	(24)	–	–	–
Transactions with owners									
Dividends (Note 25)	–	–	–	–	–	(4,485)	(4,485)	–	(4,485)
Issue of Ordinary Shares	–	29	–	–	–	–	29	–	29
Share-based payments charge for the period (Note 29)	–	–	–	–	–	619	619	–	619
Settlement of share plan awards	–	–	–	–	–	(807)	(807)	–	(807)
Net movement	–	29	–	–	24	(2,284)	(2,231)	2	(2,229)
At 31 December 2022	387	35,155	153	448	1,468	(574)	37,037	21	37,058
Profit for the period	**–**	**–**	**–**	**–**	**–**	**5,955**	**5,955**	**6**	**5,961**
Other comprehensive income[1]	**–**	**–**	**–**	**–**	**–**	**733**	**733**	**–**	**733**
Transfer to other reserves[2]	**–**	**–**	**–**	**–**	**(4)**	**4**	**–**	**–**	**–**
Transactions with owners									
Dividends (Note 25)	**–**	**–**	**–**	**–**	**–**	**(4,487)**	**(4,487)**	**–**	**(4,487)**
Dividends paid to non-controlling interests (Note 25)	**–**	**–**	**–**	**–**	**–**	**–**	**–**	**(4)**	**(4)**
Issue of Ordinary Shares	**1**	**33**	**–**	**–**	**–**	**–**	**34**	**–**	**34**
Share-based payments charge for the period (Note 29)	**–**	**–**	**–**	**–**	**–**	**579**	**579**	**–**	**579**
Settlement of share plan awards	**–**	**–**	**–**	**–**	**–**	**(708)**	**(708)**	**–**	**(708)**
Net movement	**1**	**33**	**–**	**–**	**(4)**	**2,076**	**2,106**	**2**	**2,108**
At 31 December 2023	**388**	**35,188**	**153**	**448**	**1,464**	**1,502**	**39,143**	**23**	**39,166**

[1] Included within Other comprehensive income of $733m (2022: expense of $878m; 2021: expense of $145m) is a charge of $19m (2022: charge of $7m; 2021: charge of $6m), relating to Costs of hedging.
[2] Amounts charged or credited to Other reserves relate to exchange adjustments arising on goodwill.
[3] Replacement share awards were issued as part of the acquisition of Alexion in 2021 (see Note 27).

Consolidated Statement of Cash Flows

for the year ended 31 December

	Notes	2023 $m	2022 $m	2021 $m
Cash flows from operating activities				
Profit/(loss) before tax		**6,899**	2,501	(265)
Finance income and expense	3	**1,282**	1,251	1,257
Share of after tax losses of associates and joint ventures	11	**12**	5	64
Depreciation, amortisation and impairment		**5,387**	5,480	6,530
Increase in trade and other receivables		**(1,425)**	(1,349)	(961)
(Increase)/decrease in inventories		**(669)**	3,941	1,577
Increase in trade and other payables and provisions		**2,394**	1,165	1,405
Gains on disposal of intangible assets	2	**(251)**	(104)	(513)
Gains on disposal of investments in associates and joint ventures	2	**–**	–	(776)
Fair value movements on contingent consideration arising from business combinations	20	**549**	82	14
Non-cash and other movements	17	**(386)**	(692)	95
Cash generated from operations		**13,792**	12,280	8,427
Interest paid		**(1,081)**	(849)	(721)
Tax paid		**(2,366)**	(1,623)	(1,743)
Net cash inflow from operating activities		**10,345**	9,808	5,963
Cash flows from investing activities				
Acquisition of subsidiaries, net of cash acquired	27	**(189)**	(48)	(9,263)
Payments upon vesting of employee share awards attributable to business combinations	27	**(84)**	(215)	(211)
Payment of contingent consideration from business combinations	20	**(826)**	(772)	(643)
Purchase of property, plant and equipment		**(1,361)**	(1,091)	(1,091)
Disposal of property, plant and equipment		**132**	282	13
Purchase of intangible assets		**(2,417)**	(1,480)	(1,109)
Disposal of intangible assets		**291**	447	587
Movement in profit-participation liability	2	**190**	–	20
Purchase of non-current asset investments		**(136)**	(45)	(184)
Disposal of non-current asset investments		**32**	42	9
Movement in short-term investments, fixed deposits and other investing instruments		**97**	(114)	96
Payments to associates and joint ventures	11	**(80)**	(26)	(92)
Disposal of investments in associates and joint ventures		**–**	–	776
Interest received		**287**	60	34
Net cash outflow from investing activities		**(4,064)**	(2,960)	(11,058)
Net cash inflow/(outflow) before financing activities		**6,281**	6,848	(5,095)
Cash flows from financing activities				
Proceeds from issue of share capital		**33**	29	29
Issue of loans and borrowings		**3,816**	–	12,929
Repayment of loans and borrowings		**(4,942)**	(1,271)	(4,759)
Dividends paid		**(4,481)**	(4,364)	(3,856)
Hedge contracts relating to dividend payments		**(19)**	(127)	(29)
Repayment of obligations under leases		**(268)**	(244)	(240)
Movement in short-term borrowings		**161**	74	(276)
Payments to acquire non-controlling interests		**–**	–	(149)
Payment of Acerta Pharma share purchase liability		**(867)**	(920)	–
Net cash (outflow)/inflow from financing activities		**(6,567)**	(6,823)	3,649
Net (decrease)/increase in Cash and cash equivalents in the period		**(286)**	25	(1,446)
Cash and cash equivalents at the beginning of the period		**5,983**	6,038	7,546
Exchange rate effects		**(60)**	(80)	(62)
Cash and cash equivalents at the end of the period	17	**5,637**	5,983	6,038

Group Accounting Policies

Basis of accounting and preparation of financial information

The Consolidated Financial Statements have been prepared under the historical cost convention, modified to include revaluation to fair value of certain financial instruments and pension plan assets and liabilities as described below, in accordance with UK-adopted international accounting standards and with the requirements of the Companies Act 2006 as applicable to companies reporting under those standards. The Consolidated Financial Statements also comply fully with IFRS Accounting Standards as issued by the International Accounting Standards Board (IASB) and International Accounting Standards as adopted by the European Union.

The Consolidated Financial Statements are presented in US dollars, which is the Company's functional currency.

In preparing their individual financial statements, the accounting policies of some overseas subsidiaries do not conform with IASB-issued IFRSs. Therefore, where appropriate, adjustments are made in order to present the Consolidated Financial Statements on a consistent basis.

New accounting requirements

Other than noted below, amendments to accounting standards issued by the IASB and adopted in the year ended 31 December 2023 did not have a material impact on the result or financial position of the Group.

IAS 12

On 23 May 2023, the IASB issued an amendment to IAS 12 'Income Taxes' to clarify how the effects of the global minimum tax framework should be accounted for and disclosed effective 1 January 2023. This was endorsed by the UK Endorsement Board on 19 July 2023 and has been adopted by the Group for 2023 reporting. The Group has applied the exemption to recognising and disclosing information about deferred tax assets and liabilities related to Pillar 2 income taxes.

Alliance and Collaboration Revenue

Effective 1 January 2023, the Group has updated the presentation of Total Revenue on the face of the Statement of Comprehensive Income to include Alliance Revenue as a separate element to Collaboration Revenue. Alliance Revenue, previously reported within Collaboration Revenue, comprises income related to sales made by collaboration partners, where AstraZeneca is entitled to a share of gross profits, share of revenues or royalties, which are recurring in nature while the collaboration arrangement remains in place. Alliance Revenue does not include Product Sales where AstraZeneca is leading commercialisation in a territory.

Collaboration Revenue arising from collaborative arrangements where the Group retains a significant ongoing economic interest and receives upfront amounts and event-triggered milestones, which arise from the licensing of intellectual property, will continue to be reported as Collaboration Revenue. In collaboration arrangements either AstraZeneca or the collaborator acts as principal in sales to the end customer. Where AstraZeneca acts as principal, AstraZeneca records 100% of sales to the end customer within Product Sales. The updated presentation reflects the increasing importance of income arising from share of gross profit arrangements where collaboration partners are responsible for booking revenues in some or all territories.

The comparative revenue reported in the years to 31 December 2022 and 31 December 2021 has been retrospectively adjusted to reflect the new split of Total Revenue, resulting in Alliance Revenue being reported for the year to 31 December 2022 of $755m and to 31 December 2021 of $388m, however the combined total of Alliance Revenue and Collaboration Revenue is equal to the previously reported Collaboration Revenue total for each prior year.

Basis for preparation of Financial Statements on a going concern basis

The Group has considerable financial resources available. As at 31 December 2023, the Group has $12.7bn in financial resources (Cash and cash equivalent balances of $5.8bn and undrawn committed bank facilities of $6.9bn, of which $2.0bn are available until February 2025 and the remaining $4.9bn are available until April 2026, (in February 2024 these facilities were extended to April 2029), with only $5.4bn of borrowings due within one year).

The Group's revenues are largely derived from sales of medicines covered by patents, which provide a relatively high level of resilience and predictability to cash inflows, although government price interventions in response to budgetary constraints are expected to continue to adversely affect revenues in some of our significant markets. The Group, however, anticipates new revenue streams from both recently launched medicines and those in development, and the Group has a wide diversity of customers and suppliers across different geographic areas.

Consequently, the Directors believe that, overall, the Group is well placed to manage its business risks successfully. Accordingly, they continue to adopt the going concern basis in preparing the Annual Report and Financial Statements.

Estimates and judgements

The preparation of the Financial Statements in conformity with generally accepted accounting principles requires management to make estimates and judgements that affect the reported amounts of assets and liabilities at the date of the Financial Statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

The accounting policy descriptions set out the areas where judgements and estimates need exercising, the most significant of which include the following Key Judgements KJ and Significant Estimates SE:

- revenue recognition – see Revenue Accounting Policy from page 152 KJ and Note 1 on page 161 SE
- expensing of internal development expenses – see Research and Development Policy from page 154 KJ
- impairment reviews of Intangible assets – see Note 10 on page 174 SE
- useful economic life of Intangible assets – see Research and Development Policy from page 154 KJ
- business combinations and Goodwill – see Business Combinations and Goodwill Policy from page 156 KJ and Note 27 from page 193 SE
- litigation liabilities – see Litigation and Environmental Liabilities within Note 30 on page 204 KJ
- operating segments – see Note 6 on page 167 KJ
- employee benefits – see Note 22 on page 190 SE
- taxation – see Note 30 from page 209 KJ.

The Group has assessed the impact of climate risk on its financial reporting. The impact assessment was primarily focused on the valuation and useful lives of intangible assets and the identification and valuation of provisions and contingent liabilities, as these are judged to be the key areas that could be impacted by climate risks. No material accounting impacts or changes to judgements or other required disclosures were noted.

KJ Key Judgements are those judgements made in applying the Group's accounting policies that have a material effect on the amounts of assets and liabilities recognised in the Financial Statements.

SE A Significant Estimate has a significant risk of material adjustment to the carrying amounts of assets and liabilities within the next financial year.

Financial risk management policies are detailed in Note 28 to the Financial Statements from page 195.

AstraZeneca's management considers the following to be the material accounting policies in the context of the Group's operations.

Revenue

Revenue comprises Product Sales, Alliance Revenue and Collaboration Revenue.

Revenue excludes inter-company revenues and value-added taxes.

Product Sales

Product Sales represent net invoice value less estimated rebates, returns and chargebacks, which are considered to be variable consideration and include significant estimates. Sales are recognised when the control of the goods has been transferred to a third party. This is usually when title passes to the customer, either on shipment or on receipt of goods by the customer, depending on local trading terms. Revenue is not recognised in full until it is highly probable that a significant reversal in the amount of cumulative revenue recognised will not occur.

Rebates are amounts payable or credited to a customer, usually based on the quantity or value of Product Sales to the customer for specific products in a certain period. Product sales rebates, which relate to Product Sales that occur over a period of time, are normally issued retrospectively.

At the time Product Sales are invoiced, rebates and deductions that the Group expects to pay are estimated based upon assumptions developed using contractual terms, historical experience and market-related information. The rebates and deductions are recognised as variable consideration and recorded as a reduction to revenue with an accrual recorded. These rebates typically arise from sales contracts with government payers, third-party managed care organisations, hospitals, long-term care facilities, group purchasing organisations and various state programmes.

In markets where returns are significant, estimates of the quantity and value of goods which may ultimately be returned are accounted for at the point revenue is recognised. Our returns accruals are based on actual experience over the preceding 12 months for established products together with market-related information such as estimated stock levels at wholesalers and competitor activity which we receive via third-party information services. For newly launched products, we use rates based on our experience with similar products or a predetermined percentage.

When a product faces generic competition, particular attention is given to the possible levels of returns and, in cases where the circumstances are such that the level of Product Sales are considered highly probable to reverse, revenues are only recognised when the right of return expires, which is generally on ultimate prescription of the product to patients.

The methodology and assumptions used to estimate rebates and returns are monitored and adjusted regularly in the light of contractual and legal obligations, historical trends, past experience and projected market conditions. Once the uncertainty associated with returns is resolved, revenue is adjusted accordingly.

Under certain collaboration agreements which include a profit sharing mechanism, our recognition of Product Sales depends on which party acts as principal in sales to the end customer. In the cases where AstraZeneca acts as principal, we record 100% of sales to the end customer. In the cases where AstraZeneca does not act as principal, we record the share of gross profits received within Alliance Revenue.

Contracts relating to the supply of certain Vaccines & Immune Therapies medicines relating to the COVID-19 pandemic include conditions whereby payments are receivable from customers in advance of the delivery of product. Such amounts are held on the balance sheet as contract liabilities until the related revenue is recognised, generally upon product delivery. Certain of these contracts contain further provisions that restrict the use of inventory manufactured in specified supply chains to specified customers, resulting in an enforceable right to payment as the activities are performed. Under IFRS 15, such contracts require revenue to be recognised over time using an appropriate and reasonably measurable method to measure progress. Revenue is recognised on these contracts based on the proportion of product delivered compared to the total contracted volumes.

Certain arrangements include bill-and-hold arrangements under which the Group invoices a customer for a product but retains physical possession of the product until it is transferred to the customer at a point in time in the future. For these types of arrangements, an assessment is made to determine when the performance obligation has been satisfied, which is when control of the product is transferred to the customer. If the customer has obtained control of the product even though that product remains in the Group's physical possession, the performance obligation to transfer a product has been satisfied and Product Sales are recognised. Control is considered to have transferred when the reason for the bill-and-hold arrangement is substantive, the product can be identified separately as belonging to the customer, the product is ready for physical transfer to the customer and AstraZeneca is unable to use or sell the product to another customer.

Alliance Revenue

Alliance Revenue comprises income arising from the ongoing operation of collaborative arrangements related to sales made by collaboration partners, where AstraZeneca is entitled to a share of gross profits, share of revenues or royalties, which are recurring in nature while the collaboration agreement remains in place. Alliance Revenue does not include Product Sales where AstraZeneca is leading commercialisation in a territory, or reimbursement for AstraZeneca-incurred expenses such as R&D or promotion costs, which arise from the license of intellectual property.

The Group periodically enters into transactions where it acquires part of the rights to a product intangible (either on-market or in-process R&D), but for commercial reasons does not act as principal in selling the product to the customer and therefore does not recognise income from the product in the form of Product Sales. This may occur where, for example, a collaboration partner retains the right to commercialise in a specific territory, and has sufficient local control over that commercialisation to book Product Sales, while the Group instead receives a proportion of the value generated by those Product Sales, either in the form of a royalty, a share of gross profits or a share of revenues.

Where the arrangement meets the definition of a licence agreement, share of gross profits, share of revenues and sales royalties are recognised when achieved by applying the royalty exemption under IFRS 15. All other sales royalties are recognised when considered it is highly probable there will not be a significant reversal of cumulative income. The determination requires estimates to be made in relation to future Product Sales.

Collaboration Revenue

Collaboration Revenue includes income arising from entering into collaborative arrangements where the Group has out-licensed (sold) certain rights associated with products and where AstraZeneca retains a significant ongoing economic interest in the product. Significant interest can include ongoing supply of finished goods, profit sharing arrangements or being principal in the sales of medicines. These collaborations may include development, manufacturing and/or commercialisation arrangements with the collaborator. Income from out-licences may take the form of upfront fees and milestones.

KJ Timing of recognition of clinical and regulatory milestones is considered to be a key judgement. There can be significant uncertainty over whether it is highly probable that there would not be a significant reversal of revenue in respect of specific milestones if these are recognised before they are triggered due to them being subject to the actions of third parties. In general, where the triggering of a milestone is subject to the decisions of third parties (e.g. the acceptance or approval of a filing by a regulatory authority), the Group does not consider that the threshold for recognition is met until that decision is made.

Where Collaboration Revenue arises from the licensing of the Group's own intellectual property, the licences we grant are typically rights to use intellectual property which do not change during the period of the licence and therefore related non-conditional revenue is recognised at the point the licence is granted and variable consideration as soon as recognition criteria are met.

Other performance obligations in the contract might include the supply of product. These arrangements typically involve the receipt of an upfront payment, which the contract attributes to the license of the intangible assets, and ongoing receipts for supply, which the contract attributes to the sale of the product we manufacture. In cases where the transaction has two or more components, we account for the delivered item (for example, the transfer of title to the intangible asset) as a separate unit of account and record revenue on delivery of that component. Where practicable, consideration is allocated to performance obligations on the basis of the standalone selling price of each performance obligation. However, where there is a licence of intellectual property, it is not always possible to establish a reliable estimate of the standalone selling price of the licence as they are unique. Therefore, in these rare situations, the residual approach is used to determine the consideration attributable to the licence.

Where fixed amounts are payable over one year from the effective date of a contract, an assessment is made as to whether a significant financing component exists, and if so, the fair value of this component is deferred and recognised as financing income over the period to the expected date of receipt.

Where control of a right to use licence for an intangible asset passes at the outset of an arrangement, revenue is recognised at the point in time control is transferred. Where the substance of a licence arrangement is that of a right to access rights attributable to an intangible asset, revenue, in the form of an upfront fee, is recognised over time, normally on a straight-line basis over the life of the contract. Where the Group provides ongoing development services, revenue in respect of this element is recognised over the duration of those services.

Where Collaboration Revenue is recorded and there is a related intangible asset that is licensed as part of the arrangement, an appropriate amount of that intangible asset is charged to Cost of sales based on an allocation of cost or value to the rights that have been licensed.

Cost of sales

Cost of sales are recognised as the associated revenue is recognised. Cost of sales include manufacturing costs, royalties payable on revenues recognised, movements in provisions for inventories, inventory write-offs and impairment charges in relation to manufacturing assets. Cost of sales also includes co-collaborator sharing of profit arising from collaborations, and foreign exchange gains and losses arising from business trading activities.

Research and development

Research expenditure is charged to profit and loss in the year in which it is incurred.

KJ Internal development expenditure is capitalised only if it meets the recognition criteria of IAS 38 'Intangible Assets'. This is considered a key judgement. Where regulatory and other uncertainties are such that the criteria are not met, the expenditure is charged to profit and loss and this is almost invariably the case prior to approval of the drug by the relevant regulatory authority. Where, however, recognition criteria are met, Intangible assets are capitalised and amortised on a straight-line basis over their useful economic lives from product launch. At 31 December 2023, no amounts have met the recognition criteria.

Payments to in-license products and compounds from third parties for new research and development projects (in process research and development) generally take the form of upfront payments, milestones and royalty payments. Where payments made to third parties represent consideration for future research and development activities, an evaluation is made as to the nature of the payments. Such payments are expensed if they represent compensation for sub-contracted research and development services not resulting in a transfer of intellectual property. By contrast, payments are capitalised if they represent compensation for the transfer of identifiable intellectual property developed at the risk of the third party. Such payments may be made once development or regulatory milestones are met and may also be made on the basis of sales volumes once a product is launched. Development and regulatory milestone payments are capitalised as the milestone is triggered. Sales-related payments are accrued and capitalised with reference to the latest Group sales forecasts for approved indications at the present value of expected future cash flows. Assets capitalised are amortised, on a straight-line basis, over their useful economic lives from product launch.

KJ The determination of useful economic life is considered to be a key judgement. On product launch, the Group makes a judgement as to the expected useful economic life with reference to the expiry of associated patents for the product, expectation around the competitive environment specific to the product and our detailed long-term risk-adjusted sales projections compiled annually across the Group and approved by the Board.

The useful economic life can extend beyond patent expiry dependent upon the nature of the product and the complexity of the development and manufacturing process. Significant sales can often be achieved post patent expiration.

Intangible assets

Intangible assets are stated at cost less accumulated amortisation and impairments. Intangible assets relating to products in development are subject to impairment testing annually. All Intangible assets are tested for impairment when there are indications that the carrying value may not be recoverable. The determination of the recoverable amounts include key estimates which are highly sensitive to, and depend upon, key assumptions as detailed in Note 10 to the Financial Statements from page 172.

Impairment reviews have been carried out on all Intangible assets that are in development (and not being amortised), all major intangible assets acquired during the year and all other intangible assets that have had indicators of impairment during the year. Recoverable amount is determined as the higher of value-in-use or fair value less costs to sell using a discounted cash flow calculation, with the products' expected cash flows risk-adjusted over their estimated remaining useful economic life. Sales forecasts and specific allocated costs (which have both been subject to appropriate senior management review and approval) are risk-adjusted and discounted using appropriate rates based on our post-tax weighted average cost of capital or for fair value less costs to sell, a required rate of return for a market participant. Our weighted average cost of capital reflects factors such as our capital structure and our costs of debt and equity.

Any impairment losses are recognised immediately in Operating profit. Intangible assets relating to products which fail during development (or for which development ceases for other reasons) are also tested for impairment and are written down to their recoverable amount (which is usually nil).

If, subsequent to an impairment loss being recognised, development restarts or other facts and circumstances change indicating that the impairment is less or no longer exists, the value of the asset is re-estimated and its carrying value is increased to the recoverable amount, but not exceeding the original value, by recognising an impairment reversal in Operating profit.

Government grants

Government grants are recognised in the Consolidated Statement of Comprehensive Income so as to match with the related expenses that they are intended to compensate. Where grants are received in advance of the related expenses, they are initially recognised in the Consolidated Statement of Financial Position under Trade and other payables as deferred income and released to net off against the related expenditure when incurred.

Each contract is assessed to determine whether there are both grant elements and supply of product which need to be separated. In each case, the contracts set out the specified terms for the supply of the product and the provisions for funding for certain costs, primarily research and development associated with the IP. It is considered whether there are any conditions for the funding to be refunded. The consideration in the contract is allocated between the grant and supply elements. The standalone selling price for the supply of products is determined by reference to observed prices with other customers. The amount allocated as a government grant is determined by reference to the specific agreed costs and activities identified in the contract as not directly attributable to the supply of product. Government grants are recorded as an offset to the relevant expense in the Consolidated Statement of Comprehensive Income and are capped to match the relevant costs incurred.

Other operating income and expense

Other operating income and expense is generated from activities outside of the Group's normal course of business, which includes Other income from divestments of or full out-license of assets and businesses including royalties and milestones where the Group does not retain a significant continued interest. Where the arrangement meets the definition of a licence agreement, sales milestones and sales royalties are recognised when achieved by applying the royalty exemption under IFRS 15. All other milestones and sales royalties are recognised when it is considered highly probable that there will not be a significant reversal of cumulative income. The determination requires estimates to be made in relation to future Product Sales.

Joint arrangements and associates

The Group has arrangements over which it has joint control and which qualify as joint operations or joint ventures under IFRS 11 'Joint Arrangements'. For joint operations, the Group recognises its share of revenue that it earns from the joint operations and its share of expenses incurred. The Group also recognises the assets associated with the joint operations that it controls and the liabilities it incurs under the joint arrangement. For joint ventures and associates, the Group recognises its interest in the joint venture or associate as an investment and uses the equity method of accounting.

Employee benefits

The Group accounts for pensions and other employee benefits (principally healthcare) under IAS 19 'Employee Benefits'. In respect of defined benefit plans, obligations are determined using the projected unit credit method and are discounted to present value by reference to market yields on high-quality corporate bonds, while plan assets are measured at fair value. Given the extent of the assumptions used to determine the value of scheme assets and scheme liabilities, these are considered to be significant estimates. The operating and financing costs of such plans are recognised separately in profit; current service costs are spread systematically over the lives of employees and financing costs are recognised in full in the periods in which they arise. Remeasurements of the net defined benefit pension liability, including actuarial gains and losses, are recognised immediately in Other comprehensive income.

Where the calculation results in a surplus to the Group, the recognised asset is limited to the present value of any available future refunds from the plan or reductions in future contributions to the plan subject to consideration of the effect any minimum funding requirement for future service has on the benefit available as a reduction in future contributions.

Payments to defined contribution plans are recognised in profit as they fall due.

Taxation

The current tax payable is based on taxable profit for the year. Taxable profit differs from reported profit because taxable profit excludes items that are either never taxable or tax deductible or items that are taxable or tax deductible in a different period. The Group's current tax assets and liabilities are calculated using tax rates that have been enacted or substantively enacted by the reporting date.

Deferred tax is provided using the balance sheet liability method, providing for temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for taxation purposes. Deferred tax liabilities are recognised unless they arise from the initial recognition (other than in a business combination) of assets and liabilities in a transaction that affects neither the taxable profit nor the accounting profit. Deferred tax liabilities are not recognised to the extent they arise from the initial recognition of non-tax deductible goodwill. Deferred tax assets are recognised to the extent that there are future taxable temporary differences or it is probable that future taxable profit will be available against which the asset can be utilised. This requires judgements to be made in respect of the availability of future taxable income.

No deferred tax asset or liability is recognised in respect of temporary differences associated with investments in subsidiaries and branches where the Group is able to control the timing of reversal of the temporary differences and it is probable that the temporary differences will not reverse in the foreseeable future.

The Group's deferred tax assets and liabilities are calculated using tax rates that are expected to apply in the period when the liability is settled or the asset realised based on tax rates that have been enacted or substantively enacted by the reporting date.

Deferred tax liabilities relating to assets recognised because of a business combination which may qualify for intellectual property incentives are measured at the relevant statutory tax rate. Deferred tax assets and liabilities are offset in the Consolidated Statement of Financial Position if, and only if, the taxable entity has a legally enforceable right to set off current tax assets and liabilities, and the Deferred tax assets and liabilities relate to taxes levied by the same taxation authority on the same taxable entity.

Liabilities for uncertain tax positions require management to make judgements of potential exposures in relation to tax audit issues. Tax benefits are not recognised unless the tax positions will probably be accepted by the tax authorities. This is based upon management's interpretation of applicable laws and regulations and the expectation of how the tax authority will resolve the matter. Once considered probable of not being accepted, management reviews each material tax benefit and reflects the effect of the uncertainty in determining the related taxable result.

Liabilities for uncertain tax positions are measured using either the most likely amount or the expected value amount depending on which method the entity expects to better predict the resolution of the uncertainty.

Further details of the estimates and assumptions made in determining our recorded liability for transfer pricing contingencies and other tax contingencies are included in Note 30 to the Financial Statements from page 204.

Share-based payments

All plans have been classified as equity settled after assessment. The grant date fair value of the market-based performance elements of employee share plan awards is calculated using a modified Monte Carlo model, with other elements at market price. In accordance with IFRS 2 'Share-based Payment', the resulting cost is recognised in profit on a straight-line basis over the vesting period of the awards. The value of the charge is adjusted to reflect expected and actual levels of awards vesting, except where the failure to vest is as a result of not meeting a market condition. Cancellations of equity instruments are treated as an acceleration of the vesting period and any outstanding charge is recognised in profit immediately.

Cash outflows relating to the vesting of share plans for our employees are recognised within operating activities, as they relate to employee remuneration. The cash flows relating to replacement awards issued to employees as part of the Alexion acquisition (see Note 27 from page 193) are classified within investing activities, as they are part of the aggregate cash flows arising from obtaining control of the subsidiary.

Property, plant and equipment

The Group's policy is to depreciate the difference between the cost of each item of Property, plant and equipment and its residual value over its estimated useful life on a straight-line basis. Assets under construction are not depreciated until the asset is available for use, at which point the asset is transferred into either Land and buildings or Plant and equipment, and depreciated over its estimated useful economic life.

Reviews are made annually of the estimated remaining lives and residual values of individual productive assets, taking account of commercial and technological obsolescence as well as normal wear and tear. It is impractical to calculate average asset lives exactly. However, the useful economic lives range from approximately 10 to 50 years for buildings, and three to 15 years for plant and equipment. All items of Property, plant and equipment are tested for impairment when there are indications that the carrying value may not be recoverable. Any impairment losses are recognised immediately in Operating profit.

Leases

The Group's lease arrangements are principally for property, most notably a portfolio of office premises and employee accommodation, and for a global car fleet, utilised primarily by our sales and marketing teams.

The lease liability and corresponding right-of-use asset arising from a lease are initially measured on a present value basis. Lease liabilities include the net present value of the following lease payments:

- fixed payments, less any lease incentives receivable
- variable lease payments that depend on an index or a rate, initially measured using the index or rate as at the commencement date
- the exercise price of a purchase option if the Group is reasonably certain to exercise that option
- payments of penalties for terminating the lease, if the lease term reflects the Group exercising that option, and
- amounts expected to be payable by the Group under residual value guarantees.

Right-of-use assets are measured at cost comprising the following:

- the amount of the initial measurement of lease liability
- any lease payments made at or before the commencement date less any lease incentives received
- any initial direct costs, and
- restoration costs.

Judgements made in calculating the lease liability include assessing whether arrangements contain a lease and determining the lease term. Lease terms are negotiated on an individual basis and contain a wide range of different terms and conditions. Property leases will often include an early termination or extension option to the lease term. Fleet management policies vary by jurisdiction and may include renewal of a lease until a measurement threshold, such as mileage, is reached. Extension and termination options have been considered when determining the lease term, along with all facts and circumstances that may create an economic incentive to exercise an extension option, or not exercise a termination option. Extension periods (or periods after termination options) are only included in the lease term if the lease is reasonably certain to be extended (or not terminated).

The lease payments are discounted using incremental borrowing rates, as in the majority of leases held by the Group the interest rate implicit in the lease is not readily identifiable. Calculating the discount rate is an estimate made in calculating the lease liability. This rate is the rate that the Group would have to pay to borrow the funds necessary to obtain an asset of similar value to the right-of-use asset in a similar economic environment with similar terms, security and conditions. To determine the incremental borrowing rate, the Group uses a risk-free interest rate adjusted for credit risk, adjusting for terms specific to the lease including term, country and currency.

The Group is exposed to potential future increases in variable lease payments that are based on an index or rate, which are initially measured as at the commencement date, with any future changes in the index or rate excluded from the lease liability until they take effect. When adjustments to lease payments based on an index or rate take effect, the lease liability is reassessed and adjusted against the right-of-use asset.

Lease payments are allocated between principal and finance cost. The finance cost is charged to the Consolidated Statement of Comprehensive Income over the lease period so as to produce a constant periodic rate of interest on the remaining balance of the liability for each period.

Payments associated with short-term leases of Property, plant and equipment and all leases of low-value assets are recognised on a straight-line basis as an expense in the Consolidated Statement of Comprehensive Income. Short-term leases are leases with a lease term of 12 months or less. Low-value leases are those where the underlying asset value, when new, is $5,000 or less and includes IT equipment and small items of office furniture.

Contracts may contain both lease and non-lease components. The Group allocates the consideration in the contract to the lease and non-lease components based on their relative standalone prices.

Right-of-use assets are generally depreciated over the shorter of the asset's useful life and the lease term on a straight-line basis. If the Group is reasonably certain to exercise a purchase option, the right-of-use asset is depreciated over the underlying asset's useful life. It is impractical to calculate average asset lives exactly. However, the total lives range from approximately 10 to 50 years for buildings, and three to 15 years for motor vehicles and other assets.

There are no material lease agreements under which the Group is a lessor.

Business combinations and goodwill

In assessing whether an acquired set of assets and activities is a business or an asset, management will first elect whether to apply an optional concentration test to simplify the assessment. Where the concentration test is applied, the acquisition will be treated as the acquisition of an asset if substantially all of the fair value of the gross assets acquired (excluding cash and cash equivalents, deferred tax assets, and related goodwill) is concentrated in a single asset or group of similar identifiable assets.

Where the concentration test is not applied, or is not met, a further assessment of whether the acquired set of assets and activities is a business will be performed.

KJ The determination of whether an acquired set of assets and activities is a business or an asset can be judgemental, particularly if the target is not producing outputs. Management uses a number of factors to make this determination, which are primarily focused on whether the acquired set of assets and activities include substantive processes that mean the set is capable of being managed for the purpose of providing a return. Key determining factors include the stage of development of any assets acquired, the readiness and ability of the acquired set to produce outputs and the presence of key experienced employees capable of conducting activities required to develop or manufacture the assets. Typically, the specialised nature of many pharmaceutical assets and processes is such that until assets are substantively ready for production and promotion, there are not the required processes for a set of assets and activities to meet the definition of a business in IFRS 3.

On the acquisition of a business, fair values are attributed to the identifiable assets and liabilities. Attributing fair values is a key judgement; refer to Note 27 to the Financial Statements from page 193 for additional details. Contingent liabilities are also recorded at fair value unless the fair value cannot be measured reliably, in which case the value is subsumed into goodwill. Where fair values of acquired contingent liabilities cannot be measured reliably, the assumed contingent liability is not recognised but is disclosed in the same manner as other contingent liabilities.

Where not all of the equity of a subsidiary is acquired, the non-controlling interest is recognised either at fair value or at the non-controlling interest's proportionate share of the net assets of the subsidiary, on a case-by-case basis. Put options over non-controlling interests are recognised as a financial liability, with a corresponding entry in either Retained earnings or against non-controlling interest reserves on a case-by-case basis.

The timing and amount of future contingent elements of consideration is an estimate. Contingent consideration, which may include development and launch milestones, revenue threshold milestones and revenue-based royalties, is fair valued at the date of acquisition using decision-tree analysis with key inputs including probability of success, consideration of potential delays and revenue projections based on the Group's internal forecasts. Unsettled amounts of consideration are held at fair value within payables with changes in fair value recognised immediately in profit.

Goodwill is the difference between the fair value of the consideration and the fair value of net assets acquired.

Goodwill arising on acquisitions is capitalised and subject to an impairment review, both annually and when there is an indication that the carrying value may not be recoverable.

The Group's policy up to and including 1997 was to eliminate Goodwill arising upon acquisitions against reserves. Under IFRS 1 'First-time Adoption of International Financial Reporting Standards' and IFRS 3 'Business Combinations', such Goodwill will remain eliminated against reserves.

Subsidiaries

A subsidiary is an entity controlled, directly or indirectly, by AstraZeneca PLC. Control is regarded as the exposure or rights to the variable returns of the entity when combined with the power to affect those returns. Control is normally evidenced by holding more than 50% of the share capital of the company, however other agreements may be in place that result in control where they give AstraZeneca finance decision-making authority over the relevant activities of the company.

The financial results of subsidiaries are consolidated from the date control is obtained until the date that control ceases.

Inventories

Inventories are stated at the lower of cost and net realisable value. The first in, first out or an average method of valuation is used. For finished goods and work in progress, cost includes directly attributable costs and certain overhead expenses (including depreciation). Selling expenses and certain other overhead expenses (principally central administration costs) are excluded. Net realisable value is determined as estimated selling price less all estimated costs of completion and costs to be incurred in selling and distribution.

Write-downs of inventory occur in the general course of business and are recognised in Cost of sales for launched or approved products and in Research and development expense for products in development.

Assets held for sale

Non-current assets are classified as Assets held for sale when their carrying amount is to be recovered principally through a sale transaction and a sale is considered highly probable. A sale is considered highly probable only when the appropriate level of management has committed to the sale.

Assets held for sale are stated at the lower of carrying amount and fair value less costs to sell. Where there is a partial transfer of a non-current asset to held for sale, an allocation of value is made between the current and non-current portions of the asset based on the relative value of the two portions, unless there is a methodology that better reflects the asset to be disposed of.

Assets held for sale are neither depreciated nor amortised.

Trade and other receivables

Financial assets included in Trade and other receivables are recognised initially at fair value. The Group holds the Trade receivables with the objective to collect the contractual cash flows and therefore measures them subsequently at amortised cost using the effective interest method, less any impairment, based on expected credit losses.

Trade receivables that are subject to debt factoring arrangements are derecognised if they meet the conditions for derecognition detailed in IFRS 9 'Financial Instruments'.

Trade and other payables

Financial liabilities included in Trade and other payables are recognised initially at fair value. Subsequent to initial recognition they are measured at amortised cost using the effective interest method. Contingent consideration payables are held at fair value within Level 3 of the fair value hierarchy as defined in Note 12.

Financial instruments

The Group's financial instruments include Lease liabilities, Trade and other receivables and payables, liabilities for contingent consideration and put options under business combinations, and rights and obligations under employee benefit plans which are dealt with in specific accounting policies.

The Group's other financial instruments include:

- Cash and cash equivalents
- Fixed deposits
- Other investments
- Bank and other borrowings
- Derivatives.

Cash and cash equivalents

Cash and cash equivalents comprise cash in hand, current balances with banks and similar institutions, and highly liquid investments with maturities of three months or less when acquired. They are readily convertible into known amounts of cash and are held at amortised cost under the hold to collect classification, where they meet the hold to collect 'solely payments of principal and interest' test criteria under IFRS 9. Those not meeting these criteria are held at fair value through profit or loss. Cash and cash equivalents in the Consolidated Statement of Cash Flows include unsecured bank overdrafts at the balance sheet date where balances often fluctuate between a cash and overdraft position.

Fixed deposits

Fixed deposits, principally comprising funds held with banks and other financial institutions, are initially measured at fair value, plus direct transaction costs, and are subsequently measured at amortised cost using the effective interest method at each reporting date. Changes in carrying value are recognised in the Consolidated Statement of Comprehensive Income.

Other investments

Investments are classified as fair value through profit or loss (FVPL), unless the Group makes an irrevocable election at initial recognition for certain non-current equity investments to present changes in Other comprehensive income (FVOCI). If this election is made, there is no subsequent reclassification of fair value gains and losses to profit or loss following the derecognition of the investment.

Bank and other borrowings

The Group uses derivatives, principally interest rate swaps, to hedge the interest rate exposure inherent in a portion of its fixed interest rate debt. In such cases the Group will either designate the debt as FVPL when certain criteria are met or as the hedged item under a fair value hedge.

If the debt instrument is designated as FVPL, the debt is initially measured at fair value (with direct transaction costs being included in profit as an expense) and is remeasured to fair value at each reporting date with changes in carrying value being recognised in profit (along with changes in the fair value of the related derivative), with the exception of changes in the fair value of the debt instrument relating to own credit risk which are recorded in Other comprehensive income in accordance with IFRS 9. Such a designation has been made where this significantly reduces an accounting mismatch which would result from recognising gains and losses on different bases.

If the debt is designated as the hedged item under a fair value hedge, the debt is initially measured at fair value (with direct transaction costs being amortised over the life of the debt) and is remeasured for fair value changes in respect of the hedged risk at each reporting date with changes in carrying value being recognised in profit (along with changes in the fair value of the related derivative).

If the debt is designated in a cash flow hedge, the debt is measured at amortised cost (with gains or losses taken to profit and direct transaction costs being amortised over the life of the debt). The related derivative is remeasured for fair value changes at each reporting date with the portion of the gain or loss on the derivative that is determined to be an effective hedge recognised in Other comprehensive income. The amounts that have been recognised in Other comprehensive income are reclassified to profit in the same period that the hedged forecast cash flows affect profit. The reclassification adjustment is included in Finance expense in the Consolidated Statement of Comprehensive Income.

Other interest-bearing loans are initially measured at fair value (with direct transaction costs being amortised over the life of the loan) and are subsequently measured at amortised cost using the effective interest method at each reporting date. Changes in carrying value are recognised in the Consolidated Statement of Comprehensive Income.

Derivatives

Derivatives are initially measured at fair value (with direct transaction costs being included in profit as an expense) and are subsequently remeasured to fair value at each reporting date. Changes in carrying value of derivatives not designated in hedging relationships are recognised in profit or loss.

The Group has agreements with some bank counterparties whereby the parties agree to post cash collateral, for the benefit of the other, equivalent to the market valuation of all of the derivative positions above a predetermined threshold. Cash collateral received from counterparties is included within current Interest-bearing loans and borrowings within the Consolidated Statement of Financial Position. Cash collateral pledged to counterparties is recognised as a financial asset and is included in current Other investments within the Consolidated Statement of Financial Position. Cash collateral received is included in Movement in short-term borrowings within financing activities in the Consolidated Cash Flow Statement. Cash collateral paid is included in Movements in short-term investments within investing activities in the Consolidated Cash Flow Statement. The cash flow presentation of cash paid and received follows the Consolidated Statement of Financial Position presentation of the financial asset and financial liability that is recognised from posting the collateral.

Foreign currencies

Foreign currency transactions, being transactions denominated in a currency other than an individual Group entity's functional currency, are translated into the relevant functional currencies of individual Group entities at average rates for the relevant monthly accounting periods, which approximate to actual rates.

Monetary assets and liabilities arising from foreign currency transactions are retranslated at exchange rates prevailing at the reporting date. Exchange gains and losses on loans and on short-term foreign currency borrowings and deposits are included within Finance expense. Exchange differences on all other foreign currency transactions are recognised in Operating profit in the individual Group entity's accounting records.

Non-monetary items arising from foreign currency transactions are not retranslated in the individual Group entity's accounting records.

In the Consolidated Financial Statements, income and expense items for Group entities with a functional currency other than US dollars are translated into US dollars at average exchange rates, which approximate to actual rates, for the relevant accounting periods. Assets and liabilities are translated at the US dollar exchange rates prevailing at the reporting date. Exchange differences arising on consolidation are recognised in Other comprehensive income.

If certain criteria are met, non-US dollar-denominated loans or derivatives are designated as net investment hedges of foreign operations. Exchange differences arising on retranslation of net investments, and of foreign currency loans which are designated in an effective net investment hedge relationship, are recognised in Other comprehensive income in the Consolidated Financial Statements. Foreign exchange derivatives hedging net investments in foreign operations are carried at fair value. Effective fair value movements are recognised in Other comprehensive income, with any ineffectiveness taken to profit. Gains and losses accumulated in the translation reserve will be recycled to profit and loss when the foreign operation is sold.

Provisions

Provisions are recognised when there is either a legal or constructive present obligation as a result of a past event, it is probable that an outflow of economic resources will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation. If the effect of the time value of money is material, provisions are discounted at the relevant pre-tax discount rate. Where provisions are discounted, the increase in the provision resulting from the passage of time is recognised as a finance cost.

Litigation and environmental liabilities

AstraZeneca is involved in legal disputes, the settlement of which may involve cost to the Group. A provision is made where an adverse outcome is probable and associated costs, including related legal costs, can be estimated reliably. Determining the timing of recognition of when an adverse outcome is probable is considered a key judgement, refer to Note 30 to the Financial Statements from page 204.

Where it is considered that the Group is more likely than not to prevail, or in the extremely rare circumstances where the amount of the legal liability cannot be estimated reliably, legal costs involved in defending the claim are charged to the Consolidated Statement of Comprehensive Income as they are incurred.

Where it is considered that the Group has a valid contract which provides the right to reimbursement (from insurance or otherwise) of legal costs and/or all or part of any loss incurred or for which a provision has been established, the amount expected to be received is recognised as an asset only when it is virtually certain.

AstraZeneca is exposed to environmental liabilities relating to its past operations, principally in respect of soil and groundwater remediation costs. Provisions for these costs are made when there is a present obligation and where it is probable that expenditure on remedial work will be required and a reliable estimate can be made of the cost.

Restructuring

Restructuring costs are incurred in programmes that are planned and controlled by the Group which materially change either the scope of a business undertaken by the Group, or the manner in which that business is conducted.

A provision for restructuring costs is recognised when a detailed formal plan is in place and has either been announced to those affected or has started to be implemented. The general recognition criteria for provisions must also be met, as described in the Provisions policy.

Impairment

The carrying values of non-financial assets, other than Inventories and Deferred tax assets, are reviewed at least annually to determine whether there is any indication of impairment. For Goodwill, Intangible assets under development and for any other assets where such indication exists, the asset's recoverable amount is estimated based on the greater of its value in use and its fair value less cost to sell. In assessing the recoverable amount, the estimated future cash flows, adjusted for the risks associated with the probability of success specific to each asset, as well as inflationary impacts, are discounted to their present value using a nominal discount rate that reflects current market assessments of the time value of money, the general risks affecting the pharmaceutical industry and other risks specific to each asset. For the purpose of impairment testing, assets are grouped together into the smallest group of assets that generates cash inflows from continuing use that are largely independent of the cash flows of other assets. Impairment losses are recognised immediately in the Consolidated Statement of Comprehensive Income.

Applicable accounting standards and interpretations issued but not yet adopted

At the date of authorisation of these financial statements, certain new accounting standards and amendments were in issue relating to the following standards and interpretations but not yet adopted by the Group:

- amendments to IAS 1 'Presentation of Financial Statements', effective for periods beginning on or after 1 January 2024 – endorsed by the UK Endorsement Board (UKEB) on 21 July 2023
- amendments to IFRS 16 'Leases', effective for periods beginning on or after 1 January 2024 – endorsed by the UKEB on 11 May 2023
- amendments to IAS 7 'Statement of Cash Flows' and IFRS 7 'Financial Instruments: Disclosures', effective for periods beginning on or after 1 January 2024 – endorsed by the UKEB on 28 November 2023
- amendments to IAS 21 'The Effects of Changes in Foreign Exchange Rates', effective for periods beginning on or after 1 January 2025 – not endorsed by the UKEB.

These new standards, amendments and interpretations are not expected to have a significant impact on the Group's net results.

1 Revenue

Product Sales

	2023					2022					2021				
	US $m	Emerging Markets $m	Europe $m	Rest of World $m	Total $m	US $m	Emerging Markets $m	Europe $m	Rest of World $m	Total $m	US $m	Emerging Markets $m	Europe $m	Rest of World $m	Total $m
Oncology:															
Tagrisso	**2,276**	**1,621**	**1,120**	**782**	**5,799**	2,007	1,567	1,023	847	5,444	1,780	1,336	986	913	5,015
Imfinzi	**2,317**	**360**	**758**	**802**	**4,237**	1,552	287	544	401	2,784	1,245	277	485	405	2,412
Lynparza	**1,254**	**542**	**734**	**281**	**2,811**	1,226	488	655	269	2,638	1,087	384	618	259	2,348
Calquence	**1,815**	**98**	**493**	**108**	**2,514**	1,657	45	286	69	2,057	1,089	20	111	18	1,238
Enhertu	**–**	**169**	**60**	**32**	**261**	–	51	21	7	79	–	12	4	1	17
Orpathys	**–**	**44**	**–**	**–**	**44**	–	33	–	–	33	–	16	–	–	16
Truqap	**6**	**–**	**–**	**–**	**6**	–	–	–	–	–	–	–	–	–	–
Zoladex	**14**	**687**	**133**	**118**	**952**	15	657	133	122	927	13	619	147	169	948
Faslodex	**31**	**142**	**28**	**96**	**297**	17	159	55	103	334	30	167	113	121	431
Others	**6**	**165**	**6**	**47**	**224**	10	250	9	66	335	11	391	17	96	515
	7,719	**3,828**	**3,332**	**2,266**	**17,145**	6,484	3,537	2,726	1,884	14,631	5,255	3,222	2,481	1,982	12,940
Cardiovascular, Renal & Metabolism:															
Farxiga	**1,451**	**2,211**	**1,881**	**420**	**5,963**	1,071	1,665	1,297	348	4,381	732	1,195	810	263	3,000
Brilinta	**744**	**285**	**271**	**24**	**1,324**	744	286	282	46	1,358	735	328	346	63	1,472
Lokelma	**214**	**50**	**58**	**90**	**412**	170	20	30	69	289	115	3	13	44	175
roxadustat	**–**	**271**	**–**	**–**	**271**	–	197	–	–	197	–	174	–	–	174
Andexxa	**75**	**–**	**62**	**45**	**182**	77	–	41	32	150	50	–	18	–	68
Crestor	**55**	**862**	**52**	**138**	**1,107**	65	794	41	148	1,048	80	775	52	189	1,096
Seloken/Toprol-XL	**1**	**621**	**11**	**7**	**640**	–	839	14	9	862	1	928	11	11	951
Onglyza	**49**	**131**	**32**	**15**	**227**	76	121	38	22	257	88	179	61	32	360
Bydureon	**133**	**3**	**27**	**–**	**163**	242	3	35	–	280	321	3	55	6	385
Others	**30**	**152**	**109**	**5**	**296**	34	194	128	10	366	52	195	146	14	407
	2,752	**4,586**	**2,503**	**744**	**10,585**	2,479	4,119	1,906	684	9,188	2,174	3,780	1,512	622	8,088
Respiratory & Immunology:															
Symbicort	**726**	**753**	**549**	**334**	**2,362**	973	608	582	375	2,538	1,065	609	670	384	2,728
Fasenra	**992**	**64**	**355**	**142**	**1,553**	906	43	305	142	1,396	790	20	286	162	1,258
Breztri	**383**	**161**	**81**	**52**	**677**	239	92	33	34	398	115	55	7	26	203
Saphnelo	**260**	**2**	**8**	**10**	**280**	111	–	2	3	116	8	–	–	–	8
Tezspire	**–**	**1**	**48**	**37**	**86**	–	–	2	2	4	–	–	–	–	–
Pulmicort	**28**	**575**	**68**	**42**	**713**	65	462	69	49	645	72	770	73	47	962
Bevespi	**34**	**6**	**17**	**1**	**58**	42	5	10	1	58	39	4	11	–	54
Daliresp/Daxas	**42**	**3**	**8**	**1**	**54**	176	3	9	1	189	207	4	15	1	227
Others	**82**	**206**	**30**	**6**	**324**	143	230	42	6	421	108	287	185	14	594
	2,547	**1,771**	**1,164**	**625**	**6,107**	2,655	1,443	1,054	613	5,765	2,404	1,749	1,247	634	6,034
Vaccines & Immune Therapies:															
COVID-19 mAbs	**–**	**6**	**12**	**114**	**132**	1,067	413	298	407	2,185	–	19	66	–	85
Vaxzevria	**–**	**10**	**2**	**–**	**12**	79	729	365	625	1,798	64	2,240	1,035	578	3,917
Beyfortus	**87**	**–**	**19**	**–**	**106**	–	–	–	–	–	–	–	–	–	–
Synagis	**(1)**	**195**	**175**	**177**	**546**	1	173	213	191	578	23	35	203	149	410
FluMist	**23**	**1**	**188**	**4**	**216**	21	1	151	2	175	27	2	222	2	253
	109	**212**	**396**	**295**	**1,012**	1,168	1,316	1,027	1,225	4,736	114	2,296	1,526	729	4,665
Rare Disease:															
Soliris	**1,734**	**424**	**670**	**317**	**3,145**	2,180	301	805	476	3,762	1,068	170	439	197	1,874
Ultomiris	**1,750**	**71**	**668**	**476**	**2,965**	1,136	38	481	310	1,965	381	9	169	129	688
Strensiq	**937**	**40**	**89**	**86**	**1,152**	769	35	78	76	958	297	10	36	35	378
Koselugo	**195**	**59**	**53**	**24**	**331**	162	26	20	–	208	104	1	3	–	108
Kanuma	**85**	**29**	**49**	**8**	**171**	77	31	44	8	160	32	7	20	3	62
	4,701	**623**	**1,529**	**911**	**7,764**	4,324	431	1,428	870	7,053	1,882	197	667	364	3,110
Other:															
Nexium	**115**	**578**	**53**	**199**	**945**	120	568	46	551	1,285	128	705	62	431	1,326
Others	**18**	**153**	**52**	**8**	**231**	24	220	77	19	340	43	212	109	14	378
	133	**731**	**105**	**207**	**1,176**	144	788	123	570	1,625	171	917	171	445	1,704
Product Sales	**17,961**	**11,751**	**9,029**	**5,048**	**43,789**	17,254	11,634	8,264	5,846	42,998	12,000	12,161	7,604	4,776	36,541

SE Rebates and chargebacks in the US

The major market where estimates are seen as significant is the US. When invoicing Product Sales in the US, we estimate the rebates and chargebacks we expect to pay and we consider there to be a significant estimate associated with the rebates for Managed Care, Medicaid and Medicare Part D. The total adjustment in respect of prior year net US Product Sales revenue in 2023 was 1.0% (2022: 1.3%; 2021: 1.5%); this represents the difference between our prior year estimates for rebates and chargebacks against actual amounts paid for the US business. The most significant of these relate to the Medicaid and state programmes with an adjustment in respect of prior year net US Product Sales revenue in 2023 of 0.3% (2022: 0.5%; 2021: 0.4%) and Managed Care and Medicare of 0.5% (2022: 0.8%; 2021: 0.7%).

The adjustment in respect of the prior year net US Product Sales revenue, excluding the Rare Disease therapy area in 2023, was 1.4% (2022: 1.6%; 2021: 1.8%), with Medicaid and state programmes of 0.4% (2022: 0.6%; 2021: 0.5%) and Managed Care and Medicare of 0.7% (2022: 1.1%; 2021: 0.8%).

These values demonstrate the level of sensitivity; further meaningful sensitivity is not able to be provided due to the large volume of variables that contribute to the overall rebates, chargebacks, returns and other revenue accruals. These variables include assumptions in respect of aggregate future sales levels, segment mix and customers' contractual performance, and in addition for Managed Care, US Medicaid and Medicare Part D, the channel inventory levels, and assumptions related to lag time. These assumptions are built up on a product-by-product and customer-by-customer basis, taking into account specific contract provisions coupled with expected performance, and are then aggregated into a weighted average rebate accrual rate for each of our products. Accrual rates are reviewed and adjusted on an as-needed basis. There may be further adjustments when actual rebates are invoiced based on utilisation information submitted to AstraZeneca (in the case of contractual rebates) and claims/invoices are received (in the case of regulatory rebates and chargebacks).

Alliance Revenue

	2023 $m	2022 $m	2021 $m
Enhertu	**1,022**	523	197
Tezspire	**259**	79	–
Beyfortus	**57**	–	–
Vaxzevria: royalties	**–**	76	64
Other royalty income	**81**	68	70
Other Alliance Revenue	**9**	9	57
	1,428	755	388

Collaboration Revenue

	2023 $m	2022 $m	2021 $m
Lynparza: regulatory milestones	**245**	355	–
Lynparza: sales milestones	**–**	–	400
COVID-19 mAbs: licence fees	**180**	–	–
Farxiga: sales milestones	**29**	–	–
tralokinumab: sales milestones	**20**	110	–
Beyfortus: regulatory milestones	**71**	25	–
Beyfortus: sales milestones	**27**	–	–
Nexium: sale of rights	**–**	62	75
Other Collaboration Revenue	**22**	46	13
	594	598	488

2 Operating profit

Operating profit includes the following significant items:

Cost of sales

In 2023, Cost of sales includes a charge of $114m (2022: charge of $3,484m) in relation to the release, in line with sales, of fair value uplift to inventory that was recognised under IFRS 3 'Business Combinations' upon the acquisition of Alexion (see Note 27).

During the year, $nil government grants were recognised within Cost of sales (2022: $nil; 2021: $290m). The grants recognised in 2021 related to funding of manufactured *Vaxzevria* product for the US government, which expired prior to being accepted by the FDA.

Selling, general and administrative expense

In 2023, Selling, general and administrative expense includes a charge of $520m (2022: charge of $182m; 2021: charge of $42m) resulting from changes in the fair value of contingent consideration arising from the acquisition of the diabetes alliance from BMS. These adjustments reflect revised estimates for future sales performance for the products acquired and, as a result, revised estimates for future royalties payable.

In 2023, Selling, general and administrative expense also includes a charge of $1,013m (2022: charge of $789m; 2021: charge of $48m) relating to a number of legal proceedings, including settlements in various jurisdictions in relation to several marketed products (see Note 30).

Research and development expense: Government grants

During the year $74m (2022: $113m; 2021: $531m) of government grants were recognised within Research and development expense. The grants recognised relate to funding for Research and development and related expenses for COVID-19 mAbs of $nil (2022: $112m; 2021: $222m) and *Vaxzevria* of $74m (2022: $1m; 2021: $309m).

2 Operating profit *continued*

Other operating income and expense

	2023 $m	2022 $m	2021 $m
Royalty income	**107**	59	62
Gains on disposal of intangible assets	**251**	104	513
Gains on disposal of investments in associates and joint ventures	**–**	–	776
Net gains/(losses) on disposal of other non-current assets	**41**	112	(4)
Update to the contractual relationships for *Beyfortus* (nirsevimab)	**712**	–	–
Other income[1]	**393**	439	453
Other expense	**(164)**	(200)	(308)
Other operating income and expense	**1,340**	514	1,492

[1] Other income in 2023 includes $75m of income from Allergan Plc. in respect of the development of brazikumab (2022: $138m; 2021: $99m).

Gains on disposal of intangible assets in 2023 includes $241m on disposal of commercial rights to *Pulmicort Flexhaler* to Cheplapharm in the US.

Gains on disposal of intangible assets in 2021 includes $317m on disposal of rights to *Crestor* in over 30 countries in Europe, except in the UK and Spain.

Net gains/(losses) on disposal of other non-current assets in 2022 includes a $125m gain in respect of the Waltham R&D site sale and leaseback in MA, US (see Note 8).

Gains on disposal of investments in associates and joint ventures in 2021 relates to the disposal of the 26.7% ownership in Viela Bio, as part of the acquisition of Viela Bio by Horizon Therapeutics plc. AstraZeneca received cash proceeds and profit of $776m upon closing, with the profit recorded as Other operating income.

As part of the total consideration received in respect of the agreement to sell US rights to *Synagis* in 2019, $400m in total has been received related to the rights to participate in the future cash flows from the US profits or losses for *Beyfortus* (nirsevimab), with $190m cash inflows in 2023 primarily relating to a cash receipt from Sobi following achievement of a regulatory milestone. At 31 December 2022, the full amount of $522m was recognised as a financial liability within non-current Other payables (the Profit Participation Liability) as the Group had not fully transferred the risks and rewards of the underlying cash flows arising from *Beyfortus* to Sobi. All associated cash flows have been presented within investing activities as the Group has received the cash in exchange for agreeing to transfer future cash flows relating to an intangible asset. In 2023, the contractual relationship between AstraZeneca and Sobi relating to future sales of *Beyfortus* in the US was replaced by a royalty relationship between Sanofi and Sobi. As a result, the Profit Participation Liability was extinguished and derecognised from the Consolidated Statement of Financial Position, with a gain of $712m recorded in Other operating income and expense. In 2021, as a result of the Probability of Technical/Regulatory Success unwind, an increase of $114m to the Profit Participation Liability was recorded with the cost recorded in Other operating expense.

Restructuring costs

During 2023, the Group has incurred $467m of net restructuring costs, of which $362m resulted from activities that are part of the Post Alexion Acquisition Group Review (PAAGR), bringing the cumulative charges under this programme to $2,067m. Costs in 2023 included $109m within Cost of sales due to the rationalisation of our manufacturing capacity and footprint across certain production sites, $207m within Selling, general and administrative expense in relation to HR, Finance, IT & other integration costs as well as some severance costs, $212m within Research and development expense in relation to the transformation of clinical, regulatory and other R&D data and systems, partially offset by income of $61m in Other operating income and expense generated from the disposal of assets impacted by the restructuring.

In conjunction with the acquisition of Alexion in 2021, the enlarged Group initiated the PAAGR; a global restructuring programme aimed at integrating systems, structure and processes, optimising the global footprint and prioritising resource allocations and investments. During 2023, the Group has identified all remaining activities and finalised the scope of the programme. This includes the commencement of work on the planned upgrade of the Group's Enterprise Resource Planning IT systems (Axial Project), which is expected to be substantially complete by the end of 2030. The Group has also continued to progress other legacy restructuring programmes.

Total restructuring costs in 2023 includes an impairment charge to Property, plant and equipment of $7m (2022: reversal of $4m; 2021: charge of $343m), impairment of Right-of-use assets of $13m (2022: $nil; 2021: $nil) and no impairment of Intangible assets (software development costs) (2022: reversal $17m; 2021: charge of $16m).

The tables below show the costs that have been charged in respect of restructuring programmes by cost category and type. Severance provisions are detailed in Note 21.

	2023 $m	2022 $m	2021 $m
Cost of sales	**109**	266	722
Distribution expense	**–**	2	–
Research and development expense	**212**	111	223
Selling, general and administrative expense	**207**	405	338
Other operating income and expense	**(61)**	(67)	–
Total charge	**467**	717	1,283

	2023 $m	2022 $m	2021 $m
Severance costs	**57**	187	217
Accelerated depreciation and impairment charges	**68**	135	371
Other[1]	**342**	395	695
Total charge	**467**	717	1,283

[1] Other costs are those incurred in designing and implementing the Group's various restructuring initiatives, including costs of integrating systems, structure and processes as part of the PAAGR, costs relating to the Alexion acquisition, internal project costs and external service fees.

Financial instruments

Included within Operating profit are the following net gains and losses on financial instruments:

	2023 $m	2022 $m	2021 $m
Gains/(losses) on forward foreign exchange contracts	**42**	150	(21)
Losses on receivables and payables	**(260)**	(203)	(42)
Total	**(218)**	(53)	(63)

Impairment charges

Details of impairment charges for 2023, 2022 and 2021 are included in Notes 7, 8 and 10.

3 Finance income and expense

	2023 $m	2022 $m	2021 $m
Finance income			
Returns on deposits and equity securities	**291**	78	12
Fair value gains on debt and interest rate swaps	**43**	14	–
Interest income on income tax balances	**10**	3	31
Total	**344**	95	43
Finance expense			
Interest on debt, leases and other financing costs	**(1,132)**	(889)	(774)
Net interest on post-employment defined benefit plan net liabilities (Note 22)	**(38)**	(29)	(26)
Net exchange losses	**(34)**	(16)	(20)
Discount unwind on contingent consideration arising from business combinations (Note 20)	**(132)**	(168)	(226)
Discount unwind on other long-term liabilities[1]	**(200)**	(216)	(248)
Fair value losses on debt and interest rate swaps	**(3)**	–	(4)
Interest expense on income tax balances	**(87)**	(28)	(2)
Total	**(1,626)**	(1,346)	(1,300)
Net finance expense	**(1,282)**	(1,251)	(1,257)

[1] Included within Discount unwind on other long-term liabilities is $55m relating to the Acerta Pharma share purchase liability (2022: $108m; 2021: $161m) and the discount unwind of other payables of $100m (2022: $nil; 2021: $nil) that have arisen from intangible asset additions, see Note 20 for further details.

There was no interest capitalised during the year.

Financial instruments

Included within finance income and expense are the following net gains and losses on financial instruments:

	2023 $m	2022 $m	2021 $m
Interest and fair value adjustments in respect of debt designated at fair value through profit or loss, net of derivatives	**13**	(9)	(5)
Interest and changes in carrying values of debt designated as hedged items in fair value hedges, net of derivatives	**–**	–	(9)
Interest and fair value changes on fixed and short-term deposits, equity securities, other derivatives and tax balances	**177**	54	16
Interest on debt, commercial paper, overdrafts and lease liabilities held at amortised cost	**(1,004)**	(837)	(738)

The interest rate fair value hedges were closed in 2021. Fair value gain or loss of $nil (2022: $nil; 2021: loss of $33m) on interest rate fair value hedging instruments and $nil fair value gain or loss (2022: $nil; 2021: gain of $29m) on the related hedged items have been included within Interest and changes in carrying values of debt designated as hedged items in fair value hedges, net of derivatives.

Fair value loss of $1m (2022: loss of $25m; 2021: loss of $19m) on derivatives related to debt instruments designated at FVPL and $7m fair value gain (2022: gain of $26m; 2021: gain of $19m) on debt instruments designated at FVPL have been included within Interest and fair value adjustments in respect of debt designated at fair value through profit or loss, net of derivatives.

4 Taxation

Taxation charge/(credit) recognised in the Consolidated Statement of Comprehensive Income is as follows:

	2023 $m	2022 $m	2021 $m
Current tax			
Current year	**2,417**	1,823	1,200
Adjustment to prior years	**28**	(187)	(5)
Total	**2,445**	1,636	1,195
Deferred tax			
Origination and reversal of temporary differences	**(1,473)**	(2,563)	(1,417)
Adjustment to prior years	**(34)**	135	(158)
Total	**(1,507)**	(2,428)	(1,575)
Taxation charge/(credit) recognised in the profit for the year	**938**	(792)	(380)

Taxation credit/(charge) recognised in Other comprehensive income is as follows:

	2023 $m	2022 $m	2021 $m
Current and deferred tax			
Items that will not be reclassified to profit or loss:			
Remeasurement of the defined benefit liability	**102**	(231)	(117)
Equity investments measured at fair value through Other comprehensive income	**(1)**	15	27
Movement in deferred taxes relating to changes in tax rates	**–**	–	195
Total	**101**	(216)	105
Items that may be reclassified subsequently to profit or loss:			
Foreign exchange arising on designated liabilities in net investment hedges	**(24)**	73	43
Fair value movement on cash flow hedges	**12**	–	(5)
Movement in deferred taxes relating to changes in tax rates	**–**	–	8
Total	**(12)**	73	46
Taxation credit/(charge) recognised in Other comprehensive income	**89**	(143)	151

The reported tax rate in the year was 14% and included a favourable adjustment of $828m to deferred taxes arising from a UK group company undertaking a routine intragroup purchase of certain intellectual property. This intragroup purchase resulted in additional amortisable tax basis in the UK which can be fully utilised against forecast UK taxable profits. Deferred tax has been recognised on this additional tax basis in the year. This is offset by updates to tax liabilities following progress of reviews by tax authorities and administrative appeal processes and derecognition of deferred tax assets following changes to forecast taxable income of specific subsidiaries.

The income tax paid for the year was $2,366m.

Taxation has been provided at current rates on the profits earned for the years covered by the Group Financial Statements. The 2023 prior year current tax adjustment relates mainly to tax accrual to tax return adjustments and updates to provisions for tax contingencies. The 2022 prior year current tax adjustment relates mainly to tax accrual to tax return adjustments and updates to provisions for tax contingencies. The 2021 prior year current tax adjustment relates mainly to tax accrual to tax return adjustments.

The 2023 prior year deferred tax adjustment relates mainly to tax accrual to tax return adjustments and adjustments to the recognition of deferred tax assets. The 2022 prior year deferred tax adjustments relate mainly to tax accrual to tax return adjustments and updates to provisions for tax contingencies. The 2021 prior year deferred tax adjustments relate mainly to tax accrual to tax return adjustments and updates to estimates of prior year tax liabilities following settlements with tax authorities.

To the extent that dividends remitted from overseas subsidiaries, joint ventures and associates are expected to result in additional taxes, appropriate amounts have been provided for. Unremitted earnings or differences in the carrying value and tax basis of investments may be liable to additional taxes if distributed as dividends or on a liquidation event. Deferred tax is provided for such differences in relation to Group entities where management is intending to remit earnings in the foreseeable future. The aggregate amount of gross temporary differences associated with investments in subsidiaries, partnerships and branches for which deferred tax liabilities have not been recognised totalled approximately $7,565m at 31 December 2023, $3,221m of which has a corresponding deductible temporary difference of the same gross value which is not recognised as it is not probable of reversing in the foreseeable future but on which different tax rates apply.

Factors affecting future tax charges

As a group with worldwide operations, AstraZeneca is subject to several factors that may affect future tax charges, principally the levels and mix of profitability in different jurisdictions, transfer pricing regulations, tax rates imposed and tax regime reforms. On 11 July 2023, Finance (No.2) Act 2023 was enacted in the UK, introducing a global minimum effective tax rate of 15%. The legislation implements a domestic top-up tax and a multinational top-up tax, effective for accounting periods starting on or after 31 December 2023. A Pillar 2 Effective Tax Rate (ETR) is calculated for every jurisdiction in which the Group operates and Pillar 2 Income Taxes will arise when the Pillar 2 ETR is less than 15%. Pillar 2 Income Taxes could be payable in the UK, or the local jurisdiction if it has introduced a Qualifying Domestic Minimum top-up Tax. AstraZeneca is continuing to monitor potential impacts as further guidance is published by the OECD and territories implement legislation to enact the rules. Management has performed an assessment of the impact of the UK's Pillar 2 rules based on our 2023 data and no Pillar 2 Income Taxes are expected to arise for most jurisdictions in which the Group operates. It is anticipated that AstraZeneca may, in some jurisdictions, incur additional tax liabilities, but the effect on the reported tax charge is reasonably estimated to be immaterial.

The Group has applied the exemption under the IAS 12 'Income Taxes' amendment for recognising and disclosing information about deferred tax assets and liabilities related to top-up income taxes.

Tax reconciliation to UK statutory rate

The table below reconciles the UK statutory tax charge to the Group's total tax charge/(credit):

	2023 $m	2022 $m	2021 $m
Profit/(loss) before tax	**6,899**	2,501	(265)
Notional taxation charge at UK corporation tax rate of 23.5% (2022: 19%; 2021: 19%)	**1,621**	475	(50)
Differences in effective overseas tax rates[1]	**(224)**	(59)	1
Deferred tax (credit)/charge relating to change in tax rates[2]	**(66)**	(108)	54
Unrecognised deferred tax asset[3]	**341**	68	32
Items not deductible for tax purposes	**46**	90	208
Items not chargeable for tax purposes	**–**	–	(163)
Intellectual Property incentive regimes[4]	**(367)**	(265)	–
Other items[5]	**(406)**	(941)	(299)
Adjustments in respect of prior years[6]	**(7)**	(52)	(163)
Total tax charge/(credit) for the year	**938**	(792)	(380)

1 Includes the impact of the reversal of a $1.9bn deferred tax liability that was recognised in a previous business combination (31 December 2023: $0.9bn) and originated in goodwill. Some of this liability reverses in an innovation incentive regime and gives rise to a post-acquisition benefit to the tax charge that is not material year-on-year. Determining the cumulative post-acquisition benefit over the life of the asset involves estimates and judgements as the amount of income that qualifies for the IP incentive regime varies. The actual tax rates applied over the life of the asset are expected to be a blend between the Dutch statutory tax rate and intellectual property incentive regime rate.

2 The 2023 item relates to the impact of the difference in the UK current and deferred tax rates during 2023. The 2022 item relates to the impact of the US state tax rate change and the impact of the difference in the UK current tax and deferred tax rates during 2022. The 2021 item mainly relates to substantive enactment of the increase in UK Corporation Tax rate from 19% to 25% effective 1 April 2023 and the increase in the Dutch Corporate Income Tax rate from 25% to 25.8% effective 1 January 2022.

3 This includes the derecognition of deferred tax assets where it is no longer probable that there will be sufficient forecast future profits to utilise the assets.

4 Previously reported within the line Items not deductible for tax purposes.

5 Other items in 2023 include a favourable adjustment of $828m to deferred taxes arising from a UK company undertaking an intragroup purchase of certain intellectual property (see page 164 for more information) offset by a charge of $422m mainly relating to updates to tax liabilities following progress of reviews by tax authorities, administrative appeal processes and adjustments arising on expiry of the relevant statute of limitations (see Note 30 for more details). Other items in 2022 includes a one-time favourable net adjustment of $876m to deferred taxes arising from an internal reorganisation to integrate the Alexion organisation which took place in 2022 and a credit of $65m relating to the reduction of tax liabilities arising from adjustments on expiry of the relevant statute of limitations. Other items in 2021 relate to a net credit of $299m relating to the reduction of tax liabilities arising from updates to estimates of prior year tax liabilities following settlements with tax authorities and on expiry of the relevant statute of limitations partially offset by a provision for transfer pricing and other contingencies.

6 Further details explaining the adjustments in respect of prior years are set out on page 164.

AstraZeneca is domiciled in the UK but operates in other countries where the tax rates and laws are different to those in the UK. The impact on differences in effective overseas tax rates on the Group's overall tax charge is noted above. Profits arising from our manufacturing operation in Puerto Rico are granted special status and are taxed at a reduced rate compared with the normal rate of tax in that territory under a tax incentive grant continuing until 2031. The Group receives intellectual property incentives in certain jurisdictions, resulting in a reduction to the tax charge in the income statement of $367m in 2023.

4 Taxation *continued*

Deferred tax

The total movement in the net deferred tax balance in the year was $1,555m. The movements are as follows:

	Intangibles, Property, plant and equipment[1] $m	Pension and post-retirement benefits $m	Elimination of unrealised profit on inventory $m	Untaxed reserves[2] $m	Losses and tax credits carried forward $m	Accrued expenses $m	Other $m	Total $m
Net deferred tax balance at 1 January 2021	(2,627)	656	1,807	(801)	714	660	111	520
Income statement	782	(166)	(59)	(139)	307	697	153	1,575
Other comprehensive income	52	83	–	–	–	–	40	175
Equity	–	–	–	–	–	4	10	14
Additions through business combinations[3]	(3,744)	13	166	–	507	(1,263)	147	(4,174)
Exchange	57	(33)	(53)	78	(10)	(13)	(12)	14
Net deferred tax balance at 31 December 2021	(5,480)	553	1,861	(862)	1,518	85	449	(1,876)
Income statement[4]	1,414	(55)	274	38	(126)	778	105	2,428
Other comprehensive income	72	(231)	–	–	–	–	16	(143)
Equity	–	–	–	–	–	–	38	38
Exchange	63	(36)	(111)	108	(134)	17	(35)	(128)
Net deferred tax balance at 31 December 2022	(3,931)	231	2,024	(716)	1,258	880	573	319
Income statement[4]	**1,518**	**(69)**	**426**	**96**	**(308)**	**(23)**	**(133)**	**1,507**
Other comprehensive income	**(16)**	**106**	**–**	**–**	**–**	**–**	**(23)**	**67**
Equity	**–**	**–**	**–**	**–**	**–**	**–**	**(21)**	**(21)**
Additions	**(24)**	**–**	**–**	**–**	**50**	**–**	**(1)**	**25**
Exchange	**(38)**	**15**	**(64)**	**(40)**	**106**	**32**	**(34)**	**(23)**
Net deferred tax balance at 31 December 2023[5]	**(2,491)**	**283**	**2,386**	**(660)**	**1,106**	**889**	**361**	**1,874**

[1] Includes deferred tax assets of $507m on liabilities in respect of intangibles and $188m on lease liabilities in respect of right-of-use assets.

[2] Untaxed reserves relate to taxable profits where the tax liability is deferred to later periods.

[3] The deferred tax liability of $4,174m relates to deferred tax on purchase accounting adjustments arising from the acquisition of Alexion (Note 27). Accrued expenses includes the deferred tax on the purchase accounting of inventory.

[4] The Income statement movement in 2023 includes $828m arising from a UK company undertaking an intragroup purchase of certain intellectual property (see page 164 for further details). The Income statement movement in 2022 includes the aforementioned net adjustment to deferred taxes of $876m arising on the internal legal entity reorganisation to integrate the Alexion organisation, the majority of which arises on Intangibles, Property, plant and equipment.

[5] The Group recognises deferred tax assets to the extent that there are either taxable temporary differences or that it is probable that sufficient future taxable profits will arise, against which these deductible temporary differences can be utilised. The US includes a net deferred tax asset of $142m and the UK includes a net deferred tax asset of $1,723m as at 31 December 2023 which includes tax losses and other deductible temporary differences. The Group has performed an assessment of recovery of deferred tax assets and for these respective entities, the Group has forecasted future taxable profits and considers that it is probable that sufficient future taxable profits will arise against which these deductible temporary differences can be utilised. In arriving at these forecasts, the Group has reviewed the Group-level budgets and forecasts and the ability of those entities to generate future income from developing and commercialising products, including local tax laws and the scheduling of reversal of deductible temporary differences. Deferred tax assets are recognised on the basis there is sufficient forecast future taxable profits arising from the performance of on-market products and pipeline assets, including *Imfinzi*. For the UK, losses are forecast to be utilised within five years. For the US, recognised deferred taxes on losses and other items are forecast to be utilised within 15 years. It is considered that these sources of income are sufficiently predictable or diversified to support these recognition periods. A sensitivity assessment has been performed which shows that a change in profit of 10% results in an immaterial adjustment to the amount of deferred tax asset recognised. Assessing the availability of future taxable income to support recognition of deferred tax assets relies upon our Group forecasts and changes in these Group forecasts will impact the recoverability of deferred tax assets. To the extent that there are neither taxable temporary differences nor sufficient taxable profits, no deferred tax asset is recognised and details of unrecognised deferred tax assets are included in the table below.

The net deferred tax balance, before the offset of balances within countries, consists of:

	Intangibles, Property, plant and equipment $m	Pension and post-retirement benefits $m	Elimination of unrealised profit on inventory $m	Untaxed reserves $m	Losses and tax credits carried forward $m	Accrued expenses $m	Other $m	Total $m
Deferred tax assets at 31 December 2021	1,476	574	1,910	–	1,571	1,117	618	7,266
Deferred tax liabilities at 31 December 2021	(6,956)	(21)	(49)	(862)	(53)	(1,032)	(169)	(9,142)
Net deferred tax balance at 31 December 2021	(5,480)	553	1,861	(862)	1,518	85	449	(1,876)
Deferred tax assets at 31 December 2022	1,499	276	2,048	–	1,274	1,005	609	6,711
Deferred tax liabilities at 31 December 2022	(5,430)	(45)	(24)	(716)	(16)	(125)	(36)	(6,392)
Net deferred tax balance at 31 December 2022	(3,931)	231	2,024	(716)	1,258	880	573	319
Deferred tax assets at 31 December 2023	**1,883**	**313**	**2,386**	**–**	**1,141**	**1,011**	**488**	**7,222**
Deferred tax liabilities at 31 December 2023	**(4,374)**	**(30)**	**–**	**(660)**	**(35)**	**(122)**	**(127)**	**(5,348)**
Net deferred tax balance at 31 December 2023	**(2,491)**	**283**	**2,386**	**(660)**	**1,106**	**889**	**361**	**1,874**

Analysed in the Consolidated Statement of Financial Position, after offset of balances within countries, as follows:

	2023 $m	2022 $m	2021 $m
Deferred tax assets	**4,718**	3,263	4,330
Deferred tax liabilities	**(2,844)**	(2,944)	(6,206)
Net deferred tax balance	**1,874**	319	(1,876)

Unrecognised deferred tax assets

Deferred tax assets (DTA) of $1,251m (2022: $807m; 2021: $719m) have not been recognised in respect of deductible temporary differences because it is not probable that future taxable profit will be available against which the Group can utilise the benefits therefrom.

	2023 Temporary differences $m	**2023 Unrecognised DTA $m**	2022 Temporary differences $m	2022 Unrecognised DTA $m	2021 Temporary differences $m	2021 Unrecognised DTA $m
Temporary differences expiring:						
Within 10 years	**87**	**22**	104	26	4	1
More than 10 years	**153**	**32**	153	32	53	11
Indefinite	**2,788**	**595**	686	163	300	79
	3,028	**649**	943	221	357	91
Tax credits and State tax losses expiring:						
Within 10 years		**152**		115		101
More than 10 years		**363**		384		441
Indefinite		**87**		87		86
		602		586		628
Total		**1,251**		807		719

5 Earnings per $0.25 Ordinary Share

	2023	2022	2021
Profit for the year attributable to equity holders ($m)	**5,955**	3,288	112
Basic earnings per Ordinary Share	**$3.84**	$2.12	$0.08
Diluted earnings per Ordinary Share	**$3.81**	$2.11	$0.08
Weighted average number of Ordinary Shares in issue for basic earnings (millions)	**1,549**	1,548	1,418
Dilutive impact of share options outstanding (millions)	**13**	12	9
Diluted weighted average number of Ordinary Shares in issue (millions)	**1,562**	1,560	1,427

The earnings figures used in the calculations above are post-tax. The weighted average number of Ordinary Shares in issue is calculated by taking the number of Ordinary Shares outstanding each day weighted by the number of days that those shares were outstanding.

6 Segment information

The Group has reviewed its assessment of reportable segments under IFRS 8 'Operating Segments' and concluded that the Group continues to have one reportable segment.

KJ This determination is considered to be a Key Judgement and this judgement has been taken with reference to the following factors:

1 The level of integration across the different functions of the Group's pharmaceutical business:
AstraZeneca is engaged in a single business activity of pharmaceuticals and the Group does not have multiple operating segments. AstraZeneca's pharmaceuticals business consists of the discovery and development of new products, which are then manufactured, marketed and sold. All of these functional activities take place (and are managed) globally on a highly integrated basis. These individual functional areas are not managed separately.

2 The identification of the Chief Operating Decision Maker (CODM) and the nature and extent of the financial information reviewed by the CODM:
The SET, established and chaired by the CEO, is the vehicle through which the CEO exercises the authority delegated to him from the Board for the management, development and performance of AstraZeneca as a whole. It is considered that the SET is AstraZeneca's Chief Operating Decision Making body (as defined by IFRS 8). The operation of the SET is principally driven by the management of the Commercial operations, R&D, manufacturing and supply and enabling functions. All significant operating decisions are undertaken by the SET. While members of the SET have responsibility for implementation of decisions in their respective areas, operating decision making is at SET level as a whole. Where necessary, these are implemented through cross-functional sub-committees that consider the Group-wide impact of a new decision. For example, product launch decisions would be initially considered by the SET and, on approval, passed to an appropriate sub team for implementation. The ability of the enterprise to develop, produce, deliver and commercialise a wide range of pharmaceutical products are central to the SET decision-making process.

In assessing performance, the SET reviews financial information on an integrated basis for the Group as a whole, substantially in the form of, and on the same basis as, the Group's IFRS Financial Statements. The high upfront cost of discovering and developing new products, coupled with the relatively insignificant and stable unit cost of production, means that there is not the clear link that exists in many manufacturing businesses between the revenue generated on an individual product sale and the associated cost and hence margin generated on a product. Consequently, the profitability of individual drugs or classes of drugs is not considered a key measure of performance for the business and is not monitored by the SET. The focus of additional financial information reviewed is at brand sales and Gross Margin level within specific geographies. Expenditure analysis is completed for the science units, operations and enabling functions; there is no allocation of these centrally managed Group costs to the individual product or brands. The bonus of SET members' continues to be derived from the Group scorecard outcome as discussed in our Directors' Remuneration Report.

3 How resources are allocated:
Resources are allocated on a Group-wide basis according to need. In particular, capital expenditure, in-licensing, and R&D resources are allocated between activities on merit, based on overall therapeutic considerations and strategy under the aegis of the Group's Early-Stage Product Committees and Late-Stage Product Committees.

6 Segment information *continued*

Geographic areas

The following table shows information for Total Revenue by geographic area and material countries. The additional tables show the Operating profit and Profit before tax made by companies located in that area, together with Non-current assets, Total assets, Assets acquired, Net operating assets, and Property, plant and equipment owned by the same companies. Product Sales by geographic market are included in the area/country where the legal entity resides and from which those sales were made.

	Total Revenue		
	2023 $m	2022 $m	2021 $m
UK	**3,368**	3,117	3,245
Rest of Europe			
France	**1,152**	1,107	915
Germany	**2,099**	1,902	1,486
Italy	**813**	735	577
Spain	**847**	738	578
Sweden	**1,704**	1,721	2,322
Others	**3,110**	2,706	1,949
	9,725	8,909	7,827
The Americas			
Canada	**967**	1,166	772
US	**18,121**	17,278	12,047
Others	**1,683**	1,175	1,203
	20,771	19,619	14,022
Asia, Africa & Australasia			
Australia	**390**	571	547
China	**5,872**	5,743	6,002
Japan	**3,640**	3,986	3,395
Others	**2,045**	2,406	2,379
	11,947	12,706	12,323
Total Revenue	**45,811**	44,351	37,417

Total Revenue outside of the UK totalled $42,443m for the year ended 31 December 2023 (2022: $41,234m; 2021: $34,172m).

	Operating profit/(loss)			Profit/(loss) before tax		
	2023 $m	2022 $m	2021 $m	**2023 $m**	2022 $m	2021 $m
UK	**665**	1,120	(950)	**(577)**	272	(1,477)
Rest of Europe	**4,885**	2,945	2,999	**4,999**	2,709	2,682
The Americas	**1,495**	(954)	(1,936)	**1,328**	(1,140)	(2,401)
Asia, Africa & Australasia	**1,148**	646	943	**1,149**	660	931
Continuing operations	**8,193**	3,757	1,056	**6,899**	2,501	(265)

	Non-current assets[1,2]			Total assets		
	2023 $m	2022 $m	2021 $m	**2023 $m**	2022 $m	2021 $m
UK	**8,626**	8,208	7,310	**19,616**	16,786	16,615
Rest of Europe	**32,905**	34,301	38,286	**40,638**	40,669	48,383
The Americas	**26,524**	25,425	26,333	**34,754**	32,990	34,301
Asia, Africa & Australasia	**910**	929	1,078	**6,111**	6,038	6,064
Continuing operations	**68,965**	68,863	73,007	**101,119**	96,483	105,363

	Assets acquired[3]			Net operating assets[4]		
	2023 $m	2022 $m	2021 $m	**2023 $m**	2022 $m	2021 $m
UK	**812**	2,301	810	**5,275**	3,863	3,239
Rest of Europe	**1,770**	522	26,527	**32,920**	32,726	40,161
The Americas	**1,925**	421	10,810	**22,746**	23,290	24,786
Asia, Africa & Australasia	**117**	51	94	**1,405**	1,895	736
Continuing operations	**4,624**	3,295	38,241	**62,346**	61,774	68,922

[1] Non-current assets exclude Deferred tax assets and Derivative financial instruments.
[2] The Group has revised the presentation of Non-current assets to exclude certain financial assets and post-employment benefit assets which previously had been included in this disclosure. This resulted in a decrease in 2022 of $1,690m and in 2021 of $1,680m.
[3] Included in Assets acquired are those assets that are expected to be used during more than one period (Property, plant and equipment, Goodwill and Intangible assets) and include those acquired through business combinations (Note 27).
[4] Net operating assets exclude short-term investments, cash, short-term borrowings, loans, Derivative financial instruments, Retirement benefit obligations and non-operating receivables and payables.

	Property, plant and equipment		
	2023 $m	2022 $m	2021 $m
UK	**2,831**	2,526	2,542
Ireland	**1,164**	1,040	969
Sweden	**1,678**	1,472	1,593
US	**2,371**	2,176	2,660
Rest of the world	**1,358**	1,293	1,419
Continuing operations	**9,402**	8,507	9,183

Geographic markets

The table below shows Product Sales in each geographic market in which customers are located.

	2023 $m	2022 $m	2021 $m
UK	**978**	996	1,206
Rest of Europe	**8,201**	7,503	6,792
The Americas	**20,855**	20,126	14,893
Asia, Africa & Australasia	**13,755**	14,373	13,650
Continuing operations	**43,789**	42,998	36,541

Product Sales are recognised when control of the goods has been transferred to a third party. A significant proportion of this is upon delivery of the products to wholesalers. One wholesaler (2022: one; 2021: one) individually represented greater than 10% of Product Sales. The value of Product Sales to this wholesaler was $6,513m (2022: $5,387m; 2021: $4,862m).

7 Property, plant and equipment

	Land and buildings $m	Plant and equipment $m	Assets in course of construction $m	Total Property, plant and equipment $m
Cost				
At 1 January 2021	5,851	7,738	2,478	16,067
Additions through business combinations (Note 27)	542	339	254	1,135
Capital expenditure	9	31	1,112	1,152
Transfer of assets into use	236	611	(847)	–
Disposals and other movements	(92)	(469)	(200)	(761)
Exchange adjustments	(169)	(347)	(69)	(585)
At 31 December 2021	6,377	7,903	2,728	17,008
Capital expenditure	5	19	1,042	1,066
Transfer of assets into use	226	683	(909)	–
Transfer of Assets held for sale (Note 18)	(434)	(293)	–	(727)
Disposals and other movements	(425)	(146)	28	(543)
Exchange adjustments	(309)	(610)	(236)	(1,155)
At 31 December 2022	5,440	7,556	2,653	15,649
Additions through business combinations (Note 27)	**2**	**10**	**–**	**12**
Capital expenditure	**9**	**43**	**1,402**	**1,454**
Transfer of assets into use	**959**	**1,158**	**(2,117)**	**–**
Disposals and other movements	**(6)**	**(255)**	**(11)**	**(272)**
Exchange adjustments	**65**	**192**	**118**	**375**
At 31 December 2023	**6,469**	**8,704**	**2,045**	**17,218**
Depreciation and impairment				
At 1 January 2021	2,826	4,990	–	7,816
Depreciation charge for the year	231	493	–	724
Impairment (reversal)/charge	(1)	121	223	343
Disposals and other movements	(74)	(428)	(223)	(725)
Exchange adjustments	(105)	(228)	–	(333)
At 31 December 2021	2,877	4,948	–	7,825
Depreciation charge for the year	286	566	–	852
Impairment charge/(reversal)	20	8	(28)	–
Transferred to Assets held for sale (Note 18)	(300)	(277)	–	(577)
Disposals and other movements	(227)	(188)	28	(387)
Exchange adjustments	(167)	(404)	–	(571)
At 31 December 2022	2,489	4,653	–	7,142
Depreciation charge for the year	**241**	**492**	**–**	**733**
Impairment charge	**4**	**4**	**–**	**8**
Disposals and other movements	**(13)**	**(220)**	**–**	**(233)**
Exchange adjustments	**44**	**122**	**–**	**166**
At 31 December 2023	**2,765**	**5,051**	**–**	**7,816**

7 Property, plant and equipment *continued*

	Land and buildings $m	Plant and equipment $m	Assets in course of construction $m	Total Property, plant and equipment $m
Net book value				
At 31 December 2021	3,500	2,955	2,728	9,183
At 31 December 2022	2,951	2,903	2,653	8,507
At 31 December 2023	**3,704**	**3,653**	**2,045**	**9,402**

Impairment charges in 2021 totalling $343m were recognised for Plant and equipment and Assets in course of construction due to the rationalisation of our manufacturing capacity and footprint across certain production sites as a result of restructuring programmes, including the PAAGR (see Note 2). These charges were recognised in Cost of sales. The revised carrying value of the impacted assets is $nil, under fair value less costs to sell.

	2023 $m	2022 $m	2021 $m
The net book value of land and buildings comprised:			
Freeholds	**2,976**	2,555	2,985
Leasehold	**728**	396	515

8 Leases

Right-of-use assets

	Land and buildings $m	Motor vehicles $m	Other $m	Total Right-of-use assets $m
Cost				
At 1 January 2021	735	272	36	1,043
Additions through business combinations (Note 27)	255	8	–	263
Additions – separately acquired	145	98	2	245
Disposals and other movements	25	(44)	(4)	(23)
Exchange adjustments	(27)	(13)	(1)	(41)
At 31 December 2021	1,133	321	33	1,487
Additions through business combinations (Note 27)	4	–	–	4
Additions – separately acquired	140	81	14	235
Disposals and other movements	(33)	(58)	(13)	(104)
Exchange adjustments	(62)	(15)	(2)	(79)
At 31 December 2022	1,182	329	32	1,543
Additions through business combinations (Note 27)	**8**	**–**	**–**	**8**
Additions – separately acquired	**220**	**219**	**5**	**444**
Disposals and other movements	**(71)**	**(57)**	**(2)**	**(130)**
Exchange adjustments	**13**	**4**	**1**	**18**
At 31 December 2023	**1,352**	**495**	**36**	**1,883**
Depreciation and impairment				
At 1 January 2021	247	117	13	377
Depreciation charge for the year	144	85	6	235
Disposals and other movements	(54)	(42)	–	(96)
Exchange adjustments	(11)	(6)	–	(17)
At 31 December 2021	326	154	19	499
Depreciation charge for the year	160	80	6	246
Impairment charge	2	–	–	2
Disposals and other movements	(54)	(50)	(10)	(114)
Exchange adjustments	(23)	(8)	(1)	(32)
At 31 December 2022	411	176	14	601
Depreciation charge for the year	**170**	**98**	**7**	**275**
Impairment charge	**14**	**–**	**–**	**14**
Disposals and other movements	**(53)**	**(61)**	**(2)**	**(116)**
Exchange adjustments	**7**	**2**	**–**	**9**
At 31 December 2023	**549**	**215**	**19**	**783**
Net book value				
At 31 December 2021	807	167	14	988
At 31 December 2022	771	153	18	942
At 31 December 2023	**803**	**280**	**17**	**1,100**

Lease liabilities

	2023 $m	2022 $m	2021 $m
The present value of lease liabilities is as follows:			
Within one year	**(271)**	(228)	(233)
Later than one year and not later than five years	**(657)**	(549)	(544)
Later than five years	**(200)**	(176)	(210)
Total lease liabilities	**(1,128)**	(953)	(987)

The interest expense on lease liabilities included within Finance expense was $33m (2022: $24m; 2021: $22m).

The total cash outflow for leases in 2023 was $301m (2022: $268m; 2021: $262m).

The Group has entered into lease contracts that have not yet commenced. The nominal value of estimated future lease payments under these lease contracts approximates $1,615m as of 31 December 2023. Of this value, $1,348m relates to a property lease in the US which is expected to commence in 2026 with a lease term of 15 years.

In 2022 the Group entered into a sale and leaseback agreement in relation to the Waltham R&D site in MA, US. Prior to the sale, the carrying value of the Property, plant and equipment was $124m. Cash proceeds of $265m were received, recorded within Disposal of property, plant and equipment within the Consolidated Statement of Cash Flows, and a gain on disposal of $125m was recorded within Other operating income and expense within the Consolidated Statement of Comprehensive Income. A lease liability and a corresponding right-of-use asset were recorded of $28m and $13m, respectively.

9 Goodwill

	2023 $m	2022 $m	2021 $m
Cost			
At 1 January	**20,131**	20,311	12,164
Additions through business combinations (Note 27)	**158**	15	8,287
Exchange and other adjustments	**72**	(195)	(140)
At 31 December	**20,361**	20,131	20,311
Amortisation and impairment losses			
At 1 January	**311**	314	319
Exchange and other adjustments	**2**	(3)	(5)
At 31 December	**313**	311	314
Net book value			
At 31 December	**20,048**	19,820	19,997

Goodwill is tested for impairment at the operating segment level, this being the level at which goodwill is monitored for internal management purposes. As detailed in Note 6, the Group does not have multiple operating segments and is engaged in a single business activity of pharmaceuticals.

Recoverable amount is determined on a fair value less costs to sell basis using the market value of the Company's outstanding Ordinary Shares. Our market capitalisation is compared to the book value of the Group's net assets and this indicates a significant surplus at 31 December 2023 (and 31 December 2022 and 31 December 2021). No goodwill impairment was identified.

10 Intangible assets

	Product, marketing and distribution rights $m	Other intangibles $m	Software development costs $m	Total $m
Cost				
At 1 January 2021	42,677	2,642	1,288	46,607
Additions through business combinations (Note 27)	26,455	430	70	26,955
Additions – separately acquired	587	6	119	712
Transferred to Assets held for sale (Note 18)	(1,266)	(47)	–	(1,313)
Disposals	(801)	(402)	(23)	(1,226)
Exchange and other adjustments	(1,062)	(18)	(22)	(1,102)
At 31 December 2021	66,590	2,611	1,432	70,633
Additions through business combinations (Note 27)	–	46	–	46
Additions – separately acquired	2,051	12	105	2,168
Disposals	(57)	(105)	(36)	(198)
Exchange and other adjustments	(1,799)	(122)	(106)	(2,027)
At 31 December 2022	66,785	2,442	1,395	70,622
Additions through business combinations (Note 27)	**65**	**35**	**–**	**100**
Additions – separately acquired	**2,530**	**200**	**170**	**2,900**
Disposals	**(669)**	**–**	**(14)**	**(683)**
Exchange and other adjustments	**496**	**30**	**24**	**550**
At 31 December 2023	**69,207**	**2,707**	**1,575**	**73,489**
Amortisation and impairment losses				
At 1 January 2021	22,564	2,128	968	25,660
Amortisation for year	2,908	172	63	3,143
Impairment charges	2,067	–	18	2,085
Transferred to Assets held for sale (Note 18)	(931)	(14)	–	(945)
Disposals	(797)	(402)	(21)	(1,220)
Exchange and other adjustments	(535)	(21)	(26)	(582)
At 31 December 2021	25,276	1,863	1,002	28,141
Amortisation for year	3,899	181	76	4,156
Impairment charges	236	82	–	318
Impairment reversals	(77)	–	(17)	(94)
Disposals	(55)	(105)	(20)	(180)
Exchange and other adjustments	(887)	(76)	(63)	(1,026)
At 31 December 2022	28,392	1,945	978	31,315
Amortisation for year	**3,771**	**75**	**80**	**3,926**
Impairment charges	**434**	**–**	**–**	**434**
Disposals	**(667)**	**–**	**(12)**	**(679)**
Exchange and other adjustments	**336**	**41**	**27**	**404**
At 31 December 2023	**32,266**	**2,061**	**1,073**	**35,400**
Net book value				
At 31 December 2021	41,314	748	430	42,492
At 31 December 2022	38,393	497	417	39,307
At 31 December 2023	**36,941**	**646**	**502**	**38,089**

	2023 $m	2022 $m	2021 $m
Net book value			
Current intangible assets	**–**	–	105
Non-current intangible assets	**38,089**	39,307	42,387
At 31 December	**38,089**	39,307	42,492

Other intangibles consist mainly of research and device technologies and the Alexion brand name. Included within Software development costs are assets currently in development that will commence amortisation when ready for use.

Included within Additions – separately acquired are amounts of $625m (2022: $1,135m; 2021: $124m), relating to deferred payments and other non-cash consideration for the acquisition of Product, marketing and distribution rights, which are not reflected in the current year Consolidated Statement of Cash Flows. Disposals include amounts related to fully depreciated assets that are no longer in use by the Group.

Amortisation charges are recognised in profit as follows:

	Product, marketing and distribution rights $m	Other intangibles $m	Software development costs $m	Total $m
Year ended 31 December 2021				
Cost of sales	66	–	–	66
Research and development expense	–	33	–	33
Selling, general and administrative expense	2,842	138	63	3,043
Other operating income and expense	–	1	–	1
Total	2,908	172	63	3,143
Year ended 31 December 2022				
Cost of sales	32	–	–	32
Research and development expense	–	30	–	30
Selling, general and administrative expense	3,867	151	76	4,094
Total	3,899	181	76	4,156
Year ended 31 December 2023				
Cost of sales	**32**	**–**	**–**	**32**
Research and development expense	**–**	**28**	**–**	**28**
Selling, general and administrative expense	**3,739**	**47**	**80**	**3,866**
Total	**3,771**	**75**	**80**	**3,926**

Net impairment charges are recognised in profit as follows:

	Product, marketing and distribution rights $m	Other intangibles $m	Software development costs $m	Total $m
Year ended 31 December 2021				
Research and development expense	1,464	–	–	1,464
Selling, general and administrative expense	603	–	18	621
Total	2,067	–	18	2,085
Year ended 31 December 2022				
Research and development expense	95	–	–	95
Selling, general and administrative expense	64	82	(17)	129
Total	159	82	(17)	224
Year ended 31 December 2023				
Research and development expense	**417**	**–**	**–**	**417**
Selling, general and administrative expense	**17**	**–**	**–**	**17**
Total	**434**	**–**	**–**	**434**

Impairment charges and reversals

We perform a rigorous impairment trigger assessment for all our intangible assets. Intangible assets under development and not available for use are tested annually for impairment and other intangible assets are tested when there is an indication of impairment loss or reversal. Where testing is required, the recoverable amount of the assets is estimated in order to determine the extent of the impairment loss or reversal. Where it is not possible to estimate the recoverable amount of an individual asset, the Group estimates the recoverable amount of the Cash Generating Unit (CGU) to which it belongs. The Group considers that as the intangible assets are linked to individual products and that product cash flows are considered to be largely independent of other product cash flows, the CGU for intangibles is at the product level. Group-level budgets and forecasts include forecast capital investment and operational impacts related to sustainability projects, as well as inflationary impacts, and form the basis for the value in use models used for impairment testing.

An asset's recoverable amount is determined as the higher of an asset's or CGU's fair value less costs to sell or value in use, in both cases using discounted cash flow calculations where the asset's expected post-tax cash flows are risk-adjusted over their estimated remaining period of expected economic benefit. Where the value in use approach is used, the post-tax risk-adjusted cash flows are discounted using AstraZeneca's post-tax weighted average cost of capital (7.5% for 2023, 7% for 2022 and 2021) which is a nominal rate. There is no material difference in the approach taken to using pre-tax cash flows and a pre-tax rate compared to post-tax cash flows and a post-tax rate, as required by IAS 36. Where fair value less costs to sell is used to determine recoverable value, the discount rate is assessed with reference to a market participant; this is not usually materially different to the AstraZeneca post-tax weighted average cost of capital of 7.5%. Intangible assets have been tested for impairment under the value in use basis at risk-adjusted post-tax discount rates ranging between 7.5% to 9.5%.

10 Intangible assets *continued*

SE Key assumptions and significant estimates used in calculating the recoverable amounts are highly sensitive and specific to the nature of the Group's activities including:

- outcome of R&D activities
- probability of technical and regulatory success
- market volume, share and pricing (to derive peak year sales)
- amount and timing of projected future cash flows
- sales erosion curves following patent expiry.

Whilst the intangible assets portfolio is generally exposed to significant impairment risk within the next financial year, no sensitivities have been disclosed since no specific asset has been identified as having a significant risk of a material impairment arising from reasonably possible changes in key assumptions.

For assets held at fair value less costs to sell, we make appropriate adjustments to reflect market participant assessments.

In 2023, the Group recorded impairment charges of $17m in respect of launched products. Impairment charges recorded against products in development totalled $417m, including $244m related to ALXN1840 which was fully impaired following the decision to discontinue development.

In 2022, the Group recorded impairment charges of $146m in respect of launched products. Impairment charges recorded against products in development totalled $172m due to decisions made to terminate the related activities.

In 2021, the Group recorded impairment charges of $603m in respect of launched products, including *Bydureon* ($469m, revised carrying amount of $50m) under value in use model, roxadustat ($121m, revised carrying amount of $215m) under value in use model and other launched products totalling $13m.

Impairment charges recorded against products in development in 2021, based on fair value less costs to sell, totalled $1,464m, principally Ardea ($1,172m) which was fully impaired following the decision to discontinue development of verinurad. The remaining impairments relate to full impairments of various products in development, due to either management's decision to discontinue development as part of a Group-wide portfolio prioritisation review, or due to the outcome of research activities.

The Group has performed an assessment on assets which have had impairments recorded in previous periods to determine if any reversals of impairments were required. No impairment reversals were recorded in 2023. Impairment reversals of $94m were recorded in 2022, including $77m in respect of products in development. No impairment reversals were recorded in 2021.

When launched products are partially impaired, the carrying values of these assets in future periods are particularly sensitive to changes in forecast assumptions, including those assumptions set out above, as the asset is impaired down to its recoverable amount.

Significant assets

	Carrying value $m	Remaining amortisation period
C5 franchise (*Soliris*/*Ultomiris*) intangible assets arising from the acquisition of Alexion	14,356	4 to 12 years
Intangible assets arising from the acquisition of Acerta Pharma	4,335	9 years
Strensiq, *Kanuma*, *Andexxa* intangible assets arising from the acquisition of Alexion	4,147	9 to 15 years
Enhertu intangible assets acquired from Daiichi Sankyo	2,831	10 years
Intangible asset products in development arising from the acquisition of Alexion[1]	2,489	Not amortised
Intangible assets arising from the acquisition of ZS Pharma Inc.	1,838	8 years
Other intangible assets acquired from Daiichi Sankyo[1]	989	Not amortised
Baxdrostat intangible asset acquired from CinCor Pharma, Inc.[1]	780	Not amortised
Airsupra intangible asset	524	11 years
Intangible assets arising from the restructuring of a historical joint venture with MSD	472	3 to 6 years
Farxiga/*Forxiga* intangible assets acquired from BMS	426	3 years
Intangible assets arising from the acquisition of Pearl Therapeutics, Inc	412	5 to 6 years
Monalizumab intangible assets acquired from Innate Pharma[1]	370	Not amortised
RSV franchise assets arising from the acquisition of MedImmune	305	2 years
Rare disease portfolio assets acquired from Pfizer[1]	300	Not amortised

[1] Assets in development are not amortised but are tested annually for impairment.

The intangible asset baxdrostat recognised on acquisition of CinCor Pharma, Inc. in 2023 was assessed under the optional concentration test in IFRS 3 and was determined to be an asset acquisition, as substantially all of the value of the gross assets acquired was concentrated in this single asset.

The acquisition of Pfizer's pre-clinical rare disease gene therapy portfolio in 2023 was assessed under IFRS 3 and the transaction was treated as an asset acquisition.

11 Investments in associates and joint ventures

	2023 $m	2022 $m	2021 $m
At 1 January	**76**	69	39
Additions	**80**	26	92
Share of after tax losses	**(12)**	(5)	(64)
Exchange and other adjustments	**3**	(14)	2
At 31 December	**147**	76	69

On 1 November 2023, AstraZeneca entered into an agreement with Cellectis, a clinical-stage biotechnology company, to accelerate the development of next generation therapeutics in areas of high unmet medical need, including oncology, immunology and rare diseases. Under the terms of the agreement, AstraZeneca contributed $80m in funds and holds a 22% interest in the associate entity.

On 29 January 2021, AstraZeneca entered into an agreement with IHP Holdings Limited to create and run an online platform (iHospital) offering consultations with physicians, repeat prescriptions and e-pharmacy in China. The agreement resulted in the formation of a new entity, IHP HK 27 Holdings Limited. AstraZeneca contributed $30m in initial funds and holds a 50% interest in the associate entity.

On 1 December 2020, AstraZeneca and China International Capital Corporation (CICC) entered into an agreement to set up a Global Healthcare Industrial Fund to drive healthcare system innovation by leveraging local capital and accelerating China-related innovation incubation. The agreement resulted in the formation of a new entity, Wuxi AstraZeneca-CICC Venture Capital Partnership (Limited Partnership). AstraZeneca holds a 22% interest in the associate entity and contributed $1m in initial funds in 2020, with contributions of $45m and $21m made in 2021 and 2022 respectively.

On 23 September 2021, AstraZeneca entered into an agreement with VaxEquity Limited to collaborate and develop self-amplifying RNA technology with the aim of generating treatments for target diseases. AstraZeneca contributed $14m in initial funds and holds a 40% interest in the associate entity.

On 23 February 2018, AstraZeneca entered into an agreement with a consortium of investors to form a new, US-domiciled standalone company called Viela Bio. In February 2021, AstraZeneca agreed to divest its 26.7% ownership in Viela Bio, as part of the acquisition of Viela by Horizon Therapeutics plc. AstraZeneca received cash proceeds and profit of $776m upon closing with the profit recorded as Other operating income. In 2021, prior to divestment, the Group provided transitional research and development services to Viela Bio, comprising $1m of passed-through third-party costs incurred by the Group on behalf of Viela Bio.

On 27 November 2017, AstraZeneca entered into a joint venture agreement with Chinese Future Industry Investment Fund (FIIF), to discover, develop and commercialise potential new medicines to help address unmet medical needs globally, and to bring innovative new medicines to patients in China more quickly. The agreement resulted in the formation of a joint venture entity based in China, Dizal (Jiangsu) Pharmaceutical Co., Limited (Dizal). Since its establishment, AstraZeneca has contributed $80m in cash to the joint venture entity and has a 27% interest in the joint venture.

On 1 December 2015, AstraZeneca entered into a joint venture agreement with Fujifilm Kyowa Kirin Biologics Co., Ltd. to develop a biosimilar using the combined capabilities of the two parties. The agreement resulted in the formation of a joint venture entity based in the UK, Centus Biotherapeutics Limited (Centus). Since its establishment, AstraZeneca has contributed $135m in cash to the joint venture entity and has a 50% interest in the joint venture. On 26 April 2023, Centus entered a voluntary liquidation process.

All investments are accounted for using the equity method. At 31 December 2023, unrecognised losses in associates and joint ventures totalled $140m (2022: $92m; 2021: $73m) which have not been recognised due to the investment carrying value reaching $nil value.

Aggregated summarised financial information for the associate and joint venture entities is set out below:

	2023 $m	2022 $m	2021 $m
Non-current assets	**424**	290	215
Current assets	**362**	300	506
Total liabilities	**(287)**	(72)	(99)
Net assets	**499**	518	622
Amount attributable to AstraZeneca	**85**	91	65
Goodwill	**52**	–	–
Exchange adjustments	**10**	(15)	4
Carrying value of investments in associates and joint ventures	**147**	76	69

Joint contractual arrangements were entered into between AstraZeneca and Daiichi Sankyo Company Limited (Daiichi Sankyo); in March 2019 for the co-development and co-commercialisation of *Enhertu* and in July 2020 for the co-development and co-commercialisation of Dato-DXd. Each party shares global pre-tax net income from the collaboration on a 50:50 basis (with the exception of Japan where Daiichi Sankyo maintains exclusive rights and AstraZeneca receives a royalty). The joint operation is not structured through a separate legal entity, and it operates from AstraZeneca and Daiichi Sankyo's respective principal places of business.

12 Other investments

	2023 $m	2022 $m	2021 $m
Non-current investments			
Equity securities at fair value through Other comprehensive income	**1,530**	1,056	1,168
Fixed income securities at fair value through profit or loss	**–**	10	–
Total	**1,530**	1,066	1,168
Current investments			
Fixed income securities at fair value through profit or loss	**20**	13	16
Cash collateral pledged to counterparties	**102**	162	–
Fixed deposits	**–**	64	53
Total	**122**	239	69

Other investments held at FVOCI include equity securities which are not held for trading and which the Group has irrevocably elected at initial recognition to recognise in this category. Other investments held at FVPL mainly comprise fixed income securities that the Group holds to sell.

The fair value of listed investments is based on year end quoted market prices. Fixed deposits and Cash collateral pledged to counterparties are held at amortised cost with carrying value being a reasonable approximation of fair value given their short-term nature.

Cash collateral pledged to counterparties relates to collateral pledged on derivatives entered into to hedge the Group's risk exposures. In 2022, following significant foreign currency volatility increasing the collateral requirements, the Group revised its presentation to 'Other investments'. In 2021 amounts of $47m are presented within Cash and cash equivalents.

Fair value hierarchy

The table below analyses equity securities and bonds, contained within Other investments and 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 or liabilities
> Level 2: inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices)
> Level 3: inputs for the asset or liability that are not based on observable market data (unobservable inputs).

	2023 FVPL $m	2023 FVOCI $m	2022 FVPL $m	2022 FVOCI $m	2021 FVPL $m	2021 FVOCI $m
Level 1	**20**	**1,217**	13	880	16	1,064
Level 2	**–**	**–**	–	–	–	–
Level 3	**–**	**313**	10	176	–	104
Total	**20**	**1,530**	23	1,056	16	1,168

Assets are transferred in or out of each Level on the date of the event or change in circumstances that caused the transfer.

Equity securities that are analysed at Level 3 include investments in private biotech companies. In the absence of specific market data, these unlisted investments are held at fair value based on the cost of investment and adjusting as necessary for impairments and revaluations on new funding rounds, which approximates to fair value. Movements in Level 3 investments are detailed below:

	2023 FVPL $m	2023 FVOCI $m	2022 FVPL $m	2022 FVOCI $m	2021 FVOCI $m
At 1 January	**10**	**176**	–	104	217
Additions	**–**	**127**	10	32	1
Revaluations	**3**	**14**	–	50	–
Net transfers out from Level 3 to Level 1	**–**	**–**	–	(4)	(113)
Disposals	**(13)**	**(8)**	–	(5)	–
Impairments and exchange adjustments	**–**	**4**	–	(1)	(1)
At 31 December	**–**	**313**	10	176	104

13 Derivative financial instruments

	Non-current assets $m	Current assets $m	Current liabilities $m	Non-current liabilities $m	Total $m
Interest rate swaps related to instruments designated at fair value through profit or loss[1]	25	–	–	–	25
Cross currency swaps designated in a net investment hedge	62	–	–	(2)	60
Cross currency swaps designated in a cash flow hedge	–	–	–	(43)	(43)
Forward FX designated in a cash flow hedge[2]	–	13	–	–	13
Other derivatives	15	70	(79)	–	6
31 December 2021	102	83	(79)	(45)	61

	Non-current assets $m	Current assets $m	Current liabilities $m	Non-current liabilities $m	Total $m
Interest rate swaps related to instruments designated at fair value through profit or loss[1]	–	1	–	–	1
Cross currency swaps designated in a net investment hedge	55	–	–	(4)	51
Cross currency swaps designated in a cash flow hedge	–	–	–	(160)	(160)
Forward FX designated in a cash flow hedge[2]	–	1	(13)	–	(12)
Other derivatives	19	85	(80)	–	24
31 December 2022	74	87	(93)	(164)	(96)

	Non-current assets $m	**Current assets $m**	**Current liabilities $m**	**Non-current liabilities $m**	**Total $m**
Cross currency swaps designated in a net investment hedge	**100**	**–**	**–**	**(1)**	**99**
Cross currency swaps designated in a cash flow hedge	**116**	**–**	**(30)**	**(37)**	**49**
Forward FX designated in a cash flow hedge[2]	**–**	**19**	**(4)**	**–**	**15**
Other derivatives	**12**	**97**	**(122)**	**–**	**(13)**
31 December 2023	**228**	**116**	**(156)**	**(38)**	**150**

[1] Interest rate swaps related to instruments designated at fair value through profit or loss matured in 2023.
[2] Forward FX designated in a cash flow hedge relates to contracts hedging anticipated CNY, EUR, GBP, JPY and SEK transactions occurring in the quarter immediately after the balance sheet date.

All derivatives are held at fair value and fall within Level 2 of the fair value hierarchy as defined in Note 12, except for an equity warrant which falls within Level 3 (valued at $12m (2022: $19m; 2021: $15m), held within Non-current assets). None of the derivatives have been reclassified in the year.

The fair value of interest rate swaps and cross currency swaps is estimated using appropriate zero coupon curve valuation techniques to discount future contractual cash flows based on rates at the current year end.

The fair value of forward foreign exchange contracts and currency options are estimated by cash flow accounting models using appropriate yield curves based on market forward foreign exchange rates at the year end. The majority of forward foreign exchange contracts for existing transactions had maturities of less than one month from year end.

The interest rates used to discount future cash flows for fair value adjustments, where applicable, are based on market swap curves at the reporting date, and were as follows:

	2023	2022	2021
Derivatives	**0.1% to 5.3%**	0.1% to 4.7%	(0.5)% to 3.6%

14 Non-current other receivables

	2023 $m	2022 $m	2021 $m
Prepayments	**274**	243	391
Accrued income	**52**	44	61
Retirement benefit scheme surpluses (Note 22)	**92**	90	–
Other receivables	**385**	458	443
Non-current other receivables	**803**	835	895

Prepayments include $nil (2022: $nil; 2021: $92m) in relation to our research collaboration with Moderna. Other receivables include $51m (2022: $71m; 2021: $44m) owed by FibroGen, Inc. for promotional activity in China pursuant to the roxadustat collaboration.

15 Inventories

	2023 $m	2022 $m	2021 $m
Raw materials and consumables	**1,531**	1,422	1,755
Inventories in process	**2,325**	1,864	5,216
Finished goods and goods for resale	**1,568**	1,413	2,012
Inventories	**5,424**	4,699	8,983

The Group recognised $6,038m (2022: $9,618m; 2021: $9,640m) of inventories as an expense within Cost of sales during the year.

Inventory write-downs in the year amounted to $574m (2022: $479m; 2021: $552m), principally arising from the reassessment of usage or demand expectations prior to inventory expiration.

16 Current trade and other receivables

	2023 $m	2022 $m	2021 $m
Trade receivables	**8,452**	7,271	6,054
Less: Expected credit loss provision (Note 28)	**(45)**	(59)	(23)
	8,407	7,212	6,031
Other receivables	**1,639**	1,659	1,808
Prepayments	**1,617**	1,329	1,512
Government grants receivable	**11**	25	–
Accrued income	**452**	296	293
Trade and other receivables	**12,126**	10,521	9,644

Trade receivables include $1,977m (2022: $2,470m; 2021: $1,865m) measured at FVOCI classified 'hold to collect and sell' as they are due from customers that the Group has the option to factor, or relate to bank acceptance drafts received in settlement of trade receivables per common practice in China.

All other financial assets included within Current trade and other receivables are held at amortised cost with carrying value being a reasonable approximation of fair value.

17 Cash and cash equivalents

	2023 $m	2022 $m	2021 $m
Cash at bank and in hand	**1,325**	1,411	1,461
Short-term deposits	**4,515**	4,755	4,868
Cash and cash equivalents	**5,840**	6,166	6,329
Unsecured bank overdrafts	**(203)**	(183)	(291)
Cash and cash equivalents in the cash flow statement	**5,637**	5,983	6,038

AstraZeneca invests in constant net asset value funds, low-volatility net asset value funds and short-term variable net asset value funds with same day access for subscription and redemption. These investments fail the 'solely payments of principal and interest' test criteria under IFRS 9. They are therefore measured at FVPL, although the fair value is materially the same as amortised cost.

Non-cash and other movements, within operating activities in the Consolidated Statement of Cash Flows, includes:

	2023 $m	2022 $m	2021 $m
Share-based payments charge for the period	**579**	619	615
Settlement of share plan awards	**(650)**	(592)	(570)
Pension contributions	**(188)**	(205)	(174)
Pension charges recorded in operating profit	**55**	101	136
Long-term provision charges recorded in operating profit	**460**	87	270
(Gain)/loss on disposal of tangible assets	**(41)**	(112)	4
Update to the contractual relationships for *Beyfortus* (nirsevimab)	**(729)**	–	–
Foreign exchange and other[1]	**128**	(590)	(186)
Total operating activities non-cash and other movements	**(386)**	(692)	95

[1] Foreign exchange and other includes, among other items, the foreign exchange of inter-company transactions, including dividends, across Group entities and the related impact from hedging those transactions.

18 Assets held for sale

Assets held for sale amount to $nil (2022: $150m; 2021: $368m).

In 2022, Assets held for sale comprised Property, plant and equipment assets relating to the West Chester site in Ohio, US. The transaction closed on 30 January 2023.

In 2021, Assets held for sale comprised Intangible assets relating to the rights to certain respiratory assets acquired from Almirall and Actavis plc. (including *Tudorza* and *Duaklir*). The transaction closed on 4 January 2022.

19 Interest-bearing loans and borrowings

		Repayment dates	2023 $m	2022 $m	2021 $m
Current liabilities					
Bank overdrafts		On demand	**203**	183	291
Other short-term borrowings excluding overdrafts			**97**	78	3
Collateral received from derivative counterparties			**215**	89	93
Lease liabilities			**271**	228	233
Floating rate notes	US dollars	2022	**–**	–	250
2.375% Callable bond	US dollars	2022	**–**	–	999
0.3% Callable bond	US dollars	2023	**–**	1,399	–
2023 Floating bank loan	US dollars	2023	**–**	2,000	–
Floating rate notes	US dollars	2023	**–**	400	–
3.5% Callable bond	US dollars	2023	**–**	849	–
7% Guaranteed debentures	US dollars	2023	**–**	294	–
0.75% Callable bond	euros	2024	**995**	–	–
0.7% Callable bond	US dollars	2024	**1,600**	–	–
2024 Floating rate bank loans	US dollars	2024	**2,000**	–	–
Other loans (including commercial paper)		Within one year	**19**	22	24
Total			**5,400**	5,542	1,893
Non-current liabilities					
Lease liabilities			**857**	725	754
0.3% Callable bond	US dollars	2023	**–**	–	1,397
2023 Floating bank loan	US dollars	2023	**–**	–	1,998
Floating rate notes	US dollars	2023	**–**	–	400
3.5% Callable bond	US dollars	2023	**–**	–	848
7% Guaranteed debentures	US dollars	2023	**–**	–	320
0.75% Callable bond	euros	2024	**–**	957	1,014
0.7% Callable bond	US dollars	2024	**–**	1,598	1,598
2024 Floating bank loans	US dollars	2024	**–**	1,998	1,997
3.375% Callable bond	US dollars	2025	**1,994**	1,992	1,988
0.7% Callable bond	US dollars	2026	**1,196**	1,195	1,193
1.2% Callable bond	US dollars	2026	**1,248**	1,246	1,245
3.625% Callable bond	euros	2027	**829**	–	–
3.125% Callable bond	US dollars	2027	**747**	746	745
4.875% Callable bond	US dollars	2028	**1,095**	–	–
1.25% Callable bond	euros	2028	**879**	845	896
1.75% Callable bond	US dollars	2028	**1,246**	1,245	1,244
4% Callable bond	US dollars	2029	**995**	995	994
0.375% Callable bond	euros	2029	**881**	846	898
4.9% Callable bond	US dollars	2030	**645**	–	–
1.375% Callable bond	US dollars	2030	**1,294**	1,293	1,292
2.25% Callable bond	US dollars	2031	**747**	747	746
5.75% Non-callable bond	pound sterling	2031	**444**	420	470
3.75% Callable bond	euros	2032	**827**	–	–
4.875% Callable bond	US dollars	2033	**497**	–	–
6.45% Callable bond	US dollars	2037	**2,725**	2,724	2,724
4% Callable bond	US dollars	2042	**989**	988	988
4.375% Callable bond	US dollars	2045	**981**	981	980
4.375% Callable bond	US dollars	2048	**738**	737	737
2.125% Callable bond	US dollars	2050	**487**	487	486
3% Callable bond	US dollars	2051	**735**	735	734
Other loans	US dollars		**146**	190	202
Total			**23,222**	23,690	28,888
Total interest-bearing loans and borrowings[1, 2]			**28,622**	29,232	30,781

[1] All loans and borrowings above are unsecured. In previous years, there were current (2022: $22m; 2021: $24m) and non-current (2022: $181m; 2021: $188m) secured loans, both included within Other loans.

[2] The $2bn USD 2024 floating rate bank loans pay interest rate based on compounded daily USD Secured Overnight Funding Rate (SOFR).

19 Interest-bearing loans and borrowings *continued*

	Total loans and borrowings 2023 $m	Total loans and borrowings 2022 $m	Total loans and borrowings 2021 $m
At 1 January	**29,232**	30,781	20,380
Changes from financing cash flows			
Issue of loans and borrowings	**3,816**	–	12,929
Repayment of loans and borrowings	**(4,942)**	(1,271)	(4,759)
Movement in short-term borrowings	**161**	74	(276)
Repayment of obligations under leases	**(268)**	(244)	(240)
Total changes in cash flows arising on financing activities from borrowings	**(1,233)**	(1,441)	7,654
Movement in overdrafts	**20**	(85)	31
New lease liabilities	**444**	253	503
Additions through business combinations	**–**	5	2,523
Exchange	**187**	(287)	(378)
Other movements	**(28)**	6	68
At 31 December	**28,622**	29,232	30,781

Also included within cash flows arising from financing activities within the Consolidated Statement of Cash Flows is a $867m cash outflow (2022: outflow of $920m; 2021: $nil) related to the Acerta Pharma share purchase liability which has a closing liability at 31 December 2023 of $833m (2022: $1,646m; 2021: $2,458m) within Trade and other payables (see Note 20).

Set out below is a comparison by category of carrying values and fair values of all the Group's interest-bearing loans and borrowings:

	Instruments designated at fair value[1] $m	Instruments designated in cash flow hedge[2] $m	Amortised cost $m	Total carrying value $m	Fair value $m
2021					
Overdrafts	–	–	291	291	291
Lease liabilities due within one year	–	–	233	233	233
Lease liabilities due after more than one year	–	–	754	754	754
Loans and borrowings due within one year	–	–	1,369	1,369	1,378
Loans and borrowings due after more than one year	320	1,910	25,904	28,134	30,596
Total at 31 December 2021	320	1,910	28,551	30,781	33,252
2022					
Overdrafts	–	–	183	183	183
Lease liabilities due within one year	–	–	228	228	228
Lease liabilities due after more than one year	–	–	725	725	725
Loans and borrowings due within one year	294	–	4,837	5,131	5,105
Loans and borrowings due after more than one year	–	1,802	21,163	22,965	21,657
Total at 31 December 2022	294	1,802	27,136	29,232	27,898
2023					
Overdrafts	**–**	**–**	**203**	**203**	**203**
Lease liabilities due within one year	**–**	**–**	**271**	**271**	**271**
Lease liabilities due after more than one year	**–**	**–**	**857**	**857**	**857**
Loans and borrowings due within one year	**–**	**995**	**3,931**	**4,926**	**4,887**
Loans and borrowings due after more than one year	**–**	**2,535**	**19,830**	**22,365**	**21,769**
Total at 31 December 2023	**–**	**3,530**	**25,092**	**28,622**	**27,987**

[1] Instruments designated at FVPL include the US dollar 7% guaranteed debentures which matured on 15 November 2023.

[2] Instruments designated in cash flow hedges are our euro 500m 0.25% Callable bond which matured in 2021, our euro 900m 0.75% 2024 Callable bond, our euro 750m 3.625% 2027 Callable bond, our euro 800m 1.25% 2028 Callable bond, and our euro 750m 3.75% 2032 Callable bond.

The fair value of fixed-rate publicly traded debt is based on year end quoted market prices; the fair value of floating rate debt is nominal value, as mark-to-market differences would be minimal given the frequency of resets. The carrying value of loans designated at FVPL is the fair value; this falls within the Level 1 valuation method as defined in Note 12. For loans designated in a fair value hedge relationship, carrying value is initially measured at fair value and remeasured for fair value changes in respect of the hedged risk at each reporting date. All other loans are held at amortised cost. Fair values, as disclosed in the table above, are all determined using the Level 1 valuation method as defined in Note 12, with the exception of overdrafts and lease liabilities, where fair value approximates to carrying values.

A loss of $6m was made during the year on the fair value of bonds designated as FVPL. A gain of $25m has been made on these bonds since designation. Under IFRS 9, the Group records the component of fair value changes relating to the component of own credit risk through Other comprehensive income. Changes in credit risk had no material effect on any other financial assets and liabilities recognised at fair value in the Group Financial Statements. The change in fair value attributable to changes in credit risk is calculated as the change in fair value not attributable to market risk.

The interest rates used to discount future cash flows for fair value adjustments, where applicable, are based on market swap curves at the reporting date, and were as follows:

	2023	2022	2021
Loans and borrowings	**n/a to n/a**[1]	4.3% to 4.9%	0.1% to 0.6%

[1] All bonds designated as FVPL have matured prior to the reporting date.

20 Trade and other payables

	2023 $m	2022 $m	2021 $m
Current liabilities			
Trade payables	**3,267**	2,550	2,824
Value-added and payroll taxes and social security	**492**	468	463
Rebates, chargebacks, returns and other revenue accruals	**7,817**	6,078	5,298
Clinical trial accruals	**1,424**	1,417	1,047
Other accruals	**6,112**	5,551	5,649
Collaboration Revenue contract liabilities	**7**	12	12
Vaccine contract liabilities	**142**	169	1,003
Deferred government grant income	**–**	1	67
Contingent consideration	**966**	757	849
Acerta Pharma share purchase liability (Note 26)	**833**	867	920
Other payables	**1,314**	1,170	806
Total	**22,374**	19,040	18,938
Non-current liabilities			
Accruals	**36**	37	25
Collaboration Revenue contract liabilities	**7**	14	26
Contingent consideration	**1,171**	1,465	2,016
Acerta Pharma share purchase liability (Note 26)	**–**	779	1,538
Other payables	**1,446**	1,975	1,328
Total	**2,660**	4,270	4,933

Included within Rebates, chargebacks, returns and other revenue accruals are contract liabilities of $102m (2022: $87m; 2021: $99m). The revenue recognised in the year from opening contract liabilities is $88m, comprising $76m relating to other revenue accruals and $12m Collaboration Revenue contract liabilities. The major markets with Rebates, chargebacks, returns and other revenue accruals are the US where the liability at 31 December 2023 amounted to $5,116m (2022: $3,961m; 2021: $3,172m), of which Rare Disease comprises $190m (2022: $139m; 2021: $127m), and China where the liability at 31 December 2023 amounted to $567m (2022: $579m; 2021: $814m).

Trade payables includes $123m (2022: $67m; 2021: $44m) due to suppliers that have signed up to a supply chain financing programme, under which the suppliers can elect on an invoice-by-invoice basis to receive a discounted early payment from the relationship bank rather than being paid in line with the agreed payment terms. If the option is taken, the Group's liability is assigned by the supplier to be due to the relationship bank rather than the supplier. The value of the liability payable by the Group remains unchanged. The Group assesses the arrangement against indicators to assess if debts which vendors have sold to the funder under the supplier financing scheme continue to meet the definition of trade payables or should be classified as borrowings. At 31 December 2023, the payables met the criteria of Trade payables. The supply chain financing programme operates in the US, UK, Sweden, China and Germany, and as at 31 December 2023, the programme had 461 suppliers enrolled across these countries.

Vaccine contract liabilities relate to amounts received from customers, primarily government bodies, in advance of supply of product.

Deferred government grant income relates to government grants received or receivable but for which the related expenses have not been incurred.

Included within current Other payables are liabilities to Daiichi Sankyo totalling $199m (2022: $100m; 2021: $nil) resulting from the collaboration agreement in relation to *Enhertu* entered into in March 2019 and $nil (2022: $nil; 2021: $324m) in relation to Dato-DXd entered into in July 2020. Additionally, included within non-current Other payables are liabilities totalling $774m (2022: $1,125m; 2021: $100m) as a result of the *Enhertu* collaboration agreement and $464m (2022: $nil; 2021: $nil) as a result of the *Airsupra* collaboration agreement.

In November 2020, *Calquence* received marketing approval in the EU, which removed all remaining conditionality in respect of the Acerta Pharma put and call options regarding the non-controlling interest; the option was exercised in April 2021 (see Note 26). The payments will be made in similar annual instalments in 2022 through to 2024, with the first payment of $920m made in 2022 and the second payment of $867m made in 2023, with a closing liability as at 31 December 2023 of $833m (2022: $1,646m; 2021: $2,458m). Interest arising from amortising the liability is included within Finance expense (see Note 3). The associated cash flows are disclosed as financing activities within the Consolidated Statement of Cash Flows.

With the exception of Contingent consideration payables of $2,137m (2022: $2,222m; 2021: $2,865m) which are held at fair value within Level 3 of the fair value hierarchy as defined in Note 12, all other financial liabilities are held at amortised cost with carrying value being a reasonable approximation of fair value.

20 Trade and other payables *continued*

Contingent consideration

	2023 $m	2022 $m	2021 $m
At 1 January	**2,222**	2,865	3,323
Additions through business combinations	**60**	–	–
Settlements	**(826)**	(772)	(643)
Disposals	**–**	(121)	–
Revaluations	**549**	82	14
Reclassification to Other payables	**–**	–	(55)
Discount unwind (Note 3)	**132**	168	226
At 31 December	**2,137**	2,222	2,865

Contingent consideration arising from business combinations is fair valued using decision-tree analysis, with key inputs including the probability of success, consideration of potential delays and the expected levels of future revenues.

Revaluations of Contingent consideration are recognised in Selling, general and administrative expense and include an increase of $520m in 2023 (2022: an increase of $182m; 2021: an increase of $42m) based on revised milestone probabilities, and revenue and royalty forecasts, relating to the acquisition of BMS's share of the Global Diabetes Alliance. Discount unwind on the liability is included within Finance expense (see Note 3).

The discount rate used for the Contingent consideration balances range from 5% to 8%. The most significant Contingent consideration balance is the Global Diabetes Alliance which is discounted at 8% and is reviewed against comparable benchmarks on a regular basis.

Management has identified that reasonably possible changes in certain key assumptions, including the likelihood of achieving successful trial results, obtaining regulatory approval, the projected market share of the therapy area and expected pricing for launched products, may cause the calculated fair value of the above contingent consideration to vary materially in future years.

The contingent consideration balance relating to BMS's share of Global Diabetes Alliance of $1,945m (2022: $2,124m; 2021: $2,544m) would increase/decrease by $195m with an increase/decrease in sales of 10% as compared with the current estimates.

The maximum development and sales milestones payable under outstanding Contingent consideration arrangements arising on business combinations are as follows:

Acquisitions	Year	Nature of contingent consideration	Maximum future milestones $m
Spirogen	2013	Milestones	180
Amplimmune, Inc.	2013	Milestones	150
Almirall[1]	2014	Milestones and royalties	345
Neogene	2023	Milestones	110

[1] These contingent consideration liabilities have been designated as the hedge instrument in a net investment hedge of foreign currency risk arising on the Group's underlying US dollar net investments held in non-US dollar denominated subsidiaries. Exchange differences on the retranslation of the contingent consideration liability are recognised in Other comprehensive income to the extent that the hedge is effective. Any ineffectiveness is taken to profit.

The amount of royalties payable under the arrangements is inherently uncertain and difficult to predict, given the direct link to future sales and the range of outcomes. The maximum amount of royalties payable in each year is with reference to net sales.

21 Provisions

	Severance $m	Environmental $m	Employee benefits $m	Legal $m	Other provisions $m	Total $m
At 1 January 2021	214	100	128	348	770	1,560
Additions through business combinations (Note 27)	–	–	41	73	27	141
Charge for year	238	23	46	109	456	872
Cash paid	(172)	(32)	(49)	(285)	(84)	(622)
Reversals	(62)	–	–	(5)	(175)	(242)
Exchange and other movements	(6)	(1)	29	(1)	(6)	15
At 31 December 2021	212	90	195	239	988	1,724
Charge for year	227	61	1	830	365	1,484
Cash paid	(223)	(19)	(41)	(814)	(185)	(1,282)
Reversals	(43)	–	(27)	(94)	(98)	(262)
Exchange and other movements	(8)	(1)	15	–	(52)	(46)
At 31 December 2022	165	131	143	161	1,018	1,618
Charge for year	**123**	**21**	**22**	**1,102**	**245**	**1,513**
Cash paid	**(87)**	**(41)**	**(14)**	**(219)**	**(404)**	**(765)**
Reversals	**(28)**	**(3)**	**(3)**	**(23)**	**(143)**	**(200)**
Exchange and other movements	**3**	**4**	**20**	**(5)**	**(33)**	**(11)**
At 31 December 2023	**176**	**112**	**168**	**1,016**	**683**	**2,155**

	2023 $m	2022 $m	2021 $m
Due within one year	**1,028**	722	768
Due after more than one year	**1,127**	896	956
Total	**2,155**	1,618	1,724

Provisions are often subject to substantial uncertainties with regard to the timing and final amounts of any payments. Once established, these amounts remain in Provisions even after settlement is reached and uncertainty resolved, with no transfer to Trade and other payables prior to payment. This is to provide more transparent disclosure of subsequent movements in brought forward and carried forward balances. Settled legal claims included within provisions are held at amortised cost with carrying value being a reasonable approximation of fair value.

Severance provisions arise predominantly in connection with global restructuring initiatives, including the PAAGR, which involve rationalisation of the global supply chain, the sales and marketing organisation, IT and business support infrastructure, and R&D.

In conjunction with the acquisition of Alexion in 2021, the enlarged Group initiated the PAAGR; a global restructuring programme, aimed at integrating systems, structure and processes, optimising the global footprint and prioritising resource allocations and investments. This includes the commencement of work on the planned upgrade of the Group's Enterprise Resource Planning IT systems (Axial Project). The Group has also continued to progress other legacy restructuring programmes.

Employee costs in connection with the initiatives are recognised in severance provisions when a detailed formal plan has been communicated to those employees affected. Final severance costs are often subject to the completion of the requisite consultations on the areas impacted, with the majority of the cost expected to be paid within one year. AstraZeneca endeavours to support employees affected by restructuring initiatives to seek alternative roles within the organisation. Where the employee is successful, any severance provisions will be released.

Details of the Environmental provisions totalling $112m (2022: $131m; 2021: $90m) and ongoing matters are provided in Note 30. These uncertainties can also cause reversal in previously established provisions once final settlement is reached.

Legal issues are often subject to substantial uncertainties with regard to the timing and final amounts of any payments. A significant proportion of the total legal provision, $616m (2022: $30m; 2021: $15m) due within one year and $372m (2022: $92m; 2021: $105m) due after more than one year[1], relates to matters settled, but not paid, in previous periods, further details are provided in Note 30.

The majority of Employee benefit provisions relate to Executive Deferred Compensation Plans, which include uncertainty over the ultimate timing and amount of payment to be made to the executives.

Other provisions comprise amounts relating to specific contractual or constructive obligations and disputes. Included within Other provisions are amounts associated with long-standing product liability settlements that arose prior to the merger of Astra and Zeneca, which given the nature of the provision, the amounts are expected to be settled over many years; the final settlement values and timings are uncertain. Also included in Other provisions is an amount of $163m (2022: $165m; 2021: $185m), in relation to third-party liability and other risks (including incurred but not yet reported claims); the claims are considered to be uncertain as to timing and amount. Charges to Other provisions in 2023 included $87m (2022: $12m; 2021: $243m) in relation to the PAAGR restructuring programme, which has a closing provision of $49m (2022: $143m; 2021: $243m), including $8m (2022: $95m; 2021: $158m) held in non-current provisions expected to be settled over time by 2025. In 2022, charges to Other provisions included $301m in relation to termination fees and onerous contracts with contract manufacturing organisations, the vast majority of which was settled in 2023.

No provision has been released or applied for any purpose other than that for which it was established.

22 Post-retirement pension and other defined benefit schemes

Background

This section predominantly covers defined benefit arrangements like post-retirement pension and medical plans which make up the vast bulk of the Group's liabilities. However, it also incorporates other benefits which fall under IAS 19 rules and which require an actuarial valuation, including but not limited to: lump sum plans, long service awards and defined contribution pension plans which have some defined benefit characteristics (e.g. a minimum guaranteed level of benefit). In total, over 50 plans in 28 countries are covered.

The Group and most of its subsidiaries offer retirement plans which cover the majority of employees. The Group's policy is to provide defined contribution (DC) orientated pension provision to its employees unless otherwise compelled by local regulation. As a result, many of these retirement plans are DC, where the Group contribution and resulting charge is fixed at a set level or is a set percentage of employees' pay. However, several plans, mainly in the UK and Sweden, are defined benefit (DB), where benefits are based on employees' length of service and salary. The major DB plans are largely legacy arrangements as they have been closed to new entrants since 2000, apart from the collectively bargained Swedish plan (which is still open to employees born before 1979). During 2010, following consultation with its UK employees' representatives, the Group introduced a freeze on pensionable pay at 30 June 2010 levels for DB members of the UK Pension Fund. The number of active members in the Fund continues to decline and is now 400 employees.

The major DB plans are funded through separate, fiduciary-administered assets. The cash funding of the plans, which may from time to time involve payments from the Group, is designed, in consultation with independent qualified actuaries, to ensure that the assets are sufficient to meet future obligations as and when they fall due. The funding level is monitored by the Group and local fiduciaries, who take into account the strength of the Group's covenant, local regulation, cash flows, and the solvency and maturity of the pension plan.

[1] The profile of future payments of legal provisions due after one year is as follows; in one to two years $180m (2022: $22m; 2021: $14m), in two to three years $159m (2022: $21m; 2021: $17m), in three to four years $10m (2022: $9m; 2021: $22m), in four to five years $9m (2022: $9m; 2021: $9m), and in more than five years $14m (2022: $31m; 2021: $43m).

22 Post-retirement and other defined benefit schemes *continued*

Financing Principles and Funding Framework

Eighty six per cent of the Group's total DB obligations (or 66% of net obligations) at 31 December 2023 are in schemes within the UK and Sweden. In these countries, the pension obligations are funded in line with the Group's financing principles, as disclosed in prior years.

The Group has developed a long-term funding framework to implement these principles. This framework targets either full funding on a low-risk funding measure, or buyout with an external insurer as the pension funds mature, with affordable long-term de-risking of investment strategy along the way. Unless local regulation dictates otherwise, this framework determines the cash contributions payable.

UK

The UK Pension Fund represents approximately 65% of the Group's DB obligations at 31 December 2023. The financing principles are modified in light of the UK regulatory requirements (summarised below) and resulting discussions with the Trustee.

Role of Trustee and Regulation

The UK Pension Fund is governed and administered by a corporate Trustee which is legally separate from the Group. The Trustee Directors are comprised of representatives appointed by both the employer and employees and include an independent professional Trustee Director. The Trustee Directors are required by law to act in the interest of all relevant beneficiaries and are responsible in particular for investment strategy and the day-to-day administration of the benefits. They are also responsible for jointly agreeing with the employer the level of contributions due to the UK Pension Fund.

The UK pensions industry is regulated by The Pensions Regulator whose statutory objectives and regulatory powers are described on its website, www.thepensionsregulator.gov.uk.

The Pension Scheme Act 2021 became effective in the UK from 1 October 2021. A section of this Act places additional legal requirements on companies who sponsor UK defined benefit pension schemes, to monitor and assess corporate activity, with a focus on the potential impact of such activity on the ongoing security of these benefits. The Group maintains a framework to ensure it meets its responsibilities under the Act.

There have been two UK High Court Rulings relating to Guaranteed Minimum Pensions (GMP) equalisation in 2018 and 2020. Following the publication of guidance around implementation in 2021, the Trustee, with input from the Group, has now completed the equalisation of benefits for the vast majority of pensioner members, with the project expected to complete in 2024. Further details are set out later in this Note. An estimate of the impact of these changes has already been recognised in 2018 and 2020, and actual experience is in line with the estimates previously recognised.

In June 2023, the UK High Court (Virgin Media Limited v NTL Pension Trustees II Limited) ruled that certain historical amendments for contracted-out defined benefit schemes were invalid if they were not accompanied by the correct actuarial confirmation. The judgment is subject to appeal. The Trustee and Group are monitoring developments and will consider if there are any implications for the UK Pension Fund, if the ruling is upheld.

Funding requirements

UK legislation requires that an actuarial valuation is completed for all DB pension schemes every three years, which compares the schemes' liabilities to its assets. As part of the triennial valuation process, the Trustee and the Group must agree on a set of assumptions to value the liabilities and determine the contributions required, if any, to ensure the UK Pension Fund is fully funded over an appropriate time period and on a suitably prudent measure. The assumptions used to value the liabilities for the triennial actuarial valuation are required to be prudent, whereas the assumptions used to prepare an IAS 19 accounting valuation are required to be 'best estimate'.

The last full actuarial valuation of the UK Pension Fund was carried out by a qualified actuary as at 31 March 2022 and finalised in May 2023, ahead of the statutory deadline.

Under the funding assumptions used to set the statutory funding target, the key assumptions from the actuarial valuation as at 31 March 2022 (shown as a single-equivalent rate) were as follows: salary increases at 0% per annum (as a result of pensionable pay levels being frozen in 2010); pension increases at 3.64% per annum; and discount rate at 3.03% per annum. The resulting valuation of the Fund's liabilities on that basis was £5,951m ($7,820m) compared to a market valuation of assets at 31 March 2022 of £5,604m ($7,364m).

Aspects of the triennial actuarial valuation are governed by a long-term funding agreement, effective since October 2016, which sets out a path to full funding on a low-risk measure. Under this agreement, if a deficit exists, the Group is required to provide security. This security takes the form of a charge in favour of the Trustee over all land and buildings on the Group's Cambridge Biomedical Campus site. This charge was enacted in December 2023, and provides long-term security to the Trustee in respect of the Group's future deficit recovery contributions. The value of the charge is currently £317m ($404m) and it is capped at £350m ($446m). The value of the charge will vary and is expected to reduce over time, before falling away. Under the terms of the charge, the Trustee can only exercise its right over the ownership of the site in a Group insolvency event.

In relation to deficit recovery contributions, a lump sum contribution of £39m ($48m) was made in March 2023, with a further annual contribution of £39m ($50m) due before 31 March 2024, and each year up to March 2028.

Further progress was made over 2023 in equalising GMP for members of the UK Pension Fund. The method of equalisation converts GMP to non-GMP pension to simplify the structure and administration of benefits. As at 31 December 2023, almost all pensioner and dependent members have had their benefits equalised and, for non-pensioner members, a process will be in place in 2024 to equalise their benefits at their point of retirement. As part of the project, a Pension Increase Exchange ('PiE') option was also made available to the majority of pensioner members, at the Group's discretion. This option provided the member with a choice to opt for a higher pension right away, but with no, or fewer, inflation-linked increases in the future. Take-up of this option resulted in a reduction to expected future liabilities and a $16m past service credit was taken to the income statement in March 2023.

Under the governing documentation of the UK Pension Fund, any future surplus in the Fund would be returnable to the Group by refund assuming gradual settlement of the liabilities over the lifetime of the Fund. In particular, the Trustee has no unilateral right to wind up the Fund without Company consent nor does it have the power to unilaterally use surplus to augment benefits prior to wind-up. As such, there are no adjustments required in respect of IFRIC 14 'IAS 19 – The Limit on a Defined Benefit Asset, Minimum Funding Requirements and their Interaction'.

On current bases, it is expected that ongoing contributions (excluding those in respect of past service deficit contributions) during the year ending 31 December 2024 for the UK scheme will be approximately $18m.

United States

In May 2023, AstraZeneca Pharmaceuticals LP agreed a buy-out of its qualified US Defined Benefit Pension Plan with an external insurer. All Plan liabilities (approximately $840m) have now been discharged (via a mix of cash payments to participants and purchase of insured annuities), with an impact of $1.7m on the income statement and a net Group cash contribution of approximately $25m. The Plan is wound up and the Trust is closed. The transaction will be completed in 2024, pending approval of Group annuity contracts from State Regulators.

There are three remaining immaterial US post-retirement benefit plans and therefore from 2024, these will not be individually disclosed.

Sweden

The Swedish plans account for 20% of the Group's defined benefit obligations. They are governed by Fiduciary Bodies with responsibility for the investment of the assets. These plans are funded in line with the Group's financing principles and local regulations.

The Swedish defined benefit pension plans were actuarially valued at 31 December 2022, when plan obligations were estimated to amount to $1,312m and plan assets were $946m. The local Swedish GAAP funding position can influence contribution policy. Over 2023, for the main pension fund the Group did not request a reimbursement of benefit payments made throughout the year as the funding level was below 100% on the Swedish GAAP basis. The benefit payments over 2023, totalling approximately $47m, are therefore regarded as Group contributions.

On current bases, it is expected that ongoing contributions (excluding those in respect of past service deficit contributions) during the year ending 31 December 2024 for Sweden will be approximately $53m.

Other defined benefit plans

The Group provides benefit plans other than pensions which have to be reported under IAS 19. These include lump sum plans, long service awards and defined contribution pension plans which have a guaranteed minimum benefit. However, the largest category of these 'other' non-pension plans are healthcare benefits.

In the US, and to a lesser extent in certain other countries, the Group's employment practices include the provision of healthcare and life assurance benefits for eligible retired employees. As at 31 December 2023, some 2,673 retired employees and covered dependents currently benefit from these provisions and some 2,133 current employees will be eligible on their retirement. The Group accrues for the present value of such retiree obligations over the working life of the employee. In practice, these benefits will be funded with reference to the financing principles.

In the US, the Post Retirement Welfare Plan which provides retiree medical benefits has a surplus of $66m. As a result, the investment strategy has been fully de-risked. The Group has concluded that under current legislation, the surplus would be repayable in the future to subsidise other medical benefits offered to employees.

The cost of post-retirement benefits other than pensions for the Group in 2023 was $1m (2022: $1m; 2021: $1m). Plan assets were $161m and plan obligations were $114m at 31 December 2023. These benefit plans have been included in the disclosure of post-retirement benefits under IAS 19.

22 Post-retirement and other defined benefit schemes *continued*

Financial assumptions

Qualified independent actuaries have updated the actuarial valuations under IAS 19 for the major defined benefit schemes operated by the Group to 31 December 2023. The assumptions used may not necessarily be borne out in practice, due to the inherent financial and demographic uncertainty associated with making long-term projections. These assumptions reflect the changes which have the most material impact on the results of the Group and were as follows:

				2022
	UK	US	Sweden	Rest of Group[1]
Inflation assumption	3.2%	–	1.9%	2.5%
Rate of increase in salaries	–[2]	–	3.4%	4.0%
Rate of increase in pensions in payment	3.1%	–	1.9%	2.5%
Discount rate – defined benefit obligation	4.9%	5.0%	4.1%	3.7%
Discount rate – interest cost	5.0%	4.9%	4.0%	3.8%
Discount rate – service cost	4.8%	n/a	4.0%	3.7%

				2023
	UK	**US**	**Sweden**	**Rest of Group[1]**
Inflation assumption	**3.1%[3]**	**–**	**1.6%**	**2.2%**
Rate of increase in salaries	**–[2]**	**–**	**3.1%**	**3.7%**
Rate of increase in pensions in payment	**2.9%**	**–**	**1.6%**	**2.2%**
Discount rate – defined benefit obligation[4]	**4.6%**	**4.7%**	**3.3%**	**3.3%**
Discount rate – interest cost[5]	**4.6%**	**4.7%**	**3.3%**	**3.3%**
Discount rate – service cost[5]	**4.5%**	**n/a**	**3.3%**	**3.3%**

[1] Rest of Group reflects the assumptions in Germany as these have the most material impact on the Group.
[2] Pensionable pay frozen at 30 June 2010 levels following UK fund changes.
[3] The UK inflation assumption includes an allowance for some UK inflation experience over 2023.
[4] Group defined benefit obligation as at 31 December 2023 calculated using discount rates based on market conditions as at 31 December 2023.
[5] 2023 interest costs and service costs calculated using discount rates based on market conditions as at 31 December 2022.

The weighted average duration of the post-retirement scheme obligations is approximately 11 years in the UK, 16 years in Sweden and 13 years for the Rest of the Group (including Germany).

Demographic assumptions

The mortality assumptions are based on country-specific mortality tables. These are compared to actual experience and adjusted where sufficient data are available. Additional allowance for future improvements in life expectancy is included for all major schemes where there is credible data to support a continuing trend.

The table below illustrates life expectancy assumptions at age 65 for male and female members retiring in 2023 and male and female members expected to retire in 2043 (2022: 2022 and 2042 respectively).

	Life expectancy assumption for a male member retiring at age 65				Life expectancy assumption for a female member retiring at age 65			
Country	**2023**	**2043**	2022	2042	**2023**	**2043**	2022	2042
UK	**22.1**	**23.1**	22.2	23.2	**23.7**	**24.8**	23.8	24.9
US	**22.2**	**24.6**	22.0	23.2	**23.3**	**26.2**	23.4	25.0
Sweden	**21.8**	**23.6**	21.8	23.6	**23.9**	**26.0**	23.9	26.0

In the UK, the Group adopted the CMI 2022 Mortality Projections Model with a 1% long-term improvement rate. No other demographic assumptions have changed since they were updated in 2022 following the actuarial valuation. The Group has continued to assume that 25% of members (2022: 25%) will transfer out of the defined benefit section of the AstraZeneca Pension Fund at the point of retirement.

In the US and Sweden, the mortality assumptions are unchanged from 2022.

Risks associated with the Group's defined benefit pension schemes

The UK defined benefit plan accounts for 65% of the Group's defined benefit obligations and exposes the Group to a number of risks, the most significant of which are:

Risk	Description	Mitigation
Asset pricing risk	The Defined Benefit Obligation (DBO) is calculated using a discount rate set with reference to AA-rated corporate bond yields; asset returns that differ from the discount rate will create an element of volatility in the solvency ratio. Approximately 45% of the UK Pension Fund is allocated to growth assets. Although these growth assets are expected to outperform AA-rated corporate bonds in the long term, they can lead to volatility and mismatching risk in the short term. The allocation to growth assets is monitored to ensure it remains appropriate given the UK Pension Fund's long-term objectives.	In order to mitigate investment risk, the Trustee invests in a suitably diversified range of asset classes, return drivers and investment managers. The investment strategy will evolve to further improve the expected risk/return profile as opportunities arise. De-risking of the investment strategy took place over 2023, as the Fund moved ahead of its long-term target, with the benchmark allocation to Growth Assets reducing from 62.5% to 47.5%. The Trustee has hedged approximately 92% of unintended non-sterling, overseas currency risk within the UK Pension Fund assets.
Interest rate risk	A decrease in corporate bond yields will increase the present value placed on the DBO for accounting purposes.	The interest rate hedge of the UK Pension Fund is predominantly implemented via holding gilts (and gilt repurchase agreements or 'gilt repo') of appropriate duration. This hedge protects to a large degree against falls in long-term interest rates and the UK Pension Fund is approximately 98% hedged as a percentage of assets at the end of 2023 (versus target of 100%). Nonetheless, there remain differences in the bonds and instruments held by the UK Pension Fund to hedge interest rate risk on the statutory and long-term funding basis (gilts and gilt repo) and the bonds analysed to set the DBO discount rate on an accounting basis (AA corporate bonds). As such, there remains some mismatching risk on an accounting basis should yields on gilts diverge compared to AA corporate bonds.
Inflation risk	The majority of the DBO is indexed in line with price inflation (mainly inflation as measured by the UK Retail Price Index (RPI) but also for some members a component of pensions is indexed by the UK Consumer Price Index (CPI)) and higher inflation will lead to higher liabilities (although, in the vast majority of cases, this is capped at an annual increase of 5%, known as Limited Price Indexation or LPI).	The UK Pension Fund holds RPI index-linked gilts and gilt repo. The inflation hedge of the UK Pension Fund protects to some degree against higher-than-expected inflation increases on the DBO (approximately 100% hedged as a percentage of assets at the end of 2023). Over 2023, work was carried out by the Trustee to improve the accuracy of the hedge to LPI linked liabilities.
Life expectancy	The majority of the UK Pension Fund's obligations are to provide benefits for the life of the member, so increases in life expectancy will result in an increase in the liabilities.	In 2013 the Trustee entered into a longevity swap to hedge against the risk of increasing life expectancy over the next 75 years. The swap currently covers approximately 8,000 of the UK Pension Fund's pensioners, equivalent to $2.4bn of Pension fund liability. A one-year increase in life expectancy would result in a $214m increase in pension fund obligations, which would be partially offset by a $108m increase in the value of the longevity swap and hence the pension fund assets.
Cash flow and liquidity risk	The UK Pension Fund is maturing and cash flow negative. Assets are liquidated to meet benefit outgo and potentially from time to time, to supplement the collateral pool required to post margin for derivative holdings. There is a risk of the Trustee requesting liquidity support from the Group to meet margin calls or expenditure, if the liquidity position of the UK Pension Fund is not effectively monitored and managed.	The Trustee invests in a diversified portfolio of highly liquid assets to manage sequencing risk and operates a collateral management policy, maintaining a minimum liquidity 'buffer' above recommended regulatory guidelines, which can be quickly supplemented in an orderly manner. Over 2023, in addition to the Growth and Liability Hedging portfolios, the Trustee allocated 7% of assets to a new, cash flow driven investment portfolio, consisting of investment grade corporate bonds. The purpose of this portfolio is to generate income to help meet the Fund's benefit outgo. The portfolio is expected to grow over time as further de-risking occurs.

Other risks

There are a number of other risks of administering the UK Pension Fund which the Trustee manages with Group input. Some of the major risks include counterparty risks from using derivatives (mitigated by using a specialist investment manager to oversee a diversified range of counterparties of high standing and ensuring positions are collateralised daily). Furthermore, there are operational risks (such as paying out the wrong benefits) and legislative risks (such as the UK government introducing new legislation). These are mitigated so far as possible via the governance structure in place which oversees and administers the pension funds.

The Group's pension plans in Sweden also manage these key risks, where relevant, in a similar way, with the local fiduciary bodies investing in a diversified manner and employing a framework to hedge interest rate risk where practicable.

Local fiduciary boards are aware of Environmental, Social and Governance (ESG) risks as they pertain to investment policy, and where local regulation allows, have policies in place to monitor and manage such risks and comply with local legislation and disclosure requirements. The Trustee of the UK Pension Fund published its inaugural Task Force for Climate-related Disclosures (TCFD) report in October 2023.

22 Post-retirement and other defined benefit schemes *continued*

Assets and obligations of defined benefit schemes

The assets and obligations of the defined benefit schemes operated by the Group at 31 December 2023, as calculated in accordance with IAS 19, are shown below. The fair values of the schemes' assets are not intended to be realised in the short term and may be subject to significant change before they are realised. The present value of the schemes' obligations is derived from cash flow projections over long periods and is therefore inherently uncertain.

Scheme assets

	UK		US		Sweden		Rest of Group		Total		2022
	Quoted $m	Unquoted $m	Quoted $m	Unquoted $m	Quoted $m	Unquoted $m	Quoted $m	Unquoted $m	Quoted $m	Unquoted $m	Total $m
Government bonds[1]	1,931	–	104	–	–	–	60	–	2,095	–	2,095
Corporate bonds[2]	–	–	622	–	–	–	11	–	633	–	633
Derivatives[3]	–	(608)	(2)	(3)	–	325	(2)	–	(4)	(286)	(290)
Investment funds: Listed Equities[4]	–	265	–	–	–	–	49	4	49	269	318
Investment funds: Absolute Return/Multi Strategy[4]	–	1,701	–	–	–	475	6	–	6	2,176	2,182
Investment funds: Corporate Bonds/Credit[4]	–	817	–	–	–	144	49	10	49	971	1,020
Cash and cash equivalents	52	415	285	–	–	2	–	4	337	421	758
Other	–	–	–	2	–	–	1	311	1	313	314
Total fair value of scheme assets/(liabilities)[5]	1,983	2,590	1,009	(1)	–	946	174	329	3,166	3,864	7,030

	UK		US		Sweden		Rest of Group		Total		2023
	Quoted $m	Unquoted $m	Quoted $m	Unquoted $m	Quoted $m	Unquoted $m	Quoted $m	Unquoted $m	Quoted $m	Unquoted $m	Total $m
Government bonds[1]	**2,383**	**–**	**61**	**–**	**–**	**–**	**51**	**–**	**2,495**	**–**	**2,495**
Corporate bonds[2]	**373**	**–**	**94**	**–**	**–**	**–**	**6**	**–**	**473**	**–**	**473**
Derivatives[3]	**–**	**(532)**	**–**	**–**	**–**	**440**	**–**	**–**	**–**	**(92)**	**(92)**
Investment funds: Listed Equities[4]	**–**	**321**	**–**	**–**	**–**	**–**	**53**	**3**	**53**	**324**	**377**
Investment funds: Absolute Return/Multi Strategy[4]	**–**	**1,131**	**–**	**–**	**–**	**461**	**5**	**8**	**5**	**1,600**	**1,605**
Investment funds: Corporate Bonds/Credit[4]	**–**	**667**	**–**	**–**	**–**	**165**	**48**	**–**	**48**	**832**	**880**
Cash and cash equivalents	**53**	**363**	**5**	**–**	**–**	**2**	**–**	**3**	**58**	**368**	**426**
Other	**–**	**–**	**–**	**–**	**–**	**–**	**(1)**	**316**	**(1)**	**316**	**315**
Total fair value of scheme assets[5]	**2,809**	**1,950**	**160**	**–**	**–**	**1,068**	**162**	**330**	**3,131**	**3,348**	**6,479**

[1] Predominantly developed markets in nature.

[2] Predominantly developed markets in nature and investment grade (AAA-BBB).

[3] Includes interest rate swaps, inflation swaps, longevity swap, equity total return swaps and other contracts. More detail is given in the section Risks associated with the Group's defined benefit pensions on page 187. Valuations are determined by independent third parties.

[4] Investment Funds are pooled, commingled vehicles, whereby the pension scheme owns units in the fund, alongside other investors. The pension schemes invest in a number of Investment Funds, including Listed Equities (primarily developed markets with some emerging markets), Corporate Bonds/Credit (a range of investment-grade and non investment-grade credit) and Absolute Return/Multi Strategy (multi-asset exposure both across and within traditional and alternative asset classes). The price of the funds is set by independent administrators/custodians employed by the investment managers and based on the value of the underlying assets held in the fund. Details of pricing methodology is set out within internal control reports provided for each fund. Prices are updated daily, weekly or monthly depending upon the frequency of the fund's dealing.

[5] None of the Group's own assets were included in the scheme assets (2022: $1m). The assets held in 2022 were AstraZeneca corporate debt held by the US qualified plan and amounted to 0.05% of the plan's then assets.

Scheme obligations

	UK $m	US $m	Sweden $m	Rest of Group $m	2022 Total $m
Present value of scheme obligations in respect of:					
Active membership	(212)	(54)	(430)	(424)	(1,120)
Deferred membership	(804)	(437)	(369)	(299)	(1,909)
Pensioners	(3,785)	(531)	(513)	(250)	(5,079)
Total value of scheme obligations	(4,801)	(1,022)	(1,312)	(973)	(8,108)

	UK $m	US $m	Sweden $m	Rest of Group $m	2023 Total $m
Present value of scheme obligations in respect of:					
Active membership	**(233)**	**(45)**	**(553)**	**(442)**	**(1,273)**
Deferred membership	**(853)**	**(2)**	**(443)**	**(294)**	**(1,592)**
Pensioners	**(4,075)**	**(107)**	**(606)**	**(254)**	**(5,042)**
Total value of scheme obligations	**(5,161)**	**(154)**	**(1,602)**	**(990)**	**(7,907)**

Net (deficit)/surplus in the scheme

	UK $m	US $m	Sweden $m	Rest of Group $m	2022 Total $m
Total fair value of scheme assets	4,573	1,008	946	503	7,030
Total value of scheme obligations	(4,801)	(1,022)	(1,312)	(973)	(8,108)
Deficit in the scheme as recognised in the Consolidated Statement of Financial Position	(228)	(14)	(366)	(470)	(1,078)
Included in Non-current other receivables	–	62	–	28[1]	90
Included in Retirement benefit obligations	(228)	(76)	(366)	(498)	(1,168)
	(228)	(14)	(366)	(470)	(1,078)

	UK $m	**US $m**	**Sweden $m**	**Rest of Group $m**	**2023 Total $m**
Total fair value of scheme assets	**4,759**	**160**	**1,068**	**492**	**6,479**
Total value of scheme obligations	**(5,161)**	**(154)**	**(1,602)**	**(990)**	**(7,907)**
(Deficit)/surplus in the scheme as recognised in the Consolidated Statement of Financial Position	**(402)**	**6**	**(534)**	**(498)**	**(1,428)**
Included in Non-current other receivables	**–**	**66**	**–**	**26**[1]	**92**
Included in Retirement benefit obligations	**(402)**	**(60)**	**(534)**	**(524)**	**(1,520)**
	(402)	**6**	**(534)**	**(498)**	**(1,428)**

[1] Surpluses were recognised in Ireland and Belgium.

Fair value of scheme assets

	UK $m	**US $m**	**Sweden $m**	**Rest of Group $m**	**2023 Total $m**	UK $m	US $m	Sweden $m	Rest of Group $m	2022 Total $m
At beginning of year	**4,573**	**1,008**	**946**	**503**	**7,030**	7,333	1,413	1,234	584	10,564
Interest income on scheme assets	**229**	**22**	**38**	**11**	**300**	123	29	18	5	175
Expenses	**(9)**	**(1)**	**–**	**(1)**	**(11)**	(5)	(2)	–	–	(7)
Actuarial (losses)/gains	**(59)**	**2**	**37**	**(45)**	**(65)**	(1,964)	(295)	(153)	(55)	(2,467)
Exchange and other adjustments	**262**	**(1)**	**48**	**20**	**329**	(728)	–	(152)	(34)	(914)
Employer contributions	**65**	**35**	**46**	**42**	**188**	118	7	43	37	205
Participant contributions	**1**	**4**	**–**	**7**	**12**	1	5	–	5	11
Benefits paid	**(303)**	**(68)**	**(47)**	**(45)**	**(463)**	(305)	(149)	(44)	(39)	(537)
Settlements	**–**	**(841)**	**–**	**–**	**(841)**	–	–	–	–	–
Scheme assets' fair value at end of year	**4,759**	**160**	**1,068**	**492**	**6,479**	4,573	1,008	946	503	7,030

The actual return on the plan assets was a gain of $235m (2022: loss of $2,292m).

Movement in post-retirement scheme obligations

	UK $m	**US $m**	**Sweden $m**	**Rest of Group $m**	**2023 Total $m**	UK $m	US $m	Sweden $m	Rest of Group $m	2022 Total $m
Present value of obligations in scheme at beginning of year	**(4,801)**	**(1,022)**	**(1,312)**	**(973)**	**(8,108)**	(7,941)	(1,404)	(2,373)	(1,300)	(13,018)
Current service cost	**(6)**	**(2)**	**(13)**	**(35)**	**(56)**	(14)	(1)	(35)	(38)	(88)
Past service credit/(cost)	**12**	**–**	**(2)**	**2**	**12**	(5)	–	(4)	3	(6)
Participant contributions	**(1)**	**(4)**	**–**	**(7)**	**(12)**	(1)	(4)	–	(5)	(10)
Benefits paid	**303**	**68**	**47**	**45**	**463**	305	149	44	39	537
Interest expense on post-retirement scheme obligations	**(239)**	**(22)**	**(50)**	**(27)**	**(338)**	(132)	(29)	(31)	(12)	(204)
Actuarial (losses)/gains	**(155)**	**(12)**	**(202)**	**28**	**(341)**	2,243	268	806	268	3,585
Exchange and other adjustments	**(274)**	**1**	**(70)**	**(34)**	**(377)**	744	(1)	281	72	1,096
Settlements	**–**	**839**	**–**	**11**	**850**	–	–	–	–	–
Present value of obligations in scheme at end of year	**(5,161)**	**(154)**	**(1,602)**	**(990)**	**(7,907)**	(4,801)	(1,022)	(1,312)	(973)	(8,108)

The obligations arise from over 50 plans in 28 countries:

	UK $m	**US $m**	**Sweden $m**	**Rest of Group $m**	**2023 Total $m**	UK $m	US $m	Sweden $m	Rest of Group $m	2022 Total $m
Funded – pension schemes[1]	**(5,151)**	**–**	**(1,599)**	**(868)**	**(7,618)**	(4,787)	(851)	(1,310)	(842)	(7,790)
Funded – post-retirement healthcare	**–**	**(94)**	**–**	**–**	**(94)**	–	(111)	–	–	(111)
Unfunded – pension schemes[1]	**–**	**(60)**	**(3)**	**(113)**	**(176)**	–	(60)	(2)	(122)	(184)
Unfunded – post-retirement healthcare	**(10)**	**–**	**–**	**(9)**	**(19)**	(14)	–	–	(9)	(23)
Total	**(5,161)**	**(154)**	**(1,602)**	**(990)**	**(7,907)**	(4,801)	(1,022)	(1,312)	(973)	(8,108)

[1] Includes defined benefit pension schemes and other plans, such as lump sum, long service awards and DC plans with underpins.

22 Post-retirement and other defined benefit schemes *continued*

Consolidated Statement of Comprehensive Income disclosures

The amounts that have been charged to the Consolidated Statement of Comprehensive Income, in respect of defined benefit schemes for the year ended 31 December 2023, are set out below.

	2023					2022				
	UK $m	**US $m**	**Sweden $m**	**Rest of Group $m**	**Total $m**	UK $m	US $m	Sweden $m	Rest of Group $m	Total $m
Operating profit										
Current service cost	**(6)**	**(2)**	**(13)**	**(35)**	**(56)**	(14)	(1)	(35)	(38)	(88)
Past service credit/(cost)	**12**	**–**	**(2)**	**2**	**12**	(5)	–	(4)	3	(6)
Expenses	**(9)**	**(1)**	**–**	**(1)**	**(11)**	(5)	(2)	–	–	(7)
Total charge to Operating profit	**(3)**	**(3)**	**(15)**	**(34)**	**(55)**	(24)	(3)	(39)	(35)	(101)
Finance expense										
Interest income on scheme assets	**229**	**22**	**38**	**11**	**300**	123	29	18	5	175
Interest expense on post-retirement scheme obligations	**(239)**	**(22)**	**(50)**	**(27)**	**(338)**	(132)	(29)	(31)	(12)	(204)
Net interest on post-employment defined benefit plan liabilities	**(10)**	**–**	**(12)**	**(16)**	**(38)**	(9)	–	(13)	(7)	(29)
Charge before taxation	**(13)**	**(3)**	**(27)**	**(50)**	**(93)**	(33)	(3)	(52)	(42)	(130)
Other comprehensive income										
Difference between the actual return and the expected return on the post-retirement scheme assets	**(59)**	**2**	**37**	**(45)**	**(65)**	(1,964)	(295)	(153)	(55)	(2,467)
Experience (losses)/gains arising on the post-retirement scheme obligations	**(25)**	**(2)**	**(67)**	**(13)**	**(107)**	55	(16)	(99)	(6)	(66)
Changes in financial assumptions underlying the present value of the post-retirement scheme obligations	**(142)**	**(10)**	**(135)**	**44**	**(243)**	2,272	284	896	275	3,727
Changes in demographic assumptions	**12**	**–**	**–**	**(3)**	**9**	(84)	–	9	(1)	(76)
Remeasurement of the defined benefit liability	**(214)**	**(10)**	**(165)**	**(17)**	**(406)**	279	(27)	653	213	1,118

Past service cost includes granting early retirement in UK and Sweden.

Total Group pension costs in respect of defined contribution and defined benefit schemes during the year are set out below (see Note 29).

	2023 $m	2022 $m
Defined contribution schemes	**482**	445
Defined benefit schemes – Current service cost and Expenses	**67**	95
Defined benefit schemes – Past service (credit)/cost	**(12)**	6
Pension costs	**537**	546

SE Rate sensitivities

The following table shows the US dollar effect of a change in the significant actuarial assumptions used to determine the retirement benefits obligations in our three main defined benefit pension obligation countries.

	2023		2022	
	+0.5%	**–0.5%**	+0.5%	–0.5%
Discount rate				
UK ($m)	**269**	**(308)**	262	(289)
US ($m)	**4**	**(4)**	46	(49)
Sweden ($m)	**109**	**(123)**	95	(107)
Total ($m)	**382**	**(435)**	403	(445)

	2023		2022	
	+0.5%	**–0.5%**	+0.5%	–0.5%
Inflation rate[1]				
UK ($m)	**(189)**	**184**	(173)	165
US ($m)	**n/a**	**n/a**	n/a	n/a
Sweden ($m)	**(116)**	**104**	(104)	93
Total ($m)	**(305)**	**288**	(277)	258

	2023		2022	
	+0.5%	**–0.5%**	+0.5%	–0.5%
Rate of increase in salaries				
UK ($m)	**n/a**	**n/a**	n/a	n/a
US ($m)	**n/a**	**n/a**	n/a	n/a
Sweden ($m)	**(46)**	**42**	(47)	43
Total ($m)	**(46)**	**42**	(47)	43

	2023		2022	
	+1 year	–1 year	+1 year	–1 year
Mortality rate				
UK ($m)	**(214)**[2]	**212**[3]	(191)	193
US ($m)	**(2)**	**2**	(20)	20
Sweden ($m)	**(51)**	**51**	(44)	44
Total ($m)	**(267)**	**265**	(255)	257

[1] Rate of increase in pensions in payment follows inflation.
[2] Of the $214m increase, $108m is covered by the longevity swap.
[3] Of the $212m decrease, $106m is covered by the longevity swap.

In consideration of current market conditions, additional sensitivities have been calculated for the UK and Sweden schemes for 2023. The effect on retirement benefit obligations of a 1.0% change in assumption is as follows: $525m (UK) and $210m (Sweden) if the discount rate is increased; $(634)m (UK) and $(254)m (Sweden) if the discount rate is decreased; $(384)m (UK) and $(240)m (Sweden) if the inflation rate is increased; and $363m (UK) and $201m (Sweden) if the inflation rate is decreased.

The sensitivity to the financial assumptions shown above has been estimated taking into account the approximate duration of the liabilities and the overall profile of the plan membership.

The inflation sensitivity allows for the impact of a change in inflation on salary increases and pension increases (where these assumptions are inflation-linked).

The salary increase sensitivity reflects the impact of an increase of only salary relative to inflation.

The sensitivity to the life expectancy assumption is estimated based on a revised mortality assumption that extends/reduces the current life expectancy by one year for a particular age.

23 Reserves

Retained earnings

The cumulative amount of goodwill written off directly to reserves resulting from acquisitions, net of disposals, amounted to $595m (2022: $591m; 2021: $615m) using year end rates of exchange.

At 31 December 2023, 1,580,137 shares, at a cost of $129m, have been deducted from Retained earnings (2022: 1,671,446 shares, at a cost of $112m; 2021: 3,922,122 shares, at a cost of $239m) to satisfy future vesting of employee share plans.

There are no significant statutory or contractual restrictions on the distribution of current profits of subsidiaries; undistributed profits of prior years are, in the main, permanently employed in the businesses of these companies. The undistributed income of AstraZeneca companies overseas might be liable to overseas taxes and/or UK taxation (after allowing for double taxation relief) if they were to be distributed as dividends (see Note 4).

	2023 $m	2022 $m	2021 $m
Cumulative translation differences included within Retained earnings			
At 1 January	**(3,694)**	(1,934)	(1,143)
Foreign exchange arising on consolidation	**608**	(1,446)	(483)
Exchange adjustments on goodwill (recorded against other reserves)	**4**	(24)	(21)
Foreign exchange arising on designated liabilities in net investment hedges[1]	**24**	(282)	(321)
Fair value movements on derivatives designated in net investment hedges	**44**	(8)	34
Net exchange movement in Retained earnings	**680**	(1,760)	(791)
At 31 December	**(3,014)**	(3,694)	(1,934)

[1] Foreign exchange arising on designated liabilities in net investment hedges includes $(57)m in respect of designated bonds and $81m in respect of designated contingent consideration and other liabilities. The change in value of designated contingent consideration liabilities relates to $82m in respect of BMS' share of Global Diabetes Alliance.

The cumulative loss with respect to costs of hedging is $22m (2022: loss of $3m; 2021: gain of $4m) and the loss during the year was $19m (2022: loss of $7m; 2021: loss of $6m).

The balance remaining in the foreign currency translation reserve from net investment hedging relationships for which hedge accounting no longer applied is a gain of $527m. For further detail relating to hedging balances, please see the Hedge accounting section within Note 28, from page 200.

Other reserves

The other reserves arose from the cancellation of £1,255m of share premium account by the Company in 1993 and the redenomination of share capital of $157m in 1999. The reserves are available for writing off goodwill arising on consolidation and, subject to guarantees given to preserve creditors at the date of the court order, are available for distribution.

24 Share capital

	Allotted, called-up and fully paid		
	2023 $m	2022 $m	2021 $m
Issued Ordinary Shares ($0.25 each)	**388**	387	387
Redeemable Preference Shares (£1 each – £50,000)	**–**	–	–
At 31 December	**388**	387	387

The Redeemable Preference Shares carry limited class voting rights and no dividend rights. This class of shares is capable of redemption at par at the option of the Company on the giving of seven days' written notice to the registered holder of the shares.

The Company does not have a limited amount of authorised share capital.

The movements in the number of Ordinary Shares during the year can be summarised as follows:

	No. of shares		
	2023	2022	2021
At 1 January	**1,549,800,030**	1,549,400,665	1,312,668,724
Issue of share capital (business combinations)	**–**	–	236,321,411
Issue of shares (share schemes)	**362,596**	399,365	410,530
At 31 December	**1,550,162,626**	1,549,800,030	1,549,400,665

Share issues
Issue of share capital (business combinations) represents share capital issued as part of the acquisition of Alexion (see Note 27).

Share repurchases
No Ordinary Shares were repurchased by the Company in 2023 (2022: nil; 2021: nil).

Shares held by subsidiaries
No shares in the Company were held by subsidiaries in any year.

25 Dividends to shareholders

	2023 Per share	2022 Per share	2021 Per share	**2023 $m**	2022 $m	2021 $m
Second interim (March 2023)	**$1.97**	$1.97	$1.90	**3,047**	3,046	2,490
First interim (September 2023)	**$0.93**	$0.93	$0.90	**1,440**	1,440	1,392
Total	**$2.90**	$2.90	$2.80	**4,487**	4,486	3,882

The Company has exercised its authority in accordance with the provisions set out in the Company's Articles of Association, that the balance of unclaimed dividends outstanding past 12 years be forfeited. Unclaimed dividends of $nil (2022: $1m; 2021: $nil) have been adjusted for in Retained earnings in 2023.

The 2022 second interim dividend of $1.97 per share was paid on 27 March 2023. The 2023 first interim dividend of $0.93 per share was paid on 11 September 2023.

Reconciliation of dividends charged to equity to cash flow statement:

	2023 $m	2022 $m	2021 $m
Dividends charged to equity	**4,487**	4,486	3,882
Exchange losses on payment of dividend	**5**	5	3
Hedge contracts relating to payment of dividends (cash flow statement)	**(19)**	(127)	(29)
Dividends paid to non-controlling interests	**4**	–	–
Net movement of unclaimed dividends in the year	**4**	–	–
Dividends paid (cash flow statement)	**4,481**	4,364	3,856

26 Non-controlling interests

The Group Financial Statements at 31 December 2023 reflect equity of $23m (2022: $21m; 2021: $19m) and total comprehensive income of $6m (2022: $2m; 2021: $3m) attributable to the non-controlling interests in AstraZeneca Pharma India Limited, P.T. AstraZeneca Indonesia, Beijing Falikang Pharmaceutical (China) Co. Limited, and AstraZeneca Algeria Pharmaceutical Industries SPA.

In February 2016, AstraZeneca acquired a 55% controlling stake in Acerta Pharma where the non-controlling interest was subject to put and call options. The put option gave rise to a liability (see Note 20). AstraZeneca exercised its option to acquire the remaining 45% of shares in Acerta Pharma in April 2021.

As part of the acquisition of Alexion in July 2021, a pre-existing non-controlling interest in Caelum Biosciences was recognised (Note 27). This was valued at $150m, the agreed-upon exercise price for the exclusive option to acquire the remaining equity. The option was exercised on 28 September 2021 and the acquisition of Caelum Biosciences closed shortly thereafter on 5 October 2021.

27 Acquisition of business operations

Acquisitions of business operations in 2023

On 16 January 2023, AstraZeneca completed the acquisition of Neogene Therapeutics Inc. (Neogene), a global clinical-stage biotechnology company pioneering the discovery, development and manufacturing of next-generation T-cell receptor therapies (TCR-Ts). The purchase price allocation exercise has completed, with the fair value of total consideration determined at $267m. Intangible assets of $100m and goodwill of $158m were recognised in the acquisition balance sheet, as well as a cash outflow of $189m net of cash acquired. Future contingent milestones-based and non-contingent consideration is payable to a maximum of $120m. Neogene's results have been consolidated into the Group's results from 16 January 2023.

Acquisitions of business operations in 2022

On 16 November 2022, AstraZeneca completed the acquisition of 100% of the issued shares of LogicBio Therapeutics, Inc. (LogicBio) based in Lexington, MA, US. LogicBio is a clinical-stage genetic medicine company pioneering genome editing and gene delivery platforms to address rare and serious diseases from infancy through adulthood. The total consideration was $72m. Cash of $68m was paid on the completion date, with $4m of outstanding options, which will be settled in cash, recorded in current Trade and other payables. Goodwill of $15m, assets of $82m, including $46m of intangible assets, and liabilities of $25m were recognised on acquisition. LogicBio's results have been consolidated into the Group's results from 16 November 2022.

Acquisitions of business operations in 2021

On 21 July 2021, AstraZeneca completed the acquisition of 100% of the issued shares of Alexion Pharmaceuticals, Inc (Alexion), based in Boston, MA, US. Alexion is a global biopharmaceutical company focused on serving patients and families affected by rare diseases and devastating conditions through the discovery, development and commercialisation of life-changing medicines.

At closing, Alexion shareholders received 2.1243 AstraZeneca American Depositary Shares (ADSs) and $60 in cash for each of their Alexion shares. Unvested Alexion employee share awards were converted to equivalent AstraZeneca share awards. The fair value of the purchase consideration was $41,058m, comprising AstraZeneca ADSs of $27,196m, cash of $13,349m and replacement employee share awards of $513m.

The Group funded the cash element of the acquisition with $8bn of new long-term debt, issued in May and June 2021, $4bn of term loans drawn in July 2021 under the $17.5bn committed bank facilities entered into in December 2020 to secure the acquisition financing, and existing cash balances. The Group cancelled the remaining $13.5bn of the facilities in June, July and October 2021. Loans and borrowings of $2.3bn acquired with Alexion were repaid in full shortly following completion of the acquisition.

The acquisition was accounted for as a business combination using the acquisition method of accounting in accordance with IFRS 3 'Business Combinations' and consequently the Alexion assets acquired, and liabilities assumed, were recorded by AstraZeneca at fair value, with the excess of the purchase price over the fair value of the identifiable assets and liabilities being recognised as goodwill.

KJ As part of the Alexion acquisition in 2021, we identified the assets (comprising principally launched products and IPR&D post pre-clinical stage) and liabilities acquired. Attributing fair values to assets acquired and liabilities assumed as part of business combinations is considered to be a key judgement. The purchase price allocation was performed with assistance from an independent valuer to advise on the valuation techniques and key assumptions in the valuation, in particular in respect of the valuation of the intangible assets and inventory.

27 Acquisition of business operations *continued*

The fair values assigned to the Alexion business combination in 2021 were:

	Fair value $m
Non-current assets	
Property, plant and equipment	1,135
Right-of-use assets	263
Intangible assets	26,855
Other non-current assets	301
	28,554
Current assets	
Inventories	6,769
Trade and other receivables	2,096
Intangible assets	100
Cash and cash equivalents	4,086
	13,051
Current liabilities	
Interest-bearing loans and borrowings	(2,336)
Trade and other payables	(1,192)
Other current liabilities	(40)
	(3,568)
Non-current liabilities	
Lease liabilities	(228)
Deferred tax liabilities	(4,191)
Other non-current liabilities	(697)
	(5,116)
Total net assets acquired	32,921
Less: non-controlling interests	(150)
Goodwill	8,287
Total fair value of consideration	41,058
Less: fair value of equity consideration	(27,196)
Less: fair value of replacement employee share awards	(513)
Less: cash and cash equivalents acquired	(4,086)
Net cash outflow	9,263

The estimated fair value and useful lives of intangible assets were as follows:

	Fair value $m	Useful lives Years
Launched products – C5 franchise (*Soliris*/*Ultomiris*)	18,480	6 to 15
Launched products – *Strensiq*, *Kanuma*, *Andexxa*	5,215	11 to 17
Products in development	2,760	Not amortised
Other intangibles	500	5 to 10
	26,955	

The fair value attributed to intangible assets was $26,955m and primarily represents intellectual property rights over launched products of $23,695m and products under development of $2,760m. These were fair valued using the multi-period excess earnings method, which uses a number of estimates regarding the amount and timing of future cash flows. The key assumptions in the cash flows are the probability of technical and regulatory success, peak year sales and revenue erosion curves. In accordance with the Group's policy on impairment assessments as set out on page 159, the assets were assessed for impairment in the final quarter of 2023, 2022 and 2021. Future milestones have been included in the valuation of the intangible assets (as a deduction of cash flows).

The fair value of inventory, which includes raw materials, work in progress and finished goods related to the launched products was estimated at $6,769m, an uplift of $5,635m on the carrying value prior to the acquisition. The fair value adjustment relates only to work in progress and finished goods and was calculated as the estimated selling price less costs to complete and sell the inventory, associated margins on these activities and holding costs. As at 31 December 2023, the fair value uplift has been fully unwound.

Property, plant and equipment principally comprises the manufacturing facilities in Dublin and Athlone, Ireland and was fair valued using a cost approach. The estimated fair value of $1,135m represents an uplift of $111m over carrying value.

The estimated fair value of contingent liabilities was $76m, relating to various claims and disputes in each case where there is a possible, but not probable, future financial exposure, and involve an assessment of the likelihood of a number of scenarios in relation to those matters. This amount has been included within other non-current liabilities of $697m.

The estimated fair value of trade and other receivables was $2,096m, which approximated the contractual cash flows.

The net deferred tax position reflected an adjustment of $5,215m related to the deferred tax impact of the fair value uplifts on intangible assets, inventories, property, plant and equipment and contingent liabilities as described above.

Goodwill amounting to $8,287m was recognised on acquisition and is underpinned by a number of elements, which individually could not be quantified. Most significant among these is the premium attributable to a pre-existing, well-positioned business in the innovation-intensive, high-growth rare diseases market with a highly skilled workforce and established reputation. Other important elements include the potential unidentified products that future research and development may yield and the core technological capabilities and knowledge base of the company. Goodwill is not expected to be deductible for tax purposes.

Non-controlling interests reflect Alexion's pre-existing minority equity interest in Caelum Biosciences and have been valued at $150m, the agreed-upon exercise price for the exclusive option to acquire the remaining equity. The option was exercised on 28 September 2021 and the acquisition of Caelum Biosciences closed shortly thereafter on 5 October 2021 (Note 26).

Alexion's results have been consolidated into the Group's results from 21 July 2021. For the period from acquisition to 31 December 2021, before reflecting the fair value adjustments arising on the acquisition, Alexion's Total Revenues were $3,071m and Profit after tax was $889m. If the acquisition had taken effect at the beginning of the reporting period in which the acquisition occurred (1 January 2021), on a pro forma basis, after reflecting the fair value adjustments arising on the acquisition, the Total Revenue of the combined Group for the year ended 31 December 2021 would have been $41,132m and the Loss after tax would have been $1,152m. This pro forma information does not purport to represent the results of the combined Group that actually would have occurred had the acquisition taken place on 1 January 2021 and should not be taken to be representative of future results.

Total acquisition-related costs of $5m (2022: $4m; 2021: $171m) have been incurred by the Group, which include advisory, legal and other professional fees. These costs are presented in the Statement of Comprehensive Income within Selling, general and administrative expense and Finance expense.

The terms of the acquisition include a retention bonus plan for legacy Alexion employees whereby up to $50m may be used for retention bonus awards to employees at the level of Vice President or below. In 2023, $nil costs were recorded in the Statement of Comprehensive Income (2022: $3m; 2021: $24m). These bonuses vested and were paid six months after the acquisition, or earlier.

Upon completion of the acquisition, all unvested Alexion employee share awards were converted into AstraZeneca restricted stock awards that continue to have, and shall be subject to, the same terms and conditions as applied in the corresponding Alexion awards immediately prior to completion. Alexion Performance Stock Plan (PSU) awards that included performance-based vesting conditions were converted using the greater of the original target level and Alexion's assessment of the level of achievement immediately prior to completion (subject to a limit of 175% for the awards granted in 2019 and a limit of 150% for the awards granted in 2020). In the year, a cost of $48m (2022: $257m; 2021: $257m) has been recorded in the Statement of Comprehensive Income, $nil (2022: $9m; 2021: $9m) in Cost of sales, $16m (2022: $92m; 2021: $73m) in Research and development expense and $32m (2022: $156m; 2021: $175m) in Selling, general and administrative expense. Payments made to the Employee Benefit Trust upon vesting of share awards recognised as part of the consideration for the acquisition of Alexion are recognised within investing activities in the Group's Statement of Cash Flows as the cash payment relates to the settlement of the obligation that arose on the acquisition of Alexion that was included as part of the consideration for the acquisition.

28 Financial risk management objectives and policies

The Group's principal financial instruments, other than derivatives, comprise bank overdrafts, loans and other borrowings, lease liabilities, current and non-current investments, cash and short-term deposits. The main purpose of these financial instruments is to manage the Group's funding and liquidity requirements. The Group has other financial assets and liabilities such as trade receivables and trade payables, which arise directly from its operations.

The principal financial risks to which the Group is exposed are those of liquidity, interest rate, foreign currency and credit. Each of these is managed in accordance with Board-approved policies. These policies, together with the Group's approach to capital management, are set out below.

Capital management

The capital structure of the Group consists of Shareholders' equity (Note 24), Debt (Note 19), Other current investments (Note 12) and Cash (Note 17). For the foreseeable future, the Board will maintain a capital structure that supports the Group's strategic objectives through:

- managing funding and liquidity risk
- optimising shareholder return
- maintaining a strong, investment-grade credit rating.

The Group utilises factoring arrangements and bank acceptance drafts discounting for selected trade receivables. These arrangements qualify for full derecognition of the associated trade receivables under IFRS 9. Amounts due on invoices that have not been factored at year end, from customers that are subject to these arrangements, are disclosed in Note 16.

Funding and liquidity risk are reviewed regularly by the Board and managed in accordance with the policies described below.

The Board regularly reviews its shareholders' distribution policy, which comprises a regular cash dividend and potentially a share repurchase component. No share repurchases have been made since 2012.

The Group's net debt position (loans and borrowings net of Cash and cash equivalents, Other investments and Derivative financial instruments) has decreased from a net debt position of $22,923m at the beginning of the year to a net debt position of $22,510m at 31 December 2023.

28 Financial risk management objectives and policies *continued*

Liquidity risk

The Board reviews the Group's ongoing liquidity risks annually as part of the planning process and on an ad hoc basis. The Board considers short-term requirements against available sources of funding, taking into account forecast cash flows. The Group manages liquidity risk by maintaining access to a number of sources of funding which are sufficient to meet anticipated funding requirements. Specifically, the Group uses US and European commercial paper, bank loans, committed bank facilities and cash resources to manage short-term liquidity and manages long-term liquidity by raising funds through the capital markets. At 31 December 2023, the Group was assigned short-term credit ratings of P-1 by Moody's and A-1 by Standard and Poor's. The Group's long-term credit rating was A2 Stable outlook by Moody's and A Stable outlook by Standard and Poor's.

In addition to Cash and cash equivalents of $5,840m, short-term fixed income investments of $20m, less overdrafts of $203m at 31 December 2023, the Group has committed bank facilities of $6,875m available to manage liquidity. These committed bank facilities have no financial covenants. $2,000m mature in February 2025. The maturity of the $4,875m facilities was extended in February 2024 from April 2026 to April 2029. The Group regularly monitors the credit standing of the banks providing the facilities and currently does not anticipate any issue with drawing on the committed facilities should this be necessary. Advances under these facilities currently bear an interest rate per annum based on SOFR (Secured Overnight Financing Rate) plus a margin.

At 31 December 2023, the Group has $4,855m outstanding from debt issued under a Euro Medium Term Note programme and $19,959m under a SEC-registered programme. The funds made available under these facility agreements may be used for the general corporate purposes of the Group.

The maturity profile of the anticipated future contractual cash flows including interest in relation to the Group's financial liabilities, on an undiscounted basis and which, therefore, differs from both the carrying value and fair value, is as follows:

	Bank overdrafts and other loans $m	Bonds and bank loans $m	Lease liability $m	Trade and other payables $m	Total non-derivative financial instruments $m	Derivative financial instruments receivable $m	Derivative financial instruments payable $m	Total derivative financial instruments $m	Total $m
Within one year	387	1,981	256	19,007	21,631	(11,766)	11,774	8	21,639
In one to two years	–	5,647	210	2,521	8,378	(55)	66	11	8,389
In two to three years	–	5,242	163	1,669	7,074	(1,060)	1,079	19	7,093
In three to four years	–	2,591	130	862	3,583	(35)	39	4	3,587
In four to five years	–	2,970	96	233	3,299	(118)	111	(7)	3,292
In more than five years	–	19,727	221	2,212	22,160	(1,521)	1,480	(41)	22,119
	387	38,158	1,076	26,504	66,125	(14,555)	14,549	(6)	66,119
Effect of interest	–	(8,609)	–	–	(8,609)	299	(325)	(26)	(8,635)
Effect of discounting, fair values and issue costs	–	(142)	(89)	(2,633)	(2,864)	(36)	7	(29)	(2,893)
31 December 2021	387	29,407	987	23,871	54,652	(14,292)	14,231	(61)	54,591

	Bank overdrafts and other loans $m	Bonds and bank loans $m	Lease liability $m	Trade and other payables $m	Total non-derivative financial instruments $m	Derivative financial instruments receivable $m	Derivative financial instruments payable $m	Total derivative financial instruments $m	Total $m
Within one year	365	5,777	249	19,065	25,456	(12,445)	12,478	33	25,489
In one to two years	–	5,233	208	2,086	7,527	(1,012)	1,078	66	7,593
In two to three years	–	2,608	172	872	3,652	(34)	38	4	3,656
In three to four years	–	2,983	128	595	3,706	(103)	103	–	3,706
In four to five years	–	1,267	84	814	2,165	(32)	35	3	2,168
In more than five years	–	18,156	184	3,177	21,517	(1,436)	1,378	(58)	21,459
	365	36,024	1,025	26,609	64,023	(15,062)	15,110	48	64,071
Effect of interest	(15)	(7,982)	–	–	(7,997)	227	(249)	(22)	(8,019)
Effect of discounting, fair values and issue costs	–	(113)	(72)	(3,299)	(3,484)	63	7	70	(3,414)
31 December 2022	350	27,929	953	23,310	52,542	(14,772)	14,868	96	52,638

	Bank overdrafts and other loans $m	**Bonds and bank loans $m**	**Lease liability $m**	**Trade and other payables $m**	**Total non-derivative financial instruments $m**	**Derivative financial instruments receivable $m**	**Derivative financial instruments payable $m**	**Total derivative financial instruments $m**	**Total $m**
Within one year	**542**	**5,469**	**313**	**22,401**	**28,725**	**(11,302)**	**11,366**	**64**	**28,789**
In one to two years	**–**	**2,764**	**261**	**1,482**	**4,507**	**(100)**	**114**	**14**	**4,521**
In two to three years	**–**	**3,137**	**208**	**788**	**4,133**	**(164)**	**179**	**15**	**4,148**
In three to four years	**–**	**2,230**	**138**	**625**	**2,993**	**(924)**	**883**	**(41)**	**2,952**
In four to five years	**–**	**3,822**	**88**	**12**	**3,922**	**(949)**	**971**	**22**	**3,944**
In more than five years	**–**	**17,995**	**271**	**35**	**18,301**	**(1,507)**	**1,340**	**(167)**	**18,134**
	542	**35,417**	**1,279**	**25,343**	**62,581**	**(14,946)**	**14,853**	**(93)**	**62,488**
Effect of interest	**(27)**	**(8,270)**	**–**	**–**	**(8,297)**	**589**	**(644)**	**(55)**	**(8,352)**
Effect of discounting, fair values and issue costs	**–**	**(168)**	**(151)**	**(309)**	**(628)**	**44**	**(46)**	**(2)**	**(630)**
31 December 2023	**515**	**26,979**	**1,128**	**25,034**	**53,656**	**(14,313)**	**14,163**	**(150)**	**53,506**

Where interest payments are on a floating rate basis, it is assumed that rates will remain unchanged from the last business day of each year ended 31 December.

The Group has $2bn of bank loans that mature in July 2024 which the Group can repay before maturity at face value. Other than that, it is not expected that the cash flows in the maturity profile could occur significantly earlier or at significantly different amounts, with the exception of $2,137m of contingent consideration held within Trade and other payables (see Note 20).

Market risk

Interest rate risk

The Group maintains a Board-approved mix of fixed and floating rate debt and uses underlying debt, interest rate swaps and forward rate agreements to manage this mix.

The majority of surplus cash is currently invested in US dollar liquidity funds and investment-grade fixed income securities.

The interest rate profile of the Group's interest-bearing financial instruments are set out below. In the case of current and non-current financial liabilities, the classification includes the impact of interest rate swaps which convert the debt to floating rate.

	2023			2022			2021		
	Fixed rate $m	**Floating rate $m**	**Total $m**	Fixed rate $m	Floating rate $m	Total $m	Fixed rate $m	Floating rate $m	Total $m
Financial liabilities									
Current	**2,885**	**2,515**	**5,400**	2,476	3,066	5,542	1,232	661	1,893
Non-current	**23,222**	**–**	**23,222**	21,511	2,179	23,690	23,985	4,903	28,888
Total	**26,107**	**2,515**	**28,622**	23,987	5,245	29,232	25,217	5,564	30,781
Financial assets									
Fixed deposits	**–**	**–**	**–**	64	–	64	53	–	53
Cash collateral pledged to counterparties	**–**	**102**	**102**	–	162	162	–	–	–
Cash and cash equivalents	**–**	**5,840**	**5,840**	250	5,916	6,166	–	6,329	6,329
Total	**–**	**5,942**	**5,942**	314	6,078	6,392	53	6,329	6,382

In addition to the financial assets above, there are $11,288m (2022: $9,546m; 2021: $8,765m) of other current and non-current asset investments and other financial assets.

The Group is also exposed to market risk on other investments.

	2023 $m	2022 $m	2021 $m
Equity securities at fair value through Other comprehensive income (Note 12)	**1,530**	1,056	1,168
Non-current fixed income securities at fair value through profit or loss (Note 12)	**–**	10	–
Total	**1,530**	1,066	1,168

Foreign currency risk

The US dollar is the Group's most significant currency. As a consequence, the Group results are presented in US dollars and exposures are managed against US dollars accordingly.

Translational

Approximately 60% of Group external sales in 2023 were denominated in currencies other than the US dollar, while a significant proportion of manufacturing, and research and development costs were denominated in pound sterling and Swedish krona. Surplus cash generated by business units is substantially converted to, and held centrally in, US dollars. As a result, operating profit and total cash flow in US dollars will be affected by movements in exchange rates.

This currency exposure is managed centrally, based on forecast cash flows. The impact of movements in exchange rates is mitigated significantly by the correlations which exist between the major currencies to which the Group is exposed and the US dollar. Monitoring of currency exposures and correlations is undertaken on a regular basis and hedging is subject to pre-execution approval.

As at 31 December 2023, before the impact of derivatives, 2% of interest-bearing loans and borrowings were denominated in pound sterling and 16% were denominated in euros. Where there is non-US dollar debt and an underlying net investment of that amount in the same currency, the Group applies net investment hedging. Exchange differences on the retranslation of debt designated as net investment hedges are recognised in Other comprehensive income to the extent that the hedge is effective. Any ineffectiveness is taken to profit. For details of non-US dollar debt in a designated hedging relationship please see the Hedge accounting section within this Note 28 from page 200.

The Group holds cross-currency swaps to hedge against the impact of fluctuations in foreign exchange rates. Fair value movements on the revaluation of the cross-currency swaps are recognised in Other comprehensive income to the extent that the hedge is effective, with any ineffectiveness taken to profit.

As at 31 December 2023, the Group operates in three countries designated as hyperinflationary, being Argentina, Venezuela and Turkey. The foreign exchange risk of these markets has been assessed and deemed to be immaterial.

Transactional

The Group aims to hedge all its forecasted major transactional currency exposures on working capital balances, which typically extend for up to three months. Where practicable, these are hedged using forward foreign exchange contracts. In addition, external dividend payments in pound sterling to UK shareholders and in Swedish krona to Swedish shareholders are fully hedged from announcement date to payment date. Foreign exchange gains and losses on forward contracts transacted for transactional hedging are taken to profit or to Other comprehensive income if the contract is in a designated cash flow hedge.

28 Financial risk management objectives and policies *continued*

Sensitivity analysis

The sensitivity analysis set out below summarises the sensitivity of the market value of our financial instruments to hypothetical changes in market rates and prices. The range of variables chosen for the sensitivity analysis reflects our view of changes which are reasonably possible over a one-year period. Market values are the present value of future cash flows based on market rates and prices at the valuation date. For long-term debt, an increase in interest rates results in a decline in the fair value of debt.

The sensitivity analysis assumes an instantaneous 100 basis point change in interest rates in all currencies from their levels at 31 December 2023, with all other variables held constant. Based on the composition of our long-term debt portfolio and cash reserves as at 31 December 2023, a 1% increase in interest rates would result in an additional $25m in interest expense on the debt and an additional $58m interest income on the cash reserves. The exchange rate sensitivity analysis assumes an instantaneous 10% change in foreign currency exchange rates from their levels at 31 December 2023, with all other variables held constant. The +10% case assumes a 10% strengthening of the US dollar against all other currencies and the -10% case assumes a 10% weakening of the US dollar.

Each incremental 10% movement in foreign currency exchange rates would have approximately the same effect as the initial 10% detailed in the table below and each incremental 1% change in interest rates would have approximately the same effect as the 1% detailed in the table below.

	Interest rates		Exchange rates	
31 December 2021	+1%	–1%	+10%	–10%
Increase/(decrease) in fair value of financial instruments ($m)	1,978	(2,106)	82	(85)
Impact on profit: gain/(loss) ($m)	–	–	24	(9)
Impact on equity: gain/(loss) ($m)	–	–	58	(76)

	Interest rates		Exchange rates	
31 December 2022	+1%	–1%	+10%	–10%
Increase/(decrease) in fair value of financial instruments ($m)	1,317	(1,490)	81	(89)
Impact on profit: gain/(loss) ($m)	–	–	26	(15)
Impact on equity: gain/(loss) ($m)	–	–	55	(74)

	Interest rates		**Exchange rates**	
31 December 2023	**+1%**	**–1%**	**+10%**	**–10%**
Increase/(decrease) in fair value of financial instruments ($m)	**1,361**	**(1,534)**	**196**	**(212)**
Impact on profit: gain/(loss) ($m)	**–**	**–**	**134**	**(128)**
Impact on equity: gain/(loss) ($m)	**–**	**–**	**62**	**(83)**

Credit risk

The Group is exposed to credit risk on financial assets, such as cash investments, derivative instruments, and Trade and other receivables. The Group was also exposed in its Net asset position to its own credit risk in respect of the 2023 debentures which are accounted for at FVPL. Under IFRS 9, the effect of the losses and gains arising from own credit risk on the fair value of bonds designated at FVPL are recorded in Other comprehensive income.

Financial counterparty credit risk

The majority of the AstraZeneca Group's cash is centralised within the Group treasury entity and is subject to counterparty risk on the principal invested. The level of the Group's cash investments and hence credit risk will depend on the cash flow generated by the Group and the timing of the use of that cash. The credit risk is mitigated through a policy of prioritising security and liquidity over return and, as such, cash is only invested in high credit-quality investments. Counterparty limits are set according to the assessed risk of each counterparty and exposures are monitored against these limits on a regular basis.

The Group's principal financial counterparty credit risks at 31 December 2023 were as follows:

Current assets

	2023 $m	2022 $m	2021 $m
Cash at bank and in hand	**1,325**	1,411	1,461
Money market liquidity funds	**4,425**	4,486	4,772
Other short-term cash equivalents	**90**	269	96
Total Cash and cash equivalents (Note 17)	**5,840**	6,166	6,329
Fixed income securities at fair value through profit or loss (Note 12)	**20**	13	16
Cash collateral pledged to counterparties (Note 12)	**102**	162	–
Fixed deposits (Note 12)	**–**	64	53
Total derivative financial instruments (Note 13)	**116**	87	83
Current assets subject to credit risk	**6,078**	6,492	6,481

Non-current assets

	2023 $m	2022 $m	2021 $m
Derivative financial instruments (Note 13)	**228**	74	102
Non-current assets subject to credit risk	**228**	74	102

The majority of the Group's cash is invested in US dollar AAA-rated money market liquidity funds. The money market liquidity fund portfolios are managed by six external third-party fund managers to maintain an AAA rating. The Group's investments represent no more than 10% of each overall fund value. There were no other significant concentrations of financial credit risk at the reporting date.

All financial derivatives are transacted with commercial banks, in line with standard market practice. The Group has agreements with some bank counterparties whereby the parties agree to post cash collateral, for the benefit of the other, equivalent to the market valuation of the derivative positions above a predetermined threshold. The carrying value of such cash collateral held by the Group at 31 December 2023 was $215m (2022: $89m; 2021: $93m) and the carrying value of such cash collateral posted by the Group at 31 December 2023 was $102m (2022: $162m; 2021: $47m).

The impairment provision for other financial assets at 31 December 2023 was immaterial.

Trade receivables

Trade receivable exposures are managed locally in the operating units where they arise and credit limits are set as deemed appropriate for the customer. The Group is exposed to customers ranging from government-backed agencies and large private wholesalers to privately owned pharmacies, and the underlying local economic and sovereign risks vary throughout the world. Where appropriate, the Group endeavours to minimise risks by the use of trade finance instruments such as letters of credit and insurance. The Group applies the expected credit loss approach to establish an allowance for impairment that represents its estimate of expected losses in respect of Trade receivables.

The Group applies the IFRS 9 simplified approach to measuring expected credit losses which uses a lifetime expected loss allowance to Trade receivables. To measure expected credit losses, Trade receivables have been grouped based on shared credit characteristics and the days past due.

The expected loss rates are based on payment profiles over a period of 36 months before 31 December 2023, 31 December 2022 or 31 December 2021 respectively and the corresponding historical credit losses experienced within this period. The historical loss rates are adjusted to reflect current and forward-looking information on macroeconomic factors affecting the ability of the customer to settle the receivables.

On that basis, the loss allowance was determined as follows:

31 December 2021	Current	0-90 days past due	90-180 days past due	Over 180 days past due	Total
Expected loss rate	0.1%	1.2%	22.6%	11.0%	
Gross carrying amount ($m)	5,617	328	18	91	6,054
Loss allowance ($m)	5	4	4	10	23

31 December 2022	Current	0-90 days past due	90-180 days past due	Over 180 days past due	Total
Expected loss rate	0.03%	0.3%	32.0%	40.6%	
Gross carrying amount ($m)	6,791	331	50	99	7,271
Loss allowance ($m)	2	1	16	40	59

31 December 2023	**Current**	**0-90 days past due**	**90-180 days past due**	**Over 180 days past due**	**Total**
Expected loss rate	**0.01%**	**0.3%**	**0.8%**	**15.0%**	
Gross carrying amount ($m)	**7,709**	**342**	**121**	**280**	**8,452**
Loss allowance ($m)	**1**	**1**	**1**	**42**	**45**

Trade receivables are written off where there is no reasonable expectation of recovery.

Impairment losses on Trade receivables are presented as net impairment losses within Operating profit, any subsequent recoveries are credited against the same line.

In the US, sales to three wholesalers accounted for approximately 80% of US sales (2022: three wholesalers accounted for approximately 73%; 2021: three wholesalers accounted for approximately 94%).

The movements of the Group expected credit losses provision are follows:

	2023 $m	2022 $m	2021 $m
At 1 January	**59**	23	23
Net movement recognised in income statement	**(14)**	37	(2)
Amounts utilised, exchange and other movements	**–**	(1)	2
At 31 December	**45**	59	23

Given the profile of our customers, including large wholesalers and government-backed agencies, no further credit risk has been identified with the Trade receivables not past due other than those balances for which an allowance has been made. The income statement credit or charge is recorded in Operating profit.

28 Financial risk management objectives and policies *continued*

Hedge accounting

The Group uses foreign currency borrowings, foreign currency forwards and swaps, currency options, interest rate swaps and cross-currency interest rate swaps for the purpose of hedging its foreign currency and interest rate risks. The Group may designate certain financial instruments as fair value hedges, cash flow hedges or net investment hedges in accordance with IFRS 9. Hedge effectiveness is determined at the inception of the hedge relationship, and through periodic prospective effectiveness assessments to ensure that an economic relationship exists between the hedged item and hedging instrument. Sources of hedge effectiveness will depend on the hedge relationship designation but may include:

- a significant change in the credit risk of either party to the hedging relationship
- a timing mismatch between the hedging instrument and the hedged item
- movements in foreign currency basis spread for derivatives in a fair value hedge
- a significant change in the value of the foreign currency-denominated net assets of the Group in a net investment hedge.

The hedge ratio for each designation will be established by comparing the quantity of the hedging instrument and the quantity of the hedged item to determine their relative weighting; for all of the Group's existing hedge relationships the hedge ratio has been determined as 1:1. Designated hedges are expected to be effective and therefore the impact of ineffectiveness on profit is not expected to be material. The accounting treatment for fair value hedges and debt designated as FVPL is disclosed in the Group Accounting Policies section from page 152.

The following table represents the Group's continuing designated hedge relationships under IFRS 9.

2021

			Other comprehensive income						
	Nominal amounts in local currency	Carrying value $m	Opening balance 1 January 2021 $m	Fair value (gain)/loss deferred to OCI $m	Fair value loss recycled to the Income statement $m	Closing balance 31 December 2021 $m	Average maturity year	Average USD FX rate	Average pay interest rate
Cash flow hedges – foreign currency and interest rate risk[1, 3, 4]									
Cross currency interest rate swaps – Euro bonds	EUR 1,700m	(43)	46	182	(201)	27	2026	1.14	USD 2.85%
FX Forwards – short-term FX risk	USD 1,220m	12	(5)	–	(7)	(12)	2022	–	–
Net investment hedge – foreign exchange risk[2, 3]									
Transactions matured pre-2021		–	(565)	–	–	(565)	–	–	–
Cross currency interest rate swap – JPY investment	JPY 58.3bn	62	(19)	(43)	–	(62)	2029	108.03	JPY 1.53%
Cross currency interest rate swap – CNY investment	CNY 458m	(2)	2	–	–	2	2026	6.68	CNY 4.80%
Foreign currency borrowing – GBP investment	GBP 350m	470	(233)	(5)	–	(238)	2031	n/a	GBP 5.75%
Foreign currency borrowing – EUR investment[5]	EUR 450m	–	85	(47)	–	38	2021	n/a	EUR 0.88%
Foreign currency borrowing – EUR investment[6]	EUR 800m	898	–	(50)	–	(50)	2029	n/a	EUR 0.38%
Contingent consideration liabilities and Acerta Pharma share purchase liability – AZUK and AZAB USD investments	USD 2,658m	(2,658)	1,411	421	–	1,832	–	–	–

2022

			Other comprehensive income						
	Nominal amounts in local currency	Carrying value $m	Opening balance 1 January 2022 $m	Fair value (gain)/loss deferred to OCI $m	Fair value (gain)/loss recycled to the Income statement $m	Closing balance 31 December 2022 $m	Average maturity year	Average USD FX rate	Average pay interest rate
Cash flow hedges – foreign currency and interest rate risk[1, 3, 4]									
Cross currency interest rate swaps – Euro bonds	EUR 1,700m	(160)	27	118	(111)	34	2026	1.14	USD 2.85%
FX Forwards – short-term FX risk	USD 1,126m	(12)	(12)	(14)	38	12	2023	–	–
Net investment hedge – foreign exchange risk[2, 3]									
Transactions matured pre-2022		–	(527)	–	–	(527)	–	–	–
Cross currency interest rate swap – JPY investment	JPY 58.3bn	55	(62)	7	–	(55)	2029	108.03	JPY 1.53%
Cross currency interest rate swap – CNY investment	CNY 458m	(4)	2	2	–	4	2026	6.68	CNY 4.80%
Foreign currency borrowing – GBP investment	GBP 350m	420	(238)	(50)	–	(288)	2031	n/a	GBP 5.75%
Foreign currency borrowing – EUR investment[6]	EUR 800m	846	(50)	(52)	–	(102)	2029	n/a	EUR 0.38%
Contingent consideration liabilities and Acerta Pharma share purchase liability – AZUK and AZAB USD investments	USD 2,093m	(2,093)	1,832	384	–	2,216	–	–	–

2023

	Nominal amounts in local currency	Carrying value $m	Other comprehensive income: Opening balance 1 January 2023 $m	Other comprehensive income: Fair value (gain)/loss deferred to OCI $m	Other comprehensive income: Fair value (gain)/loss recycled to the Income statement $m	Other comprehensive income: Closing balance 31 December 2023 $m	Average maturity year	Average USD FX rate	Average pay interest rate
Cash flow hedges – foreign currency and interest rate risk[2, 4, 5]									
Cross currency interest rate swaps – Euro bonds	**EUR 3,200m**	**49**	**34**	**(210)**	**139**	**(37)**	**2027**	**1.10**	**USD 3.80%**
FX Forwards – short-term FX risk	**USD 2,009m**	**15**	**12**	**(33)**	**6**	**(15)**	**2024**	**–**	**–**
Net investment hedge – foreign exchange risk[3, 4]									
Transactions matured pre-2023		**–**	**(527)**	**–**	**–**	**(527)**	**–**	**–**	**–**
Cross currency interest rate swap – JPY investment	**JPY 58.3bn**	**100**	**(55)**	**(45)**	**–**	**(100)**	**2029**	**108.03**	**JPY 1.53%**
Cross currency interest rate swap – CNY investment	**CNY 458m**	**(1)**	**4**	**(3)**	**–**	**1**	**2026**	**6.68**	**CNY 4.80%**
Foreign currency borrowing – GBP investment	**GBP 350m**	**444**	**(288)**	**24**	**–**	**(264)**	**2031**	**n/a**	**GBP 5.75%**
Foreign currency borrowing – EUR investment[7]	**EUR 800m**	**881**	**(102)**	**33**	**–**	**(69)**	**2029**	**n/a**	**EUR 0.38%**
Contingent consideration liabilities and Acerta Pharma share purchase liability – AZUK and AZAB USD investments	**USD 1,937m**	**(1,937)**	**2,216**	**(81)**	**–**	**2,135**	**–**	**–**	**–**

[1] Swaps designated in a fair value hedge matured on 24 November 2021 and hedge ineffectiveness during 2023 was $nil (2022: $nil; 2021: $nil).
[2] Hedge ineffectiveness recognised on swaps designated in a cash flow hedge during the period was $nil (2022: $nil; 2021: $nil).
[3] Hedge ineffectiveness recognised on swaps designated in a net investment hedge during the period was $nil (2022: $nil; 2021: $nil).
[4] Fair value movements on cross-currency interest rate swaps in cash flow hedge and net investment hedge relationships are shown inclusive of the impact of costs of hedging.
[5] Nominal amount of FX forwards in a cash flow hedge of $2,009m represents the USD equivalent notional of the FX forwards. By currency, the nominal amounts were SEK 9,778m at FX rate 9.9869, JPY 24,351m at 141.4050, GBP 428m at 0.7844 and EUR 228m at 0.9036. All FX forwards in a cash flow hedge mature on 25 January 2024.
[6] The EUR 450m NIH matured in November 2021, when the hedging instrument, a EUR bond matured.
[7] On 3 June 2021, upon issuance of the EUR 800m 0.375% 2029 Non-callable bond, EUR 550m was designated in a net investment hedge of the foreign currency exposure in relation of an equivalent amount of EUR-denominated net assets. The remaining EUR 250m was subsequently designated in a net investment hedge upon maturity of the EUR 450m bond on 24 November 2021.

Key controls applied to transactions in derivative financial instruments are to use only instruments where good market liquidity exists, to revalue all financial instruments regularly using current market rates and to sell options only to offset previously purchased options or as part of a risk management strategy. The Group is not a net seller of options, and does not use derivative financial instruments for speculative purposes. The Group held no options during the reporting period.

29 Employee costs and share plans for employees

Employee costs

The monthly average number of people, to the nearest hundred, employed by the Group is set out in the table below. In accordance with the Companies Act 2006, this includes part-time employees.

	2023	2022	2021
Employees			
UK	**10,700**	9,800	8,900
Rest of Europe	**23,000**	20,600	18,300
The Americas	**22,400**	20,900	18,800
Asia, Africa & Australasia	**30,300**	30,700	33,600
Continuing operations	**86,400**	82,000	79,600

Geographical distribution described in the table above is by location of legal entity employing staff. Certain staff will undertake some or all of their activity in a different location.

The number of people employed by the Group at the end of 2023 was 89,900 (2022: 83,500; 2021: 83,100).

The costs incurred during the year in respect of these employees were:

	2023 $m	2022 $m	2021 $m
Wages and salaries	**9,341**	8,656	7,633
Social security costs	**1,100**	991	886
Pension costs	**537**	546	564
Other employment costs	**1,357**	1,338	1,192
Total	**12,335**	11,531	10,275

Severance costs of $123m are not included above (2022: $227m; 2021: $238m).

The charge for share-based payments in respect of share plans is $579m (2022: $619m; 2021: $615m). Payments made to the Employee Benefit Trust upon vesting of share awards are recognised within operating cash flows, reflecting the substance of the arrangement in place between the Group and the Trust. The plans are equity settled.

The Directors believe that, together with the basic salary system, the Group's employee incentive schemes provide competitive and market-related packages to motivate employees. They should also align the interests of employees with those of shareholders, as a whole, through long-term share ownership in the Company. The Group's current US, UK and Swedish schemes are described below; other arrangements apply elsewhere.

29 Employee costs and share plans for employees *continued*

Bonus and share plans

US

In the US, there are two employee short-term performance bonus plans in operation to differentiate and reward strong individual performance. Performance bonuses are paid in cash. The AstraZeneca Performance Share Plan and the AstraZeneca Global Restricted Share Plan operate in respect of relevant employees in the US. AstraZeneca ADRs necessary to satisfy the awards are purchased on the market or funded via a trust.

UK

The AstraZeneca UK Performance Bonus Plan

Employees of participating AstraZeneca UK companies are invited to participate in this bonus plan, which rewards strong individual performance. Bonuses are paid in cash.

The AstraZeneca UK All-Employee Share Plan

The Company offers UK employees the opportunity to buy Partnership Shares (Ordinary Shares). Employees may invest up to £150 a month to purchase Partnership Shares in the Company at the current market value. In 2010, the Company introduced a Matching Share element, the first award of which was made in 2011. Currently one Matching Share is awarded for every four Partnership Shares purchased. Partnership Shares and Matching Shares are held in the HM Revenue & Customs (HMRC)-approved All-Employee Share Plan. At the Company's AGM in 2002, shareholders approved the issue of new shares for the purposes of the All-Employee Share Plan.

Sweden

In Sweden, an all-employee performance bonus plan is in operation, which rewards strong individual performance. Bonuses are paid 50% into a fund investing in AstraZeneca equities and 50% in cash. The AstraZeneca Executive Annual Bonus Scheme, the AstraZeneca Performance Share Plan and the AstraZeneca Global Restricted Stock Plan all operate in respect of relevant AstraZeneca employees in Sweden.

Other bonus and share plans that operate across the Group are described below.

The AstraZeneca Executive Annual Bonus Scheme

This scheme is a performance bonus scheme for Directors and senior employees who do not participate in the AstraZeneca UK Performance Bonus Plan. Annual bonuses are paid in cash and reflect both corporate and individual performance measures. The Remuneration Committee has discretion to reduce or withhold bonuses if business performance falls sufficiently short of expectations in any year such as to make the payment of bonuses inappropriate.

The AstraZeneca Deferred Bonus Plan

This plan was introduced in 2006 and is used to defer a portion of the bonus earned under the AstraZeneca Executive Annual Bonus Scheme into Ordinary Shares in the Company for a period of three years. The plan currently operates only in respect of Executive Directors and members of the SET (with awards granted as AstraZeneca ADRs for members of SET employed within the US). Awards of shares under this plan are typically made in March each year, the first award having been made in February 2006.

The AstraZeneca Performance Share Plan

This plan was approved by shareholders in 2020 for a period of 10 years (subsequently amended by approval of shareholders in 2021) and replaces the 2014 AstraZeneca Performance Share Plan. Generally, awards can be granted at any time, but not during a closed period of the Company. The first grant of Performance Share Plan awards was made in May 2014 under the 2014 AstraZeneca Performance Share Plan. Awards granted under the plan vest after three years, or in the case of Executive Directors and members of the SET, after an additional two-year holding period, and is subject to the achievement of performance conditions. For awards granted to all participants in 2023, vesting is subject to a combination of measures focused on science and innovation, revenue growth, financial performance and carbon reduction. The Remuneration Committee has responsibility for agreeing any awards under the plan and for setting the policy for the way in which the plan should be operated, including agreeing performance targets and which employees should be eligible to participate.

The AstraZeneca Investment Plan

This plan was introduced in 2010 and approved by shareholders at the 2010 AGM. The final grant of awards under this plan took place in March 2016. Awards granted under the plan vest after eight years and are subject to performance conditions measured over a period of four years.

The AstraZeneca Global Restricted Stock Plan

The Global Restricted Stock Plan (GRSP) was introduced in 2010. This plan provides for the grant of restricted stock unit (RSU) awards to selected below SET-level employees and is used in conjunction with the AstraZeneca Performance Share Plan to provide a mix of RSUs and performance share units (PSUs). Awards typically vest on the third anniversary of the date of grant and are contingent on continued employment with the Company. The Remuneration Committee has responsibility for agreeing any awards under the plan and for setting the policy for the way in which the plan should be operated.

The AstraZeneca Restricted Share Plan

This plan was introduced in 2008 and provides for the grant of restricted share unit (RSU) awards to key employees, excluding Executive Directors. Awards are made on an ad hoc basis with variable vesting dates. The plan has been used five times in 2023 to make awards to 305 employees. The Remuneration Committee has responsibility for agreeing any awards under the plan and for setting the policy for the way in which the plan should be operated.

The AstraZeneca Extended Incentive Plan

This plan was introduced in 2018 and provides for the grant of awards to key employees, excluding Executive Directors. Awards are made on an ad hoc basis and 50% of the award will normally vest on the fifth anniversary of grant, with the balance vesting on the tenth anniversary of grant. The award can be subject to the achievement of performance conditions. The Remuneration Committee has responsibility for agreeing any awards under the plan and for setting the policy for the way in which the plan should be operated, including agreeing performance targets (if any) and which employees should be invited to participate.

Details of share options outstanding during the year for the main share plans are shown below.

	The AstraZeneca Performance Share Plan		The AstraZeneca Global Restricted Stock Plan		The AstraZeneca Restricted Share Plan		The AstraZeneca Extended Incentive Plan	
	Ordinary Shares '000	ADR Shares '000	Ordinary Shares '000	ADR Shares[1] '000	Ordinary Shares '000	ADR Shares '000	Ordinary Shares '000	ADR Shares '000
Outstanding at 1 January 2021	3,045	4,791	1,626	9,175	161	506	300	65
Granted	1,275	2,082	902	4,509	139	481	–	175
Forfeited	(220)	(494)	(158)	(1,254)	(18)	(42)	(18)	(45)
Cancelled	(9)	–	(1)	(8)	–	–	–	–
Exercised	(632)	(1,201)	(341)	(2,881)	(27)	(182)	–	–
Outstanding at 31 December 2021	3,459	5,178	2,028	9,541	255	763	282	195
Granted	1,059	2,339	1,237	6,478	75	216	–	–
Forfeited	(132)	(570)	(190)	(1,627)	(25)	(136)	(23)	–
Cancelled	–	–	–	(3)	–	–	–	–
Exercised	(756)	(1,223)	(606)	(2,706)	(72)	(165)	–	–
Outstanding at 31 December 2022	3,630	5,724	2,469	11,683	233	678	259	195
Granted	**976**	**2,071**	**1,185**	**6,343**	**208**	**436**	**71**	**95**
Forfeited	**(148)**	**(437)**	**(187)**	**(1,417)**	**(20)**	**(59)**	**(8)**	**–**
Cancelled	**–**	**–**	**–**	**(3)**	**–**	**–**	**–**	**(34)**
Exercised	**(813)**	**(1,470)**	**(570)**	**(2,738)**	**(86)**	**(288)**	**(107)**	**(9)**
Outstanding at 31 December 2023	**3,645**	**5,888**	**2,897**	**13,868**	**335**	**767**	**215**	**247**

[1] Shares issued to Alexion employees under the GRSP are covered under the Alexion employee share award below.

	The AstraZeneca Performance Share Plan		The AstraZeneca Global Restricted Stock Plan		The AstraZeneca Restricted Share Plan		The AstraZeneca Extended Incentive Plan	
	WAFV[1] pence	WAFV $	WAFV pence	WAFV $	WAFV pence	WAFV $	WAFV pence	WAFV $
WAFV of 2021 grants	6012	41.56	6893	47.75	7415	53.96	–	56.83
WAFV of 2022 grants	8328	55.73	9167	61.21	9894	63.35	–	–
WAFV of 2023 grants	**9929**	**59.95**	**10822**	**65.38**	**11135**	**65.37**	**11748**	**74.78**

[1] Weighted average fair value.

Alexion employee share award plan

At acquisition in 2021 Alexion employee share awards were converted into AstraZeneca restricted stock awards that continue to have, and shall be subject to, the same terms and conditions as applied in the corresponding Alexion awards immediately prior to completion. The fair value at the grant date was $57.54 and of the 15,220,000 shares outstanding at 31 December 2021, 8,627,000 were exercised and 980,000 were forfeited during 2022. During 2022, Alexion employees had the option to defer awards due to vest in July 2022 until February 2023 when they would also receive an additional vest equivalent to 15% of the shares deferred. As a result, 1,780,000 shares were deferred, resulting in an additional 267,000 shares being issued with a grant date fair value of $65.62, that vested in 2023. During 2023, 2,060,000 shares vested, 531,000 were forfeited/cancelled and the closing balance of these awards as of 31 December 2023 was 3,022,000.

The weighted average fair value for awards granted under the AstraZeneca Performance Share Plan is primarily based on the market price at the point of grant adjusted for the market-based performance elements which are valued using a modified version of the Monte Carlo method. The fair values of all other plans are set using the market price at the point of award. These awards are settled in equity including dividends accumulated from the date of award to vesting.

30 Commitments, contingent liabilities and contingent assets

Commitments	**2023 $m**	2022 $m	2021 $m
Contracts placed for future capital expenditure on Property, plant and equipment and software development costs not provided for in these financial statements	**1,368**	502	388

Guarantees and contingencies arising in the ordinary course of business, for which no security has been given, are not expected to result in any material financial loss.

Research and development collaboration payments

The Group has various ongoing collaborations, including in-licensing and similar arrangements with development partners. Such collaborations may require the Group to make payments on achievement of stages of development, launch or revenue milestones, although the Group generally has the right to terminate these agreements at no cost. The Group recognises research and development milestones as an intangible asset once it is committed to payment, which is generally when the Group reaches set trigger points in the development cycle. Revenue-related milestones are recognised as intangible assets on product launch at a value based on the Group's long-term revenue forecasts for the related product. The table below indicates potential development and revenue-related payments that the Group may be required to make under such collaborations.

	Total $m	Under 1 year $m	Years 1 and 2 $m	Years 3 and 4 $m	Years 5 and greater $m
Future potential research and development milestone payments	**10,971**	**1,256**	**3,798**	**1,764**	**4,153**
Future potential revenue milestone payments	**20,195**	**43**	**491**	**2,400**	**17,261**

The table includes all potential payments for achievement of milestones under ongoing research and development arrangements. Revenue-related milestone payments represent the maximum possible amount payable on achievement of specified levels of revenue as set out in individual contract agreements, but exclude variable payments that are based on unit sales (e.g. royalty-type payments) which are expensed as the associated sale is recognised. The table excludes any payments already capitalised in the Financial Statements for the year ended 31 December 2023 which have been capitalised with reference to the latest Group sales forecasts for approved indications.

The future payments we disclose represent contracted payments and, as such, are not discounted and are not risk-adjusted. As detailed in the Risk section from page 54, the development of any pharmaceutical product candidate is a complex and risky process that may fail at any stage in the development process due to a number of factors (including items such as failure to obtain regulatory approval, unfavourable data from key studies, adverse reactions to the product candidate or indications of other safety concerns). The timing of the payments is based on the Group's current best estimate of achievement of the relevant milestone.

Environmental costs and liabilities

The Group's expenditure on environmental protection, including both capital and revenue items, relates to costs that are necessary for implementing internal systems and programmes, and meeting legal and regulatory requirements for processes and products. This includes investment to conserve natural resources and otherwise minimise the impact of our activities on the environment.

They are an integral part of normal ongoing expenditure for carrying out the Group's research, manufacturing and commercial operations and are not separated from overall operating and development costs. There are no known changes in legal, regulatory or other requirements resulting in material changes to the levels of expenditure for 2021, 2022 or 2023.

In addition to expenditure for meeting current and foreseen environmental protection requirements, the Group incurs costs in investigating and cleaning up legacy land and groundwater contamination. In particular, AstraZeneca has environmental liabilities at some currently or formerly owned, leased and third-party sites.

In the US, Zeneca Inc., and/or its indemnitees, have been named as potentially responsible parties (PRPs) or defendants at a number of sites where Zeneca Inc. is likely to incur future environmental investigation, remediation, operation and maintenance costs under federal, state, statutory or common law environmental liability allocation schemes (together, US Environmental Consequences). Similarly, Stauffer Management Company LLC (SMC), which was established in 1987 to own and manage certain assets of Stauffer Chemical Company acquired that year, and/or its indemnitees, have been named as PRPs or defendants at a number of sites where SMC is likely to incur US Environmental Consequences.

AstraZeneca has also given indemnities to third parties for a number of sites outside the US. These environmental liabilities arise from legacy operations that are not currently part of the Group's business and, at most of these sites, remediation, where required, is either completed or in progress. AstraZeneca has made provisions for the estimated costs of future environmental investigation, remediation, operation and maintenance activity beyond normal ongoing expenditure for maintaining the Group's R&D and manufacturing capacity and product ranges, where a present obligation exists, it is probable that such costs will be incurred and they can be estimated reliably. With respect to such estimated future costs, there were provisions at 31 December 2023 in the aggregate of $112m (2022: $131m; 2021: $90m), mainly relating to the US. Where we are jointly liable or otherwise have cost-sharing agreements with third parties, we reflect only our share of the obligation. Where the liability is insured in part or in whole by insurance or other arrangements for reimbursement, an asset is recognised to the extent that this recovery is virtually certain.

It is possible that AstraZeneca could incur future environmental costs beyond the extent of our current provisions. The extent of such possible additional costs is inherently difficult to estimate due to a number of factors, including: (1) the nature and extent of claims that may be asserted in the future; (2) whether AstraZeneca has or will have any legal obligation with respect to asserted or unasserted claims; (3) the type of remedial action, if any, that may be selected at sites where the remedy is presently not known; (4) the potential for recoveries from or allocation of liability to third parties; and (5) the length of time that the environmental investigation, remediation and liability allocation process can take. As per our accounting policy on page 158, Provisions for these costs are made when there is a present obligation and where it is probable that expenditure on remedial work will be required and a reliable estimate can be made of the cost. Notwithstanding and subject to the foregoing, we estimate the potential additional loss for future environmental investigation, remediation, remedial operation and maintenance activity above and beyond our provisions to be, in aggregate, between $114m and $191m (2022: $113m and $188m; 2021: $99m and $165m) which relates mainly to the US.

Legal proceedings

AstraZeneca is involved in various legal proceedings considered typical to its business, including actual or threatened litigation and actual or potential government investigations relating to employment matters, product liability, commercial disputes, pricing, sales and marketing practices, infringement of IP rights, and the validity of certain patents and competition laws. The more significant matters are discussed below.

Most of the claims involve highly complex issues. Often these issues are subject to substantial uncertainties and, therefore, the probability of a loss, if any, being sustained and/or an estimate of the amount of any loss is difficult to ascertain.

We do not believe that disclosure of the amounts sought by plaintiffs, if known, would be meaningful with respect to these legal proceedings. This is due to a number of factors, including (i) the stage of the proceedings (in many cases trial dates have not been set) and the overall length and extent of pre-trial discovery; (ii) the entitlement of the parties to an action to appeal a decision; (iii) clarity as to theories of liability, damages and governing law; (iv) uncertainties in timing of litigation; and (v) the possible need for further legal proceedings to establish the appropriate amount of damages, if any.

While there can be no assurance regarding the outcome of any of the legal proceedings referred to in this Note 30, based on management's current and considered view of each situation, we do not currently expect them to have a material adverse effect on our financial position including within the next financial year. This position could of course change over time, not least because of the factors referred to above.

In cases that have been settled or adjudicated, or where quantifiable fines and penalties have been assessed and which are not subject to appeal (or other similar forms of relief), or where a loss is probable and we are able to make a reasonable estimate of the loss, we generally indicate the loss absorbed or make a provision for our best estimate of the expected loss.

Where it is considered that the Group is more likely than not to prevail, legal costs involved in defending the claim are charged to profit as they are incurred.

Where it is considered that the Group has a valid contract which provides the right to reimbursement (from insurance or otherwise) of legal costs and/or all or part of any loss incurred or for which a provision has been established, and we consider recovery to be virtually certain, the best estimate of the amount expected to be received is recognised as an asset.

KJ Assessments as to whether or not to recognise provisions or assets, and of the amounts concerned, usually involve a series of complex judgements about future events and can rely heavily on estimates and assumptions. AstraZeneca believes that the provisions recorded are adequate based on currently available information and that the insurance recoveries recorded will be received. However, given the inherent uncertainties involved in assessing the outcomes of these cases, and in estimating the amount of the potential losses and the associated insurance recoveries, we could in the future incur judgments or insurance settlements that could have a material adverse effect on our results in any particular period.

IP claims include challenges to the Group's patents on various products or processes and assertions of non-infringement of patents. A loss in any of these cases could result in loss of patent protection on the related product.

The consequences of any such loss could be a significant decrease in Product Sales, which could have a material adverse effect on our results. The lawsuits filed by AstraZeneca for patent infringement against companies that have filed abbreviated new drug applications (ANDAs) in the US, seeking to market generic forms of products sold by the Group prior to the expiry of the applicable patents covering these products, typically also involve allegations of non-infringement, invalidity and unenforceability of these patents by the ANDA filers. In the event that the Group is unsuccessful in these actions or the statutory 30-month stay expires before a ruling is obtained, the ANDA filers involved will also have the ability, subject to FDA approval, to introduce generic versions of the product concerned.

AstraZeneca has full confidence in, and will vigorously defend and enforce, its IP.

Over the course of the past several years, including in 2023, a significant number of commercial litigation claims in which AstraZeneca is involved have been resolved, particularly in the US, thereby reducing potential contingent liability exposure arising from such litigation. Similarly, in part due to patent litigation and settlement developments, greater certainty has been achieved regarding possible generic entry dates with respect to some of our patented products. At the same time, like other companies in the pharmaceutical sector and other industries, AstraZeneca continues to be subject to government investigations around the world.

Patent litigation

Legal proceedings brought against AstraZeneca for which a provision has been taken

Imfinzi and *Imjudo*

US and ROW patent proceedings

In February 2022, in Japan, Ono Pharmaceuticals filed a lawsuit in Tokyo District Court, Civil Division against AstraZeneca alleging that AstraZeneca's marketing of *Imfinzi* in Japan infringed several of their patents.

In March 2022, Bristol-Myers Squibb Co. and E.R. Squibb & Sons, LLC filed a lawsuit in the US District Court for the District of Delaware (District Court) against AstraZeneca alleging that AstraZeneca's marketing of *Imfinzi* infringed several of their patents. In April 2023, Bristol-Myers Squibb Co., E.R. Squibb & Sons, LLC, Tasuku Honjo, Ono Pharmaceutical Co., Ltd., and the Dana-Farber Cancer Institute Inc. filed a separate lawsuit in the District Court against AstraZeneca alleging that AstraZeneca's marketing of *Imfinzi* infringed another of their patents.

In January 2023, Bristol-Myers Squibb Co. and E.R. Squibb & Sons, LLC filed a lawsuit in the District Court against AstraZeneca alleging that AstraZeneca's marketing of *Imjudo* infringed two of their patents.

In July 2023, AstraZeneca entered into a global settlement agreement with Bristol-Myers Squibb Co., E.R. Squibb & Sons, LLC, and Ono Pharmaceutical Co., Ltd. that resolves all patent disputes between the companies relating to *Imfinzi* and *Imjudo*. In June 2023, a provision was taken totaling $510m.

These matters are now concluded.

Legal proceedings brought against AstraZeneca considered to be contingent liabilities

Enhertu

US patent proceedings

In October 2020, Seagen Inc. (Seagen) filed a complaint against Daiichi Sankyo Company, Limited (Daiichi Sankyo) in the US District Court for the Eastern District of Texas (District Court) alleging that *Enhertu* infringes a Seagen patent. AstraZeneca co-commercialises *Enhertu* with Daiichi Sankyo, Inc. in the US. After trial in April 2022, the jury found that the patent was infringed and awarded Seagen $41.82m in past damages. In July 2022, the District Court entered final judgment and declined to enhance damages on the basis of wilfulness. In October 2023, the District Court entered an amended final judgment that requires Daiichi Sankyo to pay Seagen a royalty of 8% on US sales of *Enhertu* from April 1, 2022, through November 4, 2024, in addition to the past damages previously awarded by the Court. AstraZeneca and Daiichi Sankyo have appealed the District Court's decision.

In December 2020 and January 2021, AstraZeneca and Daiichi Sankyo, Inc. filed post-grant review (PGR) petitions with the US Patent and Trademark Office (USPTO) alleging, inter alia, that the Seagen patent is invalid for lack of written description and enablement. The USPTO initially declined to institute the PGRs, but, in April 2022, the USPTO granted the rehearing requests, instituting both PGR petitions. Seagen subsequently disclaimed all patent claims at issue in one of the PGR proceedings. In July 2022, the USPTO reversed its institution decision and declined to institute the other PGR petition. AstraZeneca and Daiichi Sankyo, Inc. requested reconsideration of the decision not to institute review of the patent.

30 Commitments, contingent liabilities and contingent assets *continued*

In February 2023, the USPTO reinstituted the PGR proceeding. An oral hearing took place in August 2023. In January 2024, the USPTO issued a decision that Seagen's patent is unpatentable, invalidating all claims asserted against *Enhertu*. The USPTO's decision does not overturn the Texas District Court's decision unless and until the USPTO's decision is affirmed on appeal by the US Court of Appeals for the Federal Circuit. No such appeal has been filed.

Faslodex

Patent proceedings outside the US

In 2021 in Japan, AstraZeneca received notice from the Japan Patent Office (JPO) that Sandoz K.K. (Sandoz) and Sun Pharma Japan Ltd. (Sun) were seeking to invalidate the *Faslodex* formulation patent. AstraZeneca defended the challenged patent, and Sun withdrew from the JPO patent challenge. In July 2023, the JPO issued a final decision upholding various claims of the challenged patent and determining that other patent claims were invalid. In August 2023, Sandoz appealed the JPO decision to the Japan IP High Court.

Tagrisso

US patent proceedings

In September 2021, Puma Biotechnology, Inc. and Wyeth LLC filed a patent infringement lawsuit in the US District Court for the District of Delaware against AstraZeneca relating to *Tagrisso*. Trial has been scheduled for May 2024.

Legal proceedings brought by AstraZeneca considered to be contingent assets

Brilinta

US patent proceedings

In 2015 and subsequently, in response to Paragraph IV notices from ANDA filers, AstraZeneca filed patent infringement lawsuits in the US District Court for the District of Delaware (District Court) relating to patents listed in the FDA Orange Book with reference to *Brilinta*. In 2022, AstraZeneca entered into several separate settlements and the District Court entered consent judgments to dismiss each of the corresponding litigations. Additional proceedings are ongoing in the District Court. No trial date has been set.

Calquence

US patent proceedings

In February 2022, in response to Paragraph IV notices from multiple ANDA filers, AstraZeneca filed patent infringement lawsuits in the US District Court for the District of Delaware. In its complaint, AstraZeneca alleges that a generic version of *Calquence*, if approved and marketed, would infringe patents listed in the FDA Orange Book with reference to *Calquence* that are owned or licensed by AstraZeneca. Trial has been scheduled for March 2025.

In February 2023, Sandoz Inc. filed a petition for inter partes review with the US Patent and Trademark Office of certain *Calquence* patent claims. AstraZeneca has asserted claims for patent infringement against Sandoz and other defendants in the US ANDA litigation. In August 2023, the US Patent Trial and Appeal Board issued a decision denying institution of inter partes review.

Daliresp

US patent proceedings

In 2015 and subsequently, in response to Paragraph IV notices from ANDA filers, AstraZeneca filed patent infringement lawsuits in the US District Court for the District of New Jersey (District Court) relating to patents listed in the FDA Orange Book with reference to *Daliresp*. In 2022, AstraZeneca entered into a settlement agreement and the District Court entered a consent judgment to dismiss the corresponding litigation. Additional ANDA challenges are pending.

Farxiga

US patent proceedings

In May 2021, AstraZeneca proceeded to trial against ANDA filer Zydus Pharmaceuticals (USA) Inc. (Zydus) in the US District Court for the District of Delaware (District Court). In October 2021, the District Court issued a decision finding the asserted claims of AstraZeneca's patent as valid and infringed by Zydus's ANDA product. In August 2022, Zydus appealed the District Court decision. Zydus's appeal has been dismissed.

In December 2023, AstraZeneca initiated ANDA litigation against Sun Pharmaceutical Industries Ltd. and Sun Pharmaceutical Industries, Inc. in the District Court. No trial date has been set.

Lokelma

US patent proceedings

In August 2022, in response to Paragraph IV notices, AstraZeneca initiated ANDA litigation against multiple generic filers in the US District Court for the District of Delaware. Trial has been scheduled for March 2025.

Lynparza

US patent proceedings

In December 2022, AstraZeneca received a Paragraph IV notice from an ANDA filer relating to patents listed in the FDA Orange Book with reference to *Lynparza*. In February 2023, in response to the Paragraph IV notice, AstraZeneca, MSD International Business GmbH, and the University of Sheffield initiated ANDA litigation against Natco Pharma Limited (Natco) in the US District Court for the District of New Jersey. In the complaint, AstraZeneca alleged that Natco's generic version of *Lynparza*, if approved and marketed, would infringe patents listed in the FDA Orange Book with reference to *Lynparza*. No trial date has been scheduled.

In December 2023, AstraZeneca received a Paragraph IV notice from an ANDA filer relating to patents listed in the FDA Orange Book with reference to *Lynparza*. In February 2024, in response to the Paragraph IV notice, AstraZeneca, MSD International Business GmbH, and the University of Sheffield initiated ANDA litigation against Sandoz Inc. (Sandoz) in the US District Court for the District of New Jersey. In the complaint, AstraZeneca alleged that Sandoz's generic version of *Lynparza*, if approved and marketed, would infringe patents listed in the FDA Orange Book with reference to *Lynparza*. No trial date has been scheduled.

Soliris

US patent proceedings

In January 2024, Alexion initiated patent infringement litigation against Samsung Bioepis Co. Ltd. in the US District Court for the District of Delaware alleging that Samsung's biosimilar eculizumab product, for which Samsung is currently seeking FDA approval, will infringe six *Soliris*-related patents. No trial date has been scheduled. Five of the six asserted patents are also the subject of inter partes review proceedings before the US Patent and Trademark Office.

Tagrisso

Patent proceedings outside the US

In Russia, in August 2023, AstraZeneca filed lawsuits in the Arbitration Court of the Moscow Region (Court) against the Ministry of Health of the Russian Federation and Axelpharm LLC related to Axelpharm's improper use of AstraZeneca's information to obtain authorisation to market a generic version of *Tagrisso*. In December 2023, the Court dismissed the lawsuit against the Ministry of Health of the Russian Federation. In January 2024, AstraZeneca filed an appeal, which is pending. The lawsuit against Axelpharm remains pending before the Court.

In Russia, in November 2023, Axelpharm LLC filed a compulsory licensing action against AstraZeneca in the Arbitration Court of the Moscow Region (Court) related to a patent that covers *Tagrisso*. The lawsuit remains pending before the Court.

Legal proceedings brought against AstraZeneca which have been concluded

Movantik

US patent proceedings

AstraZeneca has resolved by settlement agreement the previously disclosed patent infringement lawsuit brought by Aether Therapeutics, Inc. in the US District Court for the District of Delaware against AstraZeneca, Nektar Therapeutics and Daiichi Sankyo, Inc., relating to *Movantik*. This matter is now concluded.

Legal proceedings brought by AstraZeneca which have been concluded

Symbicort

US patent proceedings

In February 2023, AstraZeneca resolved by settlement agreement the previously disclosed ANDA litigations with Mylan Pharmaceuticals Inc. and Kindeva Drug Delivery L.P. (together, defendants). In those actions, AstraZeneca alleged that the defendants' generic versions of *Symbicort*,

if approved and marketed, would infringe various AstraZeneca patents. This matter is now concluded.

Tagrisso

Patent proceedings outside the US

In Russia, in October 2021, AstraZeneca filed a lawsuit in the Arbitration Court of the Moscow Region (Court) against Axelpharm, LLC to prevent it from obtaining authorisation to market a generic version of *Tagrisso* prior to the expiration of AstraZeneca's patents covering *Tagrisso*. The lawsuit also names the Ministry of Health of the Russian Federation as a third party. In March 2022, the Court dismissed the lawsuit. In June 2022, the dismissal was affirmed on appeal. In January 2023, the dismissal was affirmed on further appeal. This matter is now concluded.

Product liability litigation

Legal proceedings brought against AstraZeneca for which a provision has been taken

Nexium and *Losec/Prilosec*

US proceedings

AstraZeneca has been defending lawsuits brought in federal and state courts involving claims that plaintiffs have been diagnosed with various injuries following treatment with proton pump inhibitors (PPIs), including *Nexium* and *Prilosec*. Most of the lawsuits alleged kidney injury. In August 2017, the pending federal court cases were consolidated in a multidistrict litigation (MDL) proceeding in the US District Court for the District of New Jersey for pre-trial purposes. In addition to the MDL cases, there were cases alleging kidney injury filed in Delaware and New Jersey state courts.

In addition, AstraZeneca has been defending lawsuits involving allegations of gastric cancer following treatment with PPIs, including one such claim in the US District Court for the Middle District of Louisiana (Louisiana District Court).

In October 2023, AstraZeneca resolved all pending claims in the MDL, as well as all pending claims in Delaware and New Jersey state courts, for $425m, for which a provision has been taken. The only remaining case is the one pending in the Louisiana District Court. The Court in that case has postponed trial, which was previously scheduled to begin in April 2024. No new trial date has been set.

Legal proceedings brought against AstraZeneca considered to be contingent liabilities

Farxiga and *Xigduo* XR

US proceedings

AstraZeneca has been named as a defendant in lawsuits involving plaintiffs claiming physical injury, including Fournier's Gangrene and necrotising fasciitis, from treatment with *Farxiga* and/or *Xigduo* XR. In September 2023, the parties resolved by settlement agreement one case, filed in state court in Minnesota, previously scheduled for trial in October 2023. All remaining claims are filed in Delaware state court and remain pending.

Nexium and *Losec/Prilosec*

Canada proceedings

In Canada, in July and August 2017, AstraZeneca was served with three putative class action lawsuits. Two of the lawsuits have been dismissed, one in 2019 and one in 2021. The third lawsuit seeks authorisation to represent individual residents in Canada who allegedly suffered kidney injuries from the use of proton pump inhibitors, including *Nexium* and *Losec*.

Onglyza and *Kombiglyze*

US proceedings

In the US, AstraZeneca is defending various lawsuits alleging heart failure, cardiac injuries, and/or death from treatment with *Onglyza* or *Kombiglyze*. In August 2022, the US District Court for the Eastern District of Kentucky, presiding over the consolidated federal cases, granted AstraZeneca's motion for summary judgment, which plaintiffs have appealed to the US Court of Appeals for the Sixth Circuit. In the California state court proceeding, the trial court granted summary judgment for AstraZeneca, which the California appellate court affirmed. The California Supreme Court has declined further review, so the California state court proceeding has concluded.

Commercial litigation

Legal proceedings brought against AstraZeneca considered to be contingent liabilities

340B Antitrust Litigation

US proceedings

In September 2021, AstraZeneca was served with a class-action antitrust complaint filed in the US District Court for the Western District of New York (District Court) by Mosaic Health alleging a conspiracy to restrict access to 340B discounts in the diabetes market through contract pharmacies. In September 2022, the District Court granted AstraZeneca's motion to dismiss the Complaint. In February 2024, the District Court denied Plaintiffs' request to file a new amended complaint and entered an order closing the matter.

Anti-Terrorism Act Civil Lawsuit

US proceedings

In the US, in October 2017, AstraZeneca and certain other pharmaceutical and/or medical device companies were named as defendants in a complaint filed in the US District Court for the District of Columbia (District Court) by US nationals (or their estates, survivors, or heirs) who were killed or wounded in Iraq between 2005 and 2013. The plaintiffs allege that the defendants violated the US Anti-Terrorism Act and various state laws by selling pharmaceuticals and medical supplies to the Iraqi Ministry of Health. In July 2020, the District Court granted AstraZeneca's and the other defendants' motion to dismiss the lawsuit, which the DC Circuit Court of Appeals (the Appellate Court) reversed in January 2022. In February 2023, the Appellate Court denied a request for en banc review. In June 2023, AstraZeneca and the other defendants filed a petition for review by the United States Supreme Court.

Caelum Trade Secrets Litigation

US proceedings

AstraZeneca has been defending a matter filed by the University of Tennessee Research Foundation in the US District Court for the Eastern District of Tennessee (District Court) related to CAEL-101. In October 2023, AstraZeneca filed a motion for summary judgment on all claims and awaits a decision by the District Court. Trial is currently scheduled for September 2024.

Definiens

Germany proceedings

In Germany, in July 2020, AstraZeneca received a notice of arbitration filed with the German Institution of Arbitration from the sellers of Definiens AG (the Sellers) regarding the 2014 Share Purchase Agreement (SPA) between AstraZeneca and the Sellers. The Sellers claim that they are owed approximately $140m in earn-outs under the SPA. The arbitration hearing took place in March 2023 and final post-hearing written briefs were submitted in June 2023. In December 2023, the arbitration panel made a final award of $46.43m in favour of the Sellers. AstraZeneca is considering its options.

Employment Litigation

US proceedings

In December 2022, AstraZeneca was served with a lawsuit filed by seven former employees in the US District Court for the District of Delaware (District Court) asserting age, religion, and disability discrimination claims related to AstraZeneca's vaccination requirement. In March 2023, AstraZeneca filed a motion to dismiss the religious and disability discrimination claims and a motion to strike the class and collective claims. That motion is fully briefed and the parties are awaiting a decision by the District Court.

Pay Equity Litigation

US proceedings

AstraZeneca was defending a putative class and collective action matter in the US District Court for the Northern District of Illinois (District Court) brought by three named plaintiffs, who are former AstraZeneca employees. The case involved claims under the federal and Illinois Equal Pay Acts, with the plaintiffs alleging they were paid less than male employees who performed substantially similar and/or equal work. In January 2023, the District Court granted AstraZeneca's motion to dismiss plaintiffs' complaint. In March 2023, plaintiffs filed a Second Amended Complaint. AstraZeneca moved to dismiss the Second Amended Complaint in April 2023. The motion to dismiss was denied in October 2023, and the parties are proceeding with discovery.

Seroquel XR (Antitrust Litigation)

US proceedings

In 2019, AstraZeneca was named in several related complaints brought in the US District Court for the Southern District of New York (District Court), including several putative class action lawsuits that were purportedly brought on behalf of classes of direct

30 Commitments, contingent liabilities and contingent assets *continued*

purchasers or end payors of *Seroquel XR*, that allege AstraZeneca and generic drug manufacturers violated US antitrust laws when settling patent litigation related to *Seroquel XR*. In July 2022, in response to AstraZeneca's motion to dismiss, the District Court dismissed all claims relating to the settlement with one of the generic manufacturers but denied the motion with respect to all claims relating to the second generic manufacturer and allowed those claims to proceed. Trial is currently scheduled for May 2025.

Syntimmune

US proceedings

In connection with Alexion's prior acquisition of Syntimmune, Inc., (Syntimmune) in December 2020, Alexion was served with a lawsuit filed by the stockholders' representative for Syntimmune in Delaware state court that alleged, among other things, breaches of contractual obligations relating to the 2018 merger agreement. The stockholders' representative alleges that Alexion failed to meet its obligations under the merger agreement to use commercially reasonable efforts to achieve the milestones. Alexion also filed a claim for breach of the representations in the 2018 merger agreement. A trial was held in July 2023 and a decision is expected in 2024.

Viela Bio, Inc. Shareholder Litigation

US proceedings

In February 2023, AstraZeneca was served with a lawsuit filed in Delaware state court against AstraZeneca and certain officers (collectively, defendants), on behalf of a putative class of Viela Bio, Inc. (Viela) shareholders. The complaint alleges that defendants breached their fiduciary duty to Viela shareholders in the course of Viela's 2021 merger with Horizon Therapeutics, plc. In May 2023, AstraZeneca filed a motion to dismiss, which is now fully briefed and pending before the Court.

Legal proceedings brought by AstraZeneca considered to be contingent assets

PARP Inhibitor Royalty Dispute

UK proceedings

In October 2012, Tesaro, Inc. (now wholly owned by GlaxoSmithKline plc, (GSK)) entered into two worldwide, royalty-bearing patent license agreements with AstraZeneca related to GSK's product niraparib. In May 2021, AstraZeneca filed a lawsuit against GSK in the Commercial Court of England and Wales alleging that GSK has failed to pay all of the royalties due on niraparib sales under the license agreements. The case was transferred to the Chancery Division and a trial took place in March 2023. In April 2023, the court issued a decision in AstraZeneca's favour. GSK has been granted permission to appeal, and the appellate hearing was held in January 2024.

Legal proceedings brought against AstraZeneca which have been concluded

Alexion Shareholder Litigation

US proceedings

In December 2016, putative securities class action lawsuits were filed in the US District Court for the District of Connecticut (District Court) against Alexion and certain officers and directors (collectively, defendants), on behalf of purchasers of Alexion publicly traded securities during the period 30 January 2014 through 26 May 2017. The amended complaint alleged that defendants engaged in securities fraud, including by making misrepresentations and omissions in their public disclosures concerning Alexion's *Soliris* sales practices, management changes, and related investigations. In August 2021, the District Court issued a decision denying in part defendants' motion to dismiss the matter. The Court granted plaintiffs' motion for class certification in April 2023. In August 2023, the parties reached a settlement in principle of this matter. In September 2023, the court granted preliminary approval of the class settlement. A provision was taken in September 2023. The court granted final approval of the class settlement in December 2023, and the matter is now concluded.

AZD1222 Securities Litigation

US proceedings

In January 2021, putative securities class action lawsuits were filed in the US District Court for the Southern District of New York (District Court) against AstraZeneca PLC and certain officers, on behalf of purchasers of AstraZeneca publicly traded securities during a period later amended to cover 15 June 2020 through 29 January 2021. The Amended Complaint alleges that defendants made materially false and misleading statements in connection with the development of AZD1222, AstraZeneca's vaccine for the prevention of COVID-19. In September 2022, the District Court granted AstraZeneca's motion to dismiss the Amended Complaint with prejudice. In May 2023, the US Court of Appeals for the Second Circuit affirmed the dismissal. The matter is now concluded.

Portola Shareholder Litigation

US proceedings

In connection with Alexion's July 2020 acquisition of Portola Pharmaceuticals, Inc. (Portola), Alexion assumed litigation to which Portola is a party. In January 2020, putative securities class action lawsuits were filed in the US District Court for the Northern District of California against Portola and certain officers and directors (collectively, defendants), on behalf of purchasers of Portola publicly traded securities during the period 8 January 2019 through 26 February 2020. The operative complaints alleged that defendants made materially false and/or misleading statements or omissions with regard to *Andexxa*. In June 2022, the parties reached a settlement in principle of this matter. In March 2023, the court granted final approval of the settlement. The matter is now concluded.

Government investigations/proceedings

Legal proceedings brought against AstraZeneca considered to be contingent liabilities

340B Qui Tam

US proceedings

In July 2023, AstraZeneca was served with an unsealed civil lawsuit brought by a qui tam relator on behalf of the United States, several states, and the District of Columbia in the US District Court for the Central District of California. The complaint alleges that AstraZeneca violated the US False Claims Act (FCA) and state-law analogues. In September 2023, AstraZeneca filed a motion to dismiss the relator's claims. In response, the relator filed a First Amended Complaint. In December 2023, AstraZeneca filed a motion to dismiss the First Amended Complaint.

340B Administrative Proceedings

US proceedings

In September 2023, the Arkansas Insurance Department sent AstraZeneca an administrative complaint concerning compliance with Arkansas's 340B Statute, which requires manufacturers to recognize an unlimited number of contract pharmacies.

Previously disclosed Administrative Dispute Resolution proceedings against AstraZeneca remain pending before the US Health Resources and Services Administration.

Brazilian Tax Assessment Matter

Brazil proceedings

In connection with an ongoing matter, in August 2019, the Brazilian Federal Revenue Service provided a Notice of Tax and Description of the Facts (the Tax Assessment) to two Alexion subsidiaries (the Brazil Subsidiaries), as well as to two additional entities – a logistics provider utilised by Alexion and a distributor. The Tax Assessment focuses on the importation of *Soliris* vials pursuant to Alexion's free drug supply to patients programme in Brazil.

Alexion prevailed in the first level of administrative appeals in the Brazilian federal administrative proceeding system based on a deficiency in the Brazil Tax Assessment. The decision was subject to an automatic (ex officio) appeal to the second level of the administrative courts. In March 2023, the second level of the administrative courts issued a decision to remand the matter to the first level of administrative courts for a determination on the merits.

Texas Qui Tam

US proceedings

In December 2022, AstraZeneca was served with an unsealed civil lawsuit brought by qui tam relators on behalf of the State of Texas in Texas state court, which alleges that AstraZeneca engaged in unlawful marketing practices. In March 2023, AstraZeneca filed a motion to dismiss and a motion to transfer venue. In response, relators filed an Amended Petition. In May 2023, AstraZeneca filed a motion to

dismiss the Amended Petition and renewed its motion to transfer venue. In September 2023, the Texas state court denied AstraZeneca's motion to transfer venue and motion to dismiss. Trial is currently scheduled for October 2024.

Turkish Ministry of Health Matter

Turkey proceedings

In Turkey, in July 2020, the Turkish Ministry of Health (Ministry of Health) initiated an investigation regarding payments to healthcare providers by Alexion Turkey and former employees and consultants. The investigation arose from Alexion's disclosure of a $21.5m civil settlement with the US Securities & Exchange Commission (SEC) in July 2020 fully resolving the SEC's investigation into possible violations of the US Foreign Corrupt Practices Act. In September 2021, the Ministry of Health completed its draft investigation report, and referred the matter to the Ankara Public Prosecutor's Office with a recommendation for further proceedings against certain former employees.

US Congressional Inquiry

US proceedings

In January 2024, AstraZeneca received a letter from the US Senate Committee on Health, Education, Labor and Pensions (HELP Committee) seeking information related to AstraZeneca's inhaled Respiratory products. AstraZeneca intends to cooperate with the inquiry.

Vermont US Attorney Investigation

US proceedings

In April 2020, AstraZeneca received a Civil Investigative Demand from the US Attorney's Office in Vermont and the Department of Justice, Civil Division, seeking documents and information relating to AstraZeneca's relationships with electronic health-record vendors. AstraZeneca continues to cooperate with this enquiry.

Legal proceedings brought by AstraZeneca considered to be contingent assets

Inflation Reduction Act Litigation

US proceedings

In August 2023, AstraZeneca filed a lawsuit in federal court in Delaware challenging aspects of the drug price negotiation provisions of the Inflation Reduction Act and the implementing guidance and regulations promulgated by the US Department of Health and Human Services.

Louisiana 340B Litigation

US proceedings

In August 2023, AstraZeneca filed a lawsuit against the State of Louisiana alleging that the Louisiana's 340B statute, which requires manufacturers to recognize an unlimited number of contract pharmacies, is preempted on several grounds and violates the Contracts Clause of the U.S. Constitution. AstraZeneca and the State of Louisiana have moved for summary judgment on AstraZeneca's claims.

Legal proceedings brought against AstraZeneca which have been concluded

COVID-19 Vaccine Supply and Manufacturing Inquiries

Brazil proceedings

In February 2022, a Brazilian Public Prosecutor filed a lawsuit against several defendants including the Brazilian Federal Government, AstraZeneca, and other COVID-19 vaccine manufacturers. In April 2022, a Brazilian Court issued an order dismissing the lawsuit. In October 2023, the pending appeal was dismissed. No further appeal was made. This matter is now concluded.

Legal proceedings brought by AstraZeneca which have been concluded

US 340B Litigation

US proceedings

In January 2021, AstraZeneca filed a lawsuit in the US District Court for the District of Delaware (District Court) alleging that an Advisory Opinion issued by the Department of Health and Human Services violates the Administrative Procedure Act. In June 2021, the District Court found in favour of AstraZeneca, invalidating the Advisory Opinion. However, in May 2021, prior to the District Court's ruling, the US Government issued new and separate letters to AstraZeneca (and other companies) asserting that AstraZeneca's contract pharmacy policy violates the 340B statute. AstraZeneca amended the complaint to include allegations challenging the letter sent in May 2021, and in February 2022, the District Court ruled in favour of AstraZeneca invalidating those letters sent by the US Government. In January 2023, the Court of Appeals affirmed the District Court's decision in AstraZeneca's favour. Final judgment was entered in favour of AstraZeneca in May 2023 and this matter is now concluded.

Other

Additional government inquiries

As is true for most, if not all, major prescription pharmaceutical companies, AstraZeneca is currently involved in multiple inquiries into drug marketing and pricing practices. In addition to the investigations described above, various law enforcement offices have, from time to time, requested information from the Group. There have been no material developments in those matters.

Tax

AstraZeneca considers whether it is probable that a taxation authority will accept an uncertain tax treatment. If it is concluded that it is not probable that the taxation authority will accept an uncertain tax treatment, where tax exposures can be quantified, a tax liability is recognised based on either the most likely amount method or the expected value method depending on which method management expects to better predict the resolution of the uncertainty. Tax liabilities for uncertain tax treatments can be built up over a long period of time but the resolution of such tax exposures usually occurs at a point in time, and given the inherent uncertainties in assessing the outcomes of these exposures (which sometimes can be binary in nature), we could, in future periods, experience adjustments to the liabilities recognised in respect of uncertain tax treatments that have a material positive or negative effect on our results in any particular period. Details of the movements in relation to material uncertain tax treatments are discussed below.

KJ AstraZeneca faces a number of audits and reviews in jurisdictions around the world and, in some cases, is in dispute with the tax authorities. The issues under discussion are often complex and can require many years to resolve. Tax liabilities recognised for uncertain tax treatments require management to make key judgements with respect to the outcome of current and potential future tax audits, and actual results could vary from these estimates. Management does not believe a significant risk of material change to uncertain tax positions exists in the next 12 months.

The total net tax liability recognised in the Group Financial Statements in respect of uncertain tax positions is $1,336m (2022: $830m; 2021: $768m). The net tax liability consists of $1,241m (2022: $632m; 2021: $702m) included within income tax payable, $441m (2022: $291m; 2021: $(33)m) included within deferred tax asset, partially offset by $9m (2022: $(20)m; 2021: $(17)m) included within deferred tax liabilities, and $337m (2022: $113m; 2021: additional $82m) included within income tax receivable.

Transfer pricing

The net tax liability included in the Group Financial Statements to cover the worldwide exposure to uncertain tax treatments is $401m (2022: $260m; 2021: $77m). The increase in the net tax liability for uncertain tax positions relating to transfer pricing of $141m compared with 2022 is mainly as a result of an increase of tax liabilities arising from updates to estimates of prior period tax liabilities following progression of tax authority reviews.

These matters can be complex and judgemental. The liability includes uncertain tax treatments which are estimated using the expected value method and depend on AstraZeneca's assessment of the likelihood of the approach taken by the tax authorities and could change in the future to reflect progress in tax authority reviews, the extent that any tax authority challenge is concluded, or matters lapse including following expiry of the relevant statutes of limitation resulting in a reduction in the tax charge in future periods.

For transfer pricing matters, including items under tax audit, AstraZeneca estimates the potential for additional tax liabilities above the amount provided where the possibility of the additional liabilities falling due is more than remote, to be up to $386m (2022: $245m; 2021: $48m) including associated interest.

30 Commitments, contingent liabilities and contingent assets *continued*

Management believes that it is unlikely that these additional liabilities will arise. It is possible that some of these contingencies may change in the future to reflect progress in tax authority reviews, to the extent that any tax authority challenge is concluded or matters lapse including following expiry of the relevant statutes of limitation resulting in a reduction in the tax charge in future periods. Management continues to believe that AstraZeneca's positions on all its transfer pricing positions, audits and disputes are robust, and that AstraZeneca has recognised appropriate tax balances, including consideration of whether corresponding relief will be available under Mutual Agreement procedures or unilaterally.

Other uncertain tax treatments

Included in the net tax liability is $935m (2022: $570m; 2021: $691m) relating to a number of other uncertain tax treatments. The increase of $365m in the net tax liability relating to the other uncertain tax treatments mainly relates to an update to tax liabilities following progress of reviews by tax authorities and administrative appeal processes. The liability includes tax liabilities in respect of uncertain tax treatments which are estimated using the most likely amount method and the expected value method and depend on AstraZeneca's assessment of the likelihood of the approach taken by the tax authorities. This could change in the future to reflect progress in tax authority reviews, the extent that any tax authority challenge is concluded, or matters lapse including following expiry of the relevant statutes of limitation resulting in a reduction in the tax charge in future periods.

For these other tax liabilities in respect of uncertain tax treatments, AstraZeneca estimates the potential for additional liabilities above the amount provided where the possibility of the additional liabilities falling due is more than remote, to be up to $293m (2022: $209m; 2021: $273m) including associated interest. It is possible that some of these liabilities may reduce in the future if any tax authority challenge is concluded or matters lapse following expiry of the relevant statutes of limitation, resulting in a reduction in the tax charge in future periods. AstraZeneca does not believe there are any significant other uncertain tax treatments where the possibility of the additional liabilities falling due is more than remote (2022: $280m; 2021: $325m) including associated interest.

Timing of cash flows and interest

The Group is currently under audit in several countries and the timing of any resolution of these audits is uncertain.

It is anticipated that tax payments may be required in relation to a number of significant disputes which may be resolved over the next one to two years. AstraZeneca considers the tax liabilities set out above to appropriately reflect the expected value of any final settlement. Some of the items discussed above are not currently within the scope of tax authority audits and may take longer to resolve.

Included within other payables is a net amount of interest arising on tax contingencies of $184m (2022: $106m; 2021: $85m).

31 Statutory and other information

	2023 $m	2022 $m	2021 $m
Fees payable to PricewaterhouseCoopers LLP and its associates:			
Group audit fee	**10.2**	9.9	10.5
Fees payable to PricewaterhouseCoopers LLP and its associates for other services:			
The audit of subsidiaries pursuant to legislation	**15.0**	15.1	15.2
Attestation under s404 of Sarbanes-Oxley Act 2002	**3.3**	3.1	2.0
Audit-related assurance services	**1.1**	0.7	4.5
Other assurance services	**0.2**	0.2	3.4
Fees payable to PricewaterhouseCoopers Associates in respect of the Group's pension schemes:			
The audit of subsidiaries' pension schemes	**0.3**	0.3	0.3
	30.1	29.3	35.9

$0.7m of fees payable in 2023 are in respect of the Group audit and audit of subsidiaries related to prior years (2022: $0.6m in respect of the Group audit and audit of subsidiaries related to prior years).

$0.3m of 2021 Group audit fees and $0.7m of 2021 Audit-related assurance services and Other assurance services relate to pre-acquisition fees incurred by Alexion.

Included in the 2021 Audit-related assurance services and Other assurance services are $6.1m of services provided in relation to the acquisition of Alexion and related debt issuance.

Related party transactions

The Group had no material related party transactions which might reasonably be expected to influence decisions made by the users of these Financial Statements.

Key management personnel compensation

Key management personnel are defined for the purpose of disclosure under IAS 24 'Related Party Disclosures' as the members of the Board and the members of the SET.

	2023 $'000	2022 $'000	2021 $'000
Short-term employee benefits	**38,636**	38,632	32,985
Post-employment benefits	**1,354**	1,388	1,378
Share-based payments	**58,242**	56,297	45,234
	98,232	96,317	79,597

Total remuneration is included within employee costs (see Note 29).

32 Subsequent events

There were no material subsequent events.

Group Subsidiaries and Holdings

In accordance with section 409 of the Companies Act 2006 a full list of subsidiaries, partnerships, associates, joint ventures and joint arrangements, the place of incorporation, registered office address, and the effective percentage of equity owned as at 31 December 2023 are disclosed below. Unless otherwise stated, the share capital disclosed comprises ordinary shares which are indirectly held by AstraZeneca PLC.

Unless otherwise stated, the accounting year ends of subsidiaries are 31 December. The Group Financial Statements consolidate the Financial Statements of the Company and its subsidiaries at 31 December 2023.

At 31 December 2023	Group Interest
Wholly owned subsidiaries	
Algeria	
AAPM SARL	100%
Number 20, Micro-Economic Zone, Hydra Business Center, Dar El Medina, Algiers, Algeria	
Argentina	
AstraZeneca S.A.	100%
Olga Cossettini 363, 3° floor, Buenos Aires, Argentina	
Alexion Pharma Argentina SRL	100%
Avenida Leandro N. Alem 592 Piso 6, Buenos Aires, Argentina	
Australia	
AstraZeneca Holdings Pty Limited	100%
AstraZeneca Pty Limited	100%
Alexion Pharmaceuticals Australasia Pty Ltd	100%
66 Talavera Road, Macquarie Park, NSW 2113, Australia	
LogicBio Australia Pty Limited	100%
Level 40, 2-26 Park Street, Sydney, NSW 2000, Australia	
Austria	
AstraZeneca Österreich GmbH	100%
A-1120 Wien, Rechte Wienzeile 223 Tür 16.1, Austria	
Alexion Pharma Austria GmbH	100%
Donau-City-Straße 7, 30. Stock, DC Tower, Vienna 1220, Austria	
Portola Österreich GmbH (in liquidation)	100%
Mooslackengasse 17, 1190 Wien, Austria	
Belgium	
AstraZeneca S.A. / N.V.	100%
Alfons Gossetlaan 40 bus 201 at 1702 Groot-Bijgaarden, Belgium	
Alexion Pharma Belgium Sprl	100%
Alexion Services Europe Sprl	100%
de Meeûssquare 37, Bruxelles 1000, Belgium	
Bermuda	
Alexion Bermuda Holding ULC	100%
Alexion Bermuda Limited	100%
Alexion Bermuda Partners LP	100%
Canon's Court, 22 Victoria St., Hamilton, Bermuda	

At 31 December 2023	Group Interest
Brazil	
AstraZeneca do Brasil Limitada	100%
Rod. Raposo Tavares, KM 26, 9, Cotia, Brazil	
Alexion Farmacêutica América Latina Serviços de Administração de Vendas Ltda.	100%
Alexion Serviços e Farmacêutica do Brasil Ltda.	100%
Av. Dr Chucri Zaidan, 1240, 15° andar, CEP 04711-130, Ed. Morumbi Corporate – Golden Tower Vila São Francisco, São Paulo, Brazil	
Bulgaria	
AstraZeneca Bulgaria EOOD	100%
1057 Sofia, Izgrev Region, 36 Dragan Tsankov Blvrd, Bulgaria	
Canada	
AstraZeneca Canada Inc.[1]	100%
Suite 5000, 1004 Middlegate Road, Mississanga, ON, L4Y 1M4, Canada	
Alexion Pharma Canada Corporation	100%
1300-1969 ST Upper Water, Halifax, NS, B3J 3R7, Canada	
Cayman Islands	
AZ Reinsurance Limited	100%
18 Forum Lane, 2nd Floor, Camana Bay, Grand Cayman, P.O. Box 69, Cayman Islands	
Grey Wolf Merger Sub	100%
PO Box 309, Ugland House, Grand Cayman, KY1-1104, Cayman Islands	
Chile	
AstraZeneca S.A.	100%
AstraZeneca Farmaceutica Chile Limitada	100%
Av. Isidora Goyenechea 3477, 2nd Floor, Las Condes, Santiago, Chile	
China	
AstraZeneca Pharmaceutical Co., Limited	100%
No. 2, Huangshan Road, Wuxi, Jiangsu Province, China	
AstraZeneca (Wuxi) Trading Co. Ltd	100%
Building E, Huirong Plaza, Jinghui Road East, Xinwu District, Wuxi, Jiangsu Province, China	
AstraZeneca Investment (China) Co., Ltd	100%
199 Liangjing Road, China (Shanghai) Pilot Free Trade Zone, Shanghai, China	
AstraZeneca Pharmaceutical (China) Co. Ltd	100%
No. 9, Medical Avenue, Jiangsu Province, Taizhou, China	
AstraZeneca Pharmaceutical (Beijing) Co., Ltd	100%
1F, Building No. 4, No. 8 Courtyard, No. 1 Kegu Street, Beijing Economic-Technological Development Area, Beijing 100176, China	

At 31 December 2023	Group Interest
AstraZeneca (Guangzhou) Pharmaceutical Co., Ltd	100%
Room 406-178, No. 1, Yichuang Street, (China-Singapore Guangzhou Knowledge City) Huangpu District, Guangzhou City, China	
AstraZeneca Investment Consulting (Wuxi) Co., Ltd	100%
Room 808, 8F, Building 99-2 Linghu Avenue, Xinwu District, Wuxi, Jiangsu, China	
AstraZeneca Pharmaceutical (Hangzhou) Co., Ltd	100%
12F & 14F, Building 1, Shuli Plaza, 758 Fei Jia Tang Road, Gongshu District, Hangzhou, Zhejiang Province, China	
AstraZeneca Global R&D (China) Co., Ltd	100%
16F, 88 Xizang North Road, Jing'an District, Shanghai, China	
AstraZeneca Pharmaceutical (Chengdu) Co., Ltd	100%
10th Floor, Building 11 (Building E11), No. 366, Hemin Street, Chengdu High-tech Zone, China (Sichuan) Pilot Free Trade Zone, China	
AstraZeneca Pharmaceutical (Shanghai) Co., Ltd	100%
B1F, 8F & 9F, 88 Xizang North Road, Jing'an District, Shanghai, China	
Alexion Pharmaceuticals (Shanghai) Company Limited	100%
Room 702, No. 1539 West Nanjing Road, Jing'an District, Shanghai, China	
AstraZeneca Pharmaceutical Manufacturing (Qingdao) Co., Ltd.	100%
AstraZeneca Pharmaceutical (Qingdao) Co., Ltd.	100%
Room 806, Building 2, No. 82 Juxianqiao Road, High-tech Zone, Qingdao City, Shandong Province, China	
Colombia	
AstraZeneca Colombia S.A.S.	100%
Av Carrera 9 No. 101-67 Office 601, Bogotá, 110231, Colombia	
Alexion Pharma Colombia S.A.S.	100%
Carrera 9 No. 115 - 06 /30 Edificio Tierra Firme Oficina 2904 Bogotá D.C., Colombia	
Costa Rica	
AstraZeneca CAMCAR Costa Rica, S.A.	100%
San José, Escazú, Roble Corporate Center, 5to piso, Costa Rica	
Croatia	
AstraZeneca d.o.o.	100%
Radnicka cesta 80, 10000 Zagreb, Croatia	

Group Subsidiaries and Holdings
continued

At 31 December 2023	Group Interest
Czech Republic	
AstraZeneca Czech Republic, s.r.o.	100%
U Trezorky 921/2, 158 00 Prague 5, Czech Republic	
Alexion Pharma Czech s.r.o.	100%
Novodvorská 994/138, Braník, 142 00 Prague, Czech Republic	
Denmark	
AstraZeneca A/S	100%
Johanne Møllers Passage 1, Dk-1799 Copenhagen V, Denmark	
Egypt	
AstraZeneca Egypt for Pharmaceutical Industries SAE	100%
6th of October City, 6th Industrial Zone, Plot 2, Giza, Egypt	
AstraZeneca Egypt LLC	100%
47 St. 270 New Maadi, Cairo, Egypt	
Drimex LLC	100%
Plot 133, Banks' District, 5th Settlement, New Cairo, Cairo, Egypt	
Estonia	
AstraZeneca Eesti OÜ	100%
Harju maakond, Tallinn, Lasnamäe linnaosa, Valukoja tn 8/1, 11415, Estonia	
Finland	
AstraZeneca Oy.	100%
Keilaranta 18, 02150 Espoo, Finland	
France	
AstraZeneca SAS	100%
Tour Carpe Diem-31, Place des Corolles, 92400 Courbevoie, France	
AstraZeneca Reims Production SAS	100%
Chemin de Vrilly Parc, Industriel de la Pompelle, Reims, 51100, France	
AstraZeneca Dunkerque Production SCS	100%
224 Avenue de la Dordogne, 59640 Dunkerque, France	
Alexion Europe SAS	100 %
Alexion Pharma France SAS	100 %
103-105 Rue Anatole France 92300 Levallois-Perret, France	
Germany	
AstraZeneca Holding GmbH	100%
AstraZeneca GmbH	100%
Friesenweg 26, 22763, Hamburg, Germany	
Sofotec GmbH	100%
Benzstrasse 1-3, 61352, Bad Homburg v.d. Hohe, Germany	
AstraZeneca Computational Pathology GmbH[2]	100%
Bernhard-Wicki-Straße 5, 80636, Munich, Germany	
Alexion Pharma Germany GmbH	100%
Landsberger Straße 300, 80687, Munich, Germany	

At 31 December 2023	Group Interest
Greece	
AstraZeneca S.A.	100%
Agisilaou 6-8 Marousi, Athens, Greece	
Hong Kong	
AstraZeneca Hong Kong Limited	100%
Unit 1 – 3, 11/F., China Taiping Finance Centre, 18 King Wah Road, North Point, Hong Kong	
Hungary	
AstraZeneca Kft	100%
1st floor, 4 building B, Alíz str., Budapest, 1117, Hungary	
India	
AstraZeneca India Private Limited[3]	100%
Block A, Neville Tower, 11th Floor, Ramanujan IT SEZ, Taramani, Chennai, Tamil Nadu, PIN 600113, India	
Alexion Business Services Private Limited	100%
9th Floor, Platina, G Block Plot No. C-59, Bandra-Kurla Complex Bandra (East), Mumbai 400051, India	
Iran	
AstraZeneca Pars Company	100%
Suite 1, 1st Floor No. 39, Alvand Ave., Argantin Sq., Tehran 1516673114, Iran	
Ireland	
AstraZeneca Pharmaceuticals (Ireland) Designated Activity Company	100%
4th Floor, South Bank House, Barrow Street, Dublin, 4, Republic of Ireland	
Alexion Pharma Holding Limited	100%
Alexion Pharma International Operations Limited	100%
Alexion Pharma Development Limited	100%
AstraZeneca Ireland Limited	100%
College Business & Technology Park, Blanchardstown Road North, Dublin 15, Republic of Ireland	
Israel	
AstraZeneca (Israel) Ltd	100%
Atirei Yeda 1, Building O-Tech 2, POB 8044, Kfar Saba, 4464301, Israel	
Alexion Pharma Israel Ltd	100%
4 Weizmann Str., Tel-Aviv-Jaffa, Israel	
Italy	
Simesa SpA	100%
AstraZeneca SpA	100%
Alexion Pharma Italy Srl	100%
Viale Decumano 39, 20157 Milan, Italy	
Japan	
AstraZeneca K.K.	100%
Grand Front Osaka Tower B, 3-1, Ofuka-cho, Kita-ku, Osaka, 530-0011, Japan	
Alexion Pharma GK	100%
Ebisu First Square, 18-14, Ebisu 1-chome, Shibuya-ku, Tokyo, Japan	

At 31 December 2023	Group Interest
Kazakhstan	
AstraZeneca Kazakhstan LLP	100%
Office 101, 77 Kunayev Street, Almaty 050000, Kazakhstan	
Kenya	
AstraZeneca Pharmaceuticals Limited	100%
L.R. No.1/1327, Avenue 5, 1st Floor, Rose Avenue, Nairobi, Kenya	
Latvia	
AstraZeneca Latvija SIA	100%
Skanstes iela 50, Riga, LV-1013, Latvia	
Lithuania	
AstraZeneca Lietuva UAB	100%
Spaudos g., Vilnius, LT-05132, Lithuania	
Luxembourg	
AstraZeneca Luxembourg S.A.	100%
Rue Nicolas Bové 2A – L-1253, Luxembourg	
Malaysia	
AstraZeneca Asia-Pacific Business Services Sdn Bhd	100%
12th Floor, Menara Symphony, No. 5 Jalan Prof, Khoo Kay Kim, Seksyen 13, 46200 Petaling Jaya, Selangor Darul Ehsan, Malaysia	
AstraZeneca Sdn Bhd	100%
Nucleus Tower, Level 11 & 12, No. 10 Jalan PJU 7/6, Mutiara Damansara, 47800 Petaling Jaya, Selangor Darul Ehsan, Malaysia	
Mexico	
AstraZeneca Health Care Division, S.A. de C.V.	100%
AstraZeneca, S.A. de C.V.	100%
Av. Periferico Sur 4305 interior 5, Colonia Jardines en la Montaña, Mexico City, Tlalpan Distrito Federal, CP 14210, Mexico	
Alexion Pharma Mexico S. de R.L. de C.V.	100%
Paseo de los Tamarindos 90, Torre 1 piso 6 - A Col., Bosques de la Lomas, CP 05120 D.F, Mexico	
Morocco	
AstraZeneca Maroc SARLAU	100%
92 Boulevard Anfa ETG 2, Casablanca 20000, Morocco	
The Netherlands	
AstraZeneca B.V.	100%
AstraZeneca Continent B.V.	100%
AstraZeneca Gamma B.V.	100%
AstraZeneca Holdings B.V.	100%
AstraZeneca Jota B.V.	100%
AstraZeneca Rho B.V.	100%
AstraZeneca Sigma B.V.	100%
AstraZeneca Treasury B.V.	100%
AstraZeneca Zeta B.V.	100%
Prinses Beatrixlaan 582, 2595BM, The Hague, The Netherlands	

At 31 December 2023	Group Interest
AstraZeneca Nijmegen B.V.	100%
Lagelandseweg 78, 6545 CG Nijmegen, The Netherlands	
Acerta Pharma B.V.	100%
Aspire Therapeutics B.V.	100%
Kloosterstraat 9, 5349 AB, Oss, The Netherlands	
Portola Netherlands B.V.	100%
Prins Bernhardplein 200 JB Amsterdam 1097, The Netherlands	
Alexion Holding B.V.	100%
Alexion Pharma Foreign Holdings B.V.	100%
Alexion Pharma Netherlands B.V.	100%
Prinses Beatrixlaan 582, 5895 BM, The Hague, The Netherlands	
Neogene Therapeutics B.V.	100%
Science Park 106, 1098 XG Amsterdam, The Netherlands	
New Zealand	
AstraZeneca Limited	100%
Pharmacy Retailing (NZ) Limited t/a Healthcare Logistics, 58 Richard Pearse Drive, Mangere, Auckland, 1142, New Zealand	
Nigeria	
AstraZeneca Nigeria Limited	100%
11A, Alfred Olaiya Street, Awuse Estate, Off Salvation Street, Opebi, Ikeja, Lagos, Nigeria	
Norway	
AstraZeneca AS	100%
Karvesvingen 7, 0579 Oslo, Norway	
Pakistan	
AstraZeneca Pharmaceuticals Pakistan (Private) Limited[4]	100%
Office No 1, 2nd Floor, Sasi Arcade, Block 7, Main Clifton Road, Karachi, Pakistan	
Panama	
AstraZeneca CAMCAR, S.A.	100%
Bodega #1, Parque Logistico MIT, Carretera Hacia Coco Solo, Colon, Panama	
Peru	
AstraZeneca Peru S.A.	100%
Calle Las Orquídeas N° 675, Int. 802, Edificio Pacific Tower, San Isidro, Lima, Peru	
Philippines	
AstraZeneca Pharmaceuticals (Phils.) Inc.	100%
16th Floor, Inoza Tower, 40th Street, Bonifacio Global City, Taguig 1634, Philippines	
Poland	
AstraZeneca Pharma Poland Sp.z.o.o.	100%
Alexion Pharma Poland Sp.z.o.o.	100%
Postepu 14, 02-676, Warszawa, Poland	

At 31 December 2023	Group Interest
Portugal	
Astra Alpha Produtos Farmacêuticos Lda	100%
AstraZeneca Produtos Farmacêuticos Lda	100%
Novastra Promoção e Comércio Farmacêutico Lda	100%
Novastuart Produtos Farmacêuticos Lda	100%
Stuart-Produtos Farmacêuticos Lda	100%
Zeneca Epsilon – Produtos Farmacêuticos Lda	100%
Zenecapharma Produtos Farmacêuticos, Unipessoal Lda	100%
Rua Humberto Madeira, No 7, Queluz de Baixo, 2730-097, Barcarena, Portugal	
Puerto Rico	
IPR Pharmaceuticals, Inc.	100%
Road 188, San Isidro Industrial Park, Canóvanas, 00729, Puerto Rico	
Romania	
AstraZeneca Pharma S.R.L.	100%
Bucharest, 1A Tipografilor Street, MUSE Offices, 2nd and 3rd Floor, District 1, 013714, Romania	
Russia	
AstraZeneca Industries, LLC	100%
8 1st Vostochniy lane, Dobrino village, Borovskiy district, Kaluga region 249006, Russian Federation	
AstraZeneca Pharmaceuticals, LLC	100%
Building 1, 21 First Krasnogvardeyskiy lane, floor 30, rooms 13 and 14, Moscow, 123112, Russian Federation	
Alexion Pharma OOO LLC	100%
Building 1, 21 First Krasnogvardeyskiy lane, floor 29, Moscow, 123112, Russian Federation	
Saudi Arabia	
AstraZeneca Continent – Regional Headquarter	100%
Al-Nakhlah Tower, Floor 13th Ath Thumamah Road, Al Sahafa District., P.O. Box 42150, Riyadh, Kingdom of Saudi Arabia	
AstraZeneca Trading Company	100%
125 Prince Sultan, 2086 Ar Rawdah District, 23435, Jeddah, Kingdom of Saudi Arabia	
Singapore	
AstraZeneca Singapore Pte Limited	100%
10 Kallang Avenue #12-10, Aperia Tower 2, 339510, Singapore	
South Africa	
AstraZeneca Pharmaceuticals (Pty) Limited	100%
17 Georgian Crescent West, Northdowns Office Park, Bryanston, 2191, South Africa	

At 31 December 2023	Group Interest
South Korea	
AstraZeneca Korea Co. Ltd	100%
21st Floor, Asem Tower, 517, Yeongdong-daero, Gangnam-gu, Seoul, 06164, Republic of Korea	
Alexion Pharma Korea LLC	100%
41 FL., 152 Teheran-ro (Yeoksam-dong Gangnam Finance Center), Gangnam-gu, Seoul, Republic of Korea	
Spain	
AstraZeneca Farmaceutica Holding Spain, S.A.	100%
AstraZeneca Farmaceutica Spain S.A.	100%
Laboratorio Beta, S.A.	100%
Laboratorio Lailan, S.A.	100%
Laboratorio Tau, S.A.	100%
Fundación AstraZeneca	100%
Calle del Puerto de Somport, 21-23, 28050, Madrid, Spain	
Alexion Pharma Spain S.L.	100%
Av Diagonal Num.601 P.1, Barcelona 08028, Spain	
Sweden	
Astra Export & Trading Aktiebolag	100%
Astra Lakemedel Aktiebolag	100%
AstraZeneca AB	100%
AstraZeneca Biotech AB	100%
AstraZeneca BioVentureHub AB	100%
AstraZeneca Holding Aktiebolag[5]	100%
AstraZeneca International Holdings Aktiebolag[6]	100%
AstraZeneca Nordic AB	100%
AstraZeneca Pharmaceuticals Aktiebolag	100%
AstraZeneca Södertälje 2 AB	100%
Stuart Pharma Aktiebolag	100%
Tika Lakemedel Aktiebolag	100%
SE-151 85 Södertälje, Sweden	
Aktiebolaget Hassle	100%
Symbicom Aktiebolag[6]	100%
431 83 Molndal, Sweden	
Astra Tech International Aktiebolag	100%
Box 14, 431 21 Molndal, Sweden	
Alexion Pharma Nordics Holding AB	100%
Alexion Pharma Nordics AB	100%
Kungsgatan 3, Stockholm 111 43, Sweden	
Switzerland	
AstraZeneca AG	100%
Evinova AG	100%
Neuhofstrasse 34, 6340 Baar, Switzerland	
Spirogen Sarl[6]	100%
Rue du Grand-Chêne 5, CH-1003 Lausanne, Switzerland	
Alexion Pharma GmbH	100%
Giesshübelstrasse 30, Zürich 8045, Switzerland	

Group Subsidiaries and Holdings
continued

At 31 December 2023	Group Interest
Taiwan	
AstraZeneca Taiwan Limited	100%
21st Floor, Taipei Metro Building 207, Tun Hwa South Road, SEC 2 Taipei, Taiwan	
Alexion Pharma Taiwan Ltd	100%
Room 1153, 11F, No. 1, SongZhi Rd, Taipei 11047, Taiwan	
Thailand	
AstraZeneca (Thailand) Limited	100%
Asia Centre 19th floor, 173/20, South Sathorn Rd, Khwaeng Thungmahamek, Khet Sathorn, Bangkok, 10120, Thailand	
Tunisia	
AstraZeneca Tunisie SaRL	100%
Lot n°1.5.5 les jardins du lac, bloc B les berges du lac Tunis, Tunisia	
Turkey	
AstraZeneca Ilac Sanayi ve Ticaret Limited Sirketi	100%
YKB Plaza, B Blok, Kat:3-4, Levent/Besiktas, Istanbul, Turkey	
Zeneca Ilac Sanayi ve Ticaret Anonim Sirketi	100%
Büyükdere Cad., Y.K.B. Plaza, B Blok, Kat:4, Levent/Beşiktaş, Istanbul, Turkey	
Alexion Ilac Ticaret Limited Sirketi	100%
Içerenköy Mahellisi Umut SK. and Ofis Sit. No: 10 12/73 Ataşehir, Istanbul 10-12/73, Turkey	
Ukraine	
AstraZeneca Ukraina LLC	100%
54 Simi Prakhovykh street, Kyiv, 01033, Ukraine	
United Arab Emirates	
AstraZeneca FZ-LLC	100%
P.O. Box 505070, Block D, Dubai Healthcare City, Oud Mehta Road, Dubai, United Arab Emirates	
Alexion Pharma Middle East FZ-LLC	100%
Dubai Science Park, 501, Floor 5, EIB Building No. 2, Dubai, United Arab Emirates	
United Kingdom	
Ardea Biosciences Limited	100%
Arrow Therapeutics Limited	100%
Astra Pharmaceuticals Limited	100%
AstraPharm[6]	100%
AstraZeneca China UK Limited	100%
AstraZeneca Death In Service Trustee Limited	100%
AstraZeneca Employee Share Trust Limited	100%
AstraZeneca Finance Limited	100%
AstraZeneca Intermediate Holdings Limited[5]	100%
AstraZeneca Investments Limited	100%
AstraZeneca Japan Limited	100%
AstraZeneca Nominees Limited	100%
AstraZeneca Quest Limited	100%
AstraZeneca Share Trust Limited	100%

At 31 December 2023	Group Interest
AstraZeneca Sweden Investments Limited	100%
AstraZeneca Treasury Limited[6]	100%
AstraZeneca UK Limited	100%
AstraZeneca US Investments Limited[5]	100%
AZENCO2 Limited	100%
AZENCO4 Limited	100%
Cambridge Antibody Technology Group Limited	100%
KuDOS Horsham Limited	100%
KuDOS Pharmaceuticals Limited	100%
Zenco (No. 8) Limited	100%
Zeneca Finance (Netherlands) Company	100%
MedImmune Limited	100%
1 Francis Crick Avenue, Cambridge Biomedical Campus, Cambridge, CB2 0AA, United Kingdom	
MedImmune U.K. Limited	100%
Plot 6, Renaissance Way, Boulevard Industry Park, Liverpool, L24 9JW, United Kingdom	
Syntimmune Limited	100%
21 Holborn Viaduct, London, EC1A 2DY, United Kingdom	
Alexion Pharma UK Limited	100%
Portola Pharma UK Limited (in liquidation)	100%
3 Furzeground Way, Stockley Park, Uxbridge, Middlesex, UB11 1EZ, United Kingdom	
United States	
Ardea Biosciences, Inc.	100%
Amylin Ohio LLC[7]	100%
Amylin Pharmaceuticals, LLC[7]	100%
AstraZeneca Collaboration Ventures, LLC[7]	100%
AstraZeneca Finance LLC[7]	100%
AstraZeneca Finance and Holdings Inc.	100%
AstraZeneca Pharmaceuticals LP[8]	100%
Atkemix Nine Inc.	100%
Atkemix Ten Inc.	100%
BMS Holdco, Inc.	100%
Cincor Pharma Inc.	100%
Corpus Christi Holdings Inc.	100%
Isochrone Merger Sub Inc.	100%
Neogene Therapeutics, Inc.	100%
Omthera Pharmaceuticals, Inc.	100%
Optein, Inc.	100%
Stauffer Management Company LLC[7]	100%
Zeneca Holdings Inc.	100%
Zeneca Inc.	100%
Zeneca Wilmington Inc.[5]	100%
1800 Concord Pike, Wilmington, DE 19803, United States	
ZS Pharma Inc.	100%
1100 Park Place, Suite 300, San Mateo, CA 94403, United States	
AlphaCore Pharma, LLC[7]	100%
333 Parkland Plaza, Suite 5, Ann Arbor, MI 48103, United States	

At 31 December 2023	Group Interest
AZ-Mont Insurance Company	100%
100 Bank Street, Suite 630, Burlington, VT 05401, United States	
MedImmune, LLC[7]	100%
MedImmune Ventures, Inc.	100%
One MedImmune Way, Gaithersburg, MD 20878, United States	
Pearl Therapeutics, Inc.	100%
200 Cardinal Way, Redwood City, CA 94063, United States	
Caelum Biosciences Inc.	100%
1200 Florence Columbus Road, Bordentown, NJ 08505, United States	
Alexion Services Latin America Inc.	100%
600 Brickell Ave, Miami, FL 33131, United States	
Portola USA, Inc.	100%
Portola Pharmaceuticals LLC	100%
270 East Grand Avenue, South San Francisco, CA 94080, United States	
Achillion Pharmaceuticals Inc.	100%
Alexion Delaware Holding LLC	100%
Alexion Pharma LLC	100%
Alexion Pharmaceuticals, Inc.	100%
Alexion US1 LLC	100%
Alexion US Holdings LLC	100%
LogicBio Therapeutics, Inc.	100%
Savoy Therapeutics Corp	100%
Syntimmune, Inc.	100%
TeneoTwo, Inc.	100%
121 Seaport Boulevard, Boston, MA 02210, United States	
Acerta Pharma LLC[7]	100%
121 Oyster Point Boulevard, South San Francisco, CA 94080, United States	
LogicBio Securities Corporation	100%
65 Hayden Avenue, Lexington, MA 92421, United States	
Alexion Holding LLC	100%
100 College Street, New Haven, CT 06510, United States	
Uruguay	
AstraZeneca S.A.	100%
Yaguarón 1407 of 1205, 11.100, Montevideo, Uruguay	
Venezuela	
AstraZeneca Venezuela S.A.	100%
Gotland Pharma S.A.	100%
Av. La Castellana, Torre La Castellana, Piso 5, Oficina 5-G, 5-H, 5-I, Urbanización La Castellana, Municipio Chacao, Estado Bolivariano de Miranda, Venezuela	
Vietnam	
AstraZeneca Vietnam Company Limited	100%
18th Floor, A&B Tower, 76 Le Lai, Ben Thanh Ward, District 1, Ho Chi Minh City, Vietnam	

At 31 December 2023	Group Interest
Subsidiaries where the effective interest is less than 100%	
Algeria	
AstraZeneca Algeria Pharmaceutical Industries SPA	49%
N° 20, Micro Zone d'Activité Hydra, Centre des Affaires Dar El Madina, Bloc A, 6th Floor, Hydra, Algiers, Algeria	
China	
Beijing Falikang Pharmaceutical (China) Co. Ltd	49%
No. 69 Fushi Road, Haidian District, Beijing, 100143, China	
India	
AstraZeneca Pharma India Limited[3]	75%
Block N1, 12th Floor, Manyata Embassy Business Park, Rachenahalli, Outer Ring Road, Bangalore-560 045, India	
Indonesia	
P.T. AstraZeneca Indonesia	95%
Perkantoran Hijau Arkadia Tower F, 3rd Floor, Jl. T.B. Simatupang Kav. 88, South Jakarta, 12520, Indonesia	
Joint Ventures	
China	
WuXi MedImmune Biopharmaceutical Co., Limited (in liquidation)	50%
Room 1902, 19/F, Lee Garden One, 33 Hysan Avenue, Causeway Bay, Hong Kong	
IHP HK Holdings Limited	50%
Unit 5805, 58/F., Two International Finance Centre 8 Finance Street, Central, China	
United Kingdom	
Centus Biotherapeutics Limited (in liquidation)	50%
c/o Cork Gully LLP, 40 Villiers Street, London, WC2N 6NJ, United Kingdom	
Ireland	
Centus Biotherapeutics Europe Limited (in liquidation)	50%
6th Floor, South Bank House, Barrow Street, Dublin 4, Republic of Ireland	
United States	
Montrose Chemical Corporation of California	50%
Suite 380, 600 Ericksen Ave N/E, Bainbridge Island, United States	

At 31 December 2023	Group Interest
Significant Holdings	
China	
Dizal (Jiangsu) Pharmaceutical Co., Ltd.	26.69%
199 Liangjing Rd, Zhangjiang Hi-Tech Park, Pudong District, Shanghai, 201203, China	
Wuxi AstraZeneca-CICC Venture Capital Partnership (Limited Partnership)	22.13%
Room 808, 8F, Building 99-2 Linghu Avenue, Xinwu District, Wuxi, Jiangsu, China	
United Kingdom	
VaxEquity	40%
Lab 4 Cambridge Science Park, Unit 204 Milton Road, Cambridge, CB4 0GZ, United Kingdom	
United States	
C.C. Global Chemicals Company	37.50%
PO Box 7, MS2901, Texas, TX76101-0007, United States	
Associated Holdings	
France	
Medetia SAS	10%
Institute Imagine 24, Boulevard du Montparnasse 75015, Paris, France	
Cellectis S.A.	22.35%
8, rue de la Croix Jarry, 75013 Paris, France	
Israel	
AION Labs Innovation Lab Ltd.	19.23%
4 Oppenheimer Street, Building B, Rehovot, 7670104, Israel	
CombinAble.AI Ltd.	11.25%
5 Oppenheimer Street, Building B, Rehovot, 7670104, Israel	
TenAces Biosciences Ltd.	12.50%
6 Oppenheimer Street, Building B, Rehovot, 7670104, Israel	
Sweden	
Swedish Orphan Biovitrum AB (publ)	9.89%
Tomtebodavägen 23A, Stockholm, Sweden	
OnDosis AB	19.90%
GoCo House, 5 tr, Gemenskapens gata 9, 431 53 Mölndal, Sweden	
CCRM Nordic AB	19.90%
CCRM Nordic AB, c/o GU Ventures AB, Erik Dahlbergsgatan 11 A, 411 26 Göteborg, Sweden	

At 31 December 2023	Group Interest
United Kingdom	
Niox Group plc	16.89%
Hayakawa Building, Edmund Halley Road, Oxford Science Park, Oxford, OX4 4GB, United Kingdom	
United States	
AbMed Corporation	18%
68 Cummings Park Drive, Woburn, MA 01801, United States	
Baergic Bio, Inc.	19.95%
1111 Kane Concourse, Suite 301 Bay Harbor Islands, FL 33154, United States	
Regio Biosciences	19.54%
668 Stoney Hill Road, #2, Yardley, PA 19067, United States	
Employee Benefit Trust	
The AstraZeneca Employee Benefit Trust	

[1] Ownership held in ordinary and class B special shares.
[2] Ownership held in common shares, preferred shares 2003, preferred shares 2003 ex (A), preferred shares 2003 ex (B), preferred shares Series D, preferred shares Series E and preferred shares Series F.
[3] Accounting year end is 31 March.
[4] Accounting year end is 30 June.
[5] Directly held by AstraZeneca PLC.
[6] Ownership held in Ordinary A shares and Ordinary B shares.
[7] Ownership held as membership interest.
[8] Ownership held as partnership interest.
[9] With effect from 13 January 2023, Namor Merger Sub Inc. was merged with and into Neogene Therapeutics, Inc., with Neogene Therapeutics, Inc. being the surviving corporation.

Company Balance Sheet
at 31 December

AstraZeneca PLC

	Notes	2023 $m	2022 $m
Fixed assets			
Fixed asset investments	1	**64,189**	63,555
		64,189	63,555
Current assets			
Debtors – other		**4**	4
Debtors – amounts owed by Group undertakings		**10,928**	2,608
		10,932	2,612
Creditors: Amounts falling due within one year			
Other payables	2	**(216)**	(194)
Amounts owed to Group undertakings	3	**–**	(283)
Interest-bearing loans and borrowings	3	**(2,995)**	(2,648)
		(3,211)	(3,125)
Net current assets/(liabilities)		**7,721**	(513)
Total assets less current liabilities		**71,910**	63,042
Creditors: Amounts falling due after more than one year			
Interest-bearing loans and borrowings	3	**(16,741)**	(17,939)
Other payables	2	**(21)**	(23)
		(16,762)	(17,962)
Net assets		**55,148**	45,080
Capital and reserves			
Called-up share capital	4	**388**	387
Share premium account		**35,188**	35,155
Capital redemption reserve		**153**	153
Other reserves		**1,779**	1,927
Profit and loss account		**17,640**	7,458
Shareholders' funds		**55,148**	45,080

$m means millions of US dollars.

The Company's profit for the year was $14,669m (2022: $380m).

The Company Financial Statements from pages 216 to 222 were approved by the Board and were signed on its behalf by

Pascal Soriot
Director
8 February 2024

Aradhana Sarin
Director

Company's registered number 02723534

Company Statement of Changes in Equity

for the year ended 31 December

	Share capital $m	Share premium account $m	Capital redemption reserve $m	Other reserves[1] $m	Profit and loss account[2] $m	Total equity $m
At 1 January 2022	387	35,126	153	2,182	11,563	49,411
Total comprehensive income for the period						
Profit for the period	–	–	–	–	380	380
Total comprehensive income for the period	–	–	–	–	380	380
Transactions with owners, recorded directly in equity						
Dividends	–	–	–	–	(4,485)	(4,485)
Capital contributions for share-based payments	–	–	–	(255)	–	(255)
Issue of Ordinary Shares	–	29	–	–	–	29
Total contributions by and distributions to owners	–	29	–	(255)	(4,485)	(4,711)
At 31 December 2022	387	35,155	153	1,927	7,458	45,080
Total comprehensive income for the period						
Profit for the period	**–**	**–**	**–**	**–**	**14,669**	**14,669**
Total comprehensive income for the period	**–**	**–**	**–**	**–**	**14,669**	**14,669**
Transactions with owners, recorded directly in equity						
Dividends	**–**	**–**	**–**	**–**	**(4,487)**	**(4,487)**
Capital contributions for share-based payments	**–**	**–**	**–**	**(148)**	**–**	**(148)**
Issue of Ordinary Shares	**1**	**33**	**–**	**–**	**–**	**34**
Total contributions by and distributions to owners	**1**	**33**	**–**	**(148)**	**(4,487)**	**(4,601)**
At 31 December 2023	**388**	**35,188**	**153**	**1,779**	**17,640**	**55,148**

[1] The Other reserves arose from the cancellation of £1,255m share premium by the Company in 1993 and the redenomination of share capital of $157m in 1999. Included within Other reserves at 31 December 2023 is $(62)m (31 December 2022: $86m) in respect of cumulative share-based payment awards, which are not available for distribution.

[2] At 31 December 2023, the overwhelming majority of the Profit and loss account reserve of $17,640m (31 December 2022: all of $7,458m) was available for distribution, subject to filing these Financial Statements with Companies House. When making a distribution to shareholders, the Directors determine profits available for distribution by reference to guidance on realised and distributable profits under the Companies Act 2006 issued by the Institute of Chartered Accountants in England and Wales and the Institute of Chartered Accountants of Scotland in April 2017. The profits of the Company have been received in the form of receivables due from subsidiaries. The availability of distributable reserves in the Company is dependent on those receivables meeting the definition of qualifying consideration within the guidance, and in particular on the ability of subsidiaries to settle those receivables within a reasonable period of time. The Directors consider that, based on the nature of these receivables and the available cash resources of the Group and other accessible sources of funds, at 31 December 2023, the overwhelming majority (31 December 2022: all) of the Company's profit and loss reserves were available for distribution.

Company Accounting Policies

Basis of presentation of financial information

The Company is a private limited company, limited by shares, incorporated and domiciled in England & Wales. The registered address is 1 Francis Crick Avenue, Cambridge Biomedical Campus, Cambridge, CB2 0AA.

These financial statements were prepared in accordance with FRS 101 'Reduced Disclosure Framework'.

In preparing these financial statements, the Company applied the recognition, measurement and disclosure requirements of International Financial Reporting Standards as adopted by the UK (UK-adopted international accounting standards), but made amendments where necessary in order to comply with the Companies Act 2006 and to take advantage of FRS 101 disclosure exemptions.

In these financial statements, the Company has applied the exemptions available under FRS 101 in respect of the following disclosures:

- Statement of Cash Flows and related notes
- disclosures in respect of transactions with wholly owned subsidiaries
- disclosures in respect of capital management
- the effects of new but not yet effective IFRSs
- disclosures in respect of the compensation of Key Management Personnel.

As the Group Financial Statements (presented on pages 148 to 210) include the equivalent disclosures, the Company has also taken the exemptions under FRS 101 available in respect of the following disclosures:

- IFRS 2 'Share-based Payment' in respect of Group settled share-based payments
- certain disclosures required by IFRS 13 'Fair Value Measurement' and the disclosures required by IFRS 7 'Financial Instruments: Disclosures'.

No individual profit and loss account is prepared as provided by section 408 of the Companies Act 2006.

Basis of accounting

The Company Financial Statements are prepared under the historical cost convention and on a going concern basis, in accordance with the Companies Act 2006.

The following paragraphs describe the main accounting policies, which have been applied consistently.

Estimates and judgements

The preparation of the Company Financial Statements in conformity with generally accepted accounting principles requires management to make estimates and judgements that affect the reported amounts of assets and liabilities at the date of the Financial Statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates. There are no key judgements or significant estimates.

Foreign currencies

Foreign currency transactions, being transactions denominated in a currency other than the Company's functional currency, are translated into US dollars at average rates for the relevant monthly accounting periods, which approximate to actual rates.

Monetary assets and liabilities arising from foreign currency transactions are retranslated at exchange rates prevailing at the reporting date. Exchange gains and losses on loans and on short-term foreign currency borrowings and deposits are included within Finance expense. Exchange differences on all other foreign currency transactions are recognised in Operating profit.

Non-monetary items arising from foreign currency transactions are not retranslated in the Company's accounting records.

Taxation

The current tax payable is based on taxable profit for the year. Taxable profit differs from reported profit because taxable profit excludes items that are either never taxable or tax deductible or items that are taxable or tax deductible in a different period. The Company's current tax assets and liabilities are calculated using tax rates that have been enacted or substantively enacted by the reporting date.

Deferred tax is provided using the balance sheet liability method, providing for temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for taxation purposes. Deferred tax liabilities are recognised unless they arise from the initial recognition (other than in a business combination) of assets and liabilities in a transaction that affects neither the taxable profit nor the accounting profit. Deferred tax liabilities are not recognised to the extent they arise from the initial recognition of non-tax deductible goodwill. Deferred tax assets are recognised to the extent that there are future taxable temporary differences or it is probable that future taxable profit will be available against which the asset can be utilised. This requires judgements to be made in respect of the availability of future taxable income.

No deferred tax asset or liability is recognised in respect of temporary differences associated with investments in subsidiaries and branches where the Company is able to control the timing of reversal of the temporary differences and it is probable that the temporary differences will not reverse in the foreseeable future.

The Company's deferred tax assets and liabilities are calculated using tax rates that are expected to apply in the period when the liability is settled or the asset realised based on tax rates that have been enacted or substantively enacted by the reporting date.

Liabilities for uncertain tax positions require management to make judgements of potential exposures in relation to tax audit issues. Tax benefits are not recognised unless the tax positions will probably be accepted by the tax authorities. This is based upon management's interpretation of applicable laws and regulations and the expectation of how the tax authority will resolve the matter. Once considered probable of not being accepted, management reviews each material tax benefit and reflects the effect of the uncertainty in determining the related taxable result.

Liabilities for uncertain tax positions are measured using either the most likely amount or the expected value amount depending on which method the Company expects to better predict the resolution of the uncertainty.

The Company has applied the exemption under the IAS 12 'Income Taxes' amendment for recognising and disclosing information about deferred tax assets and liabilities related to top-up income taxes.

Investments

Fixed asset investments, including investments in subsidiaries, are stated at cost and reviewed for impairment if there are indications that the carrying value may not be recoverable.

Debtors

Amounts owed by Group undertakings are recognised initially at fair value. Subsequent to initial recognition they are measured at amortised cost using the effective interest method, less any impairment losses.

The recoverability of these balances has been assessed in accordance with IFRS 9 and no impairment has been identified. The amounts owed by Group undertakings are considered to have low credit risk, due to timely payment of interest and settlement of principal amount on agreed due dates, limiting the loss allowance to 12-month expected credit losses.

Amounts owed by Group undertakings are written off where there is no reasonable expectation of recovery. Impairment losses are presented as net impairment losses within Operating profit, any subsequent recoveries are credited against the same line.

Other payables

Liabilities included in Other payables are recognised initially at fair value. Subsequent to initial recognition they are remeasured at either amortised cost using the effective interest method or at fair value using an expected credit loss model.

Financial instruments

Interest-bearing loans are initially measured at fair value (with direct transaction costs being amortised over the life of the loan) and are subsequently measured at amortised cost using the effective interest method at each reporting date. Changes in carrying value are recognised in profit.

Share-based payments

The issuance by the Company to employees of its subsidiaries of a grant of awards over the Company's shares, represents additional capital contributions by the Company to its subsidiaries. An additional investment in subsidiaries results in a corresponding increase in shareholders' equity. The additional capital contribution is based on the fair value of the grant issued, allocated over the underlying grant's vesting period, less the market cost of shares charged to subsidiaries in settlement of such share awards.

Litigation

Through the normal course of business, the AstraZeneca Group is involved in legal disputes, the settlement of which may involve cost to the Company. A provision is made where an adverse outcome is probable and associated costs, including related legal costs, can be estimated reliably. In other cases, appropriate disclosures are included.

Notes to the Company Financial Statements

1 Fixed asset investments

	Investments in subsidiaries		
	Shares $m	Loans $m	Total $m
At 1 January 2022	49,581	16,043	65,624
Transfer to Debtors – amounts owed by Group undertakings	–	(1,531)	(1,531)
Capital reimbursement	(380)	–	(380)
Exchange	–	(161)	(161)
Amortisation	–	12	12
Disposals and other movements	(9)	–	(9)
At 31 December 2022	49,192	14,363	63,555
Additions during the year	**–**	**1,588**	**1,588**
Transfer to Debtors – amounts owed by Group undertakings	**–**	**(991)**	**(991)**
Capital reimbursement	**(131)**	**–**	**(131)**
Exchange	**–**	**158**	**158**
Amortisation	**–**	**12**	**12**
Other movements	**(2)**	**–**	**(2)**
At 31 December 2023	**49,059**	**15,130**	**64,189**

Loans to subsidiaries consists of bonds which are issued externally and are issued back to Group undertakings with comparable terms on interest rates and are repayable on maturity, details of which are disclosed in Note 3. The recoverability of these inter-company loans has been assessed in accordance with IFRS 9 with no impairment identified. The inter-company balances are considered to have low credit risk due to timely payment of interest and settlement of principal amount on agreed due dates, limiting the loss allowance to 12-month expected credit losses. In 2023, there have been no credit losses (2022: $nil).

The other movements comprise $2m representing revaluation of carrying value of a guarantee provided to Group companies as explained in Notes 2 and 3.

2 Other payables

	2023 $m	2022 $m
Amounts falling due within one year		
Other creditors	**214**	184
Deferred income	**2**	3
Amounts owed to Group undertakings	**–**	7
	216	194
Amounts falling due after more than one year		
Other creditors	**21**	23
	21	23

Other creditors due after more than one year include an amount representing the carrying value of the guarantee provided by the Company to its subsidiary for the bonds issued externally as explained in Note 3. As at 31 December 2023, the carrying value of the guarantee was $21m (2022: $23m).

3 Loans and borrowings

		Repayment dates	2023 $m	2022 $m
Amounts due within one year				
Amounts owed to Group undertakings (unsecured)				
7.2% Loan	US dollars	2023	–	283
Interest-bearing loans and borrowings (unsecured)				
0.3% Callable bond	US dollars	2023	–	1,399
Floating rate notes	US dollars	2023	–	400
3.5% Callable bond	US dollars	2023	–	849
0.75% Callable bond	euros	2024	**995**	–
2024 Floating rate bank loans	US dollars	2024	**2,000**	–
Total amounts due within one year			**2,995**	2,931
Amounts due after more than one year				
Interest-bearing loans and borrowings (unsecured)				
0.75% Callable bond	euros	2024	–	957
2024 Floating rate bank loans	US dollars	2024	–	1,998
3.375% Callable bond	US dollars	2025	**1,994**	1,992
0.7% Callable bond	US dollars	2026	**1,196**	1,195
3.625% Callable bond	euros	2027	**829**	–
3.125% Callable bond	US dollars	2027	**747**	746
1.25% Callable bond	euros	2028	**879**	845
4% Callable bond	US dollars	2029	**995**	995
0.375% Callable bond	euros	2029	**881**	846
1.375% Callable bond	US dollars	2030	**1,294**	1,293
5.75% Non-callable bond	pound sterling	2031	**444**	420
3.75% Callable bond	euros	2032	**827**	–
6.45% Callable bond	US dollars	2037	**2,725**	2,724
4% Callable bond	US dollars	2042	**989**	988
4.375% Callable bond	US dollars	2045	**981**	981
4.375% Callable bond	US dollars	2048	**738**	737
2.125% Callable bond	US dollars	2050	**487**	487
3% Callable bond	US dollars	2051	**735**	735
Total amounts due after more than one year			**16,741**	17,939
Total loans and borrowings			**19,736**	20,870

	2023 $m	2022 $m
Loans and borrowings are repayable:		
After five years from balance sheet date	**11,096**	11,051
From two to five years	**3,651**	3,933
From one to two years	**1,994**	2,955
Within one year	**2,995**	2,931
Total unsecured	**19,736**	20,870

All borrowings are issued with fixed interest rates, with the exception of the $2bn USD 2024 floating rate loans, which transitioned from LIBOR to a rate based on compounded daily USD Secured Overnight Funding Rate (SOFR) during the year.

In addition, the Company acts as guarantor for bonds issued by its wholly owned subsidiaries, AstraZeneca Finance LLC and AstraZeneca Finance and Holdings Inc.. AstraZeneca Finance LLC is the issuer of $1,600m 0.700% Notes due 2024, $1,250m 1.200% Notes due 2026, $1,250m 1.750% Notes due 2028, $1,100m 4.875% Notes due 2028, $650m 4.900% Notes due 2030, $750m 2.250% Notes due 2031, and $500m 4.875% Notes due 2033 (the 'AstraZeneca Finance Notes') and AstraZeneca Finance and Holdings Inc., had a $2bn bank loan which was repaid during 2023. Each series of AstraZeneca Finance Notes has been fully and unconditionally guaranteed by the Company. Each of the guarantees issued by AstraZeneca PLC is full and unconditional and joint and several.

The guarantee by AstraZeneca PLC of the AstraZeneca Finance Notes is the senior unsecured obligation of AstraZeneca PLC and ranks equally with all of AstraZeneca PLC's existing and future senior unsecured and unsubordinated indebtedness. Each guarantee by AstraZeneca PLC is effectively subordinated to any secured indebtedness of AstraZeneca PLC to the extent of the value of the assets securing such indebtedness. The AstraZeneca Finance Notes are structurally subordinated to indebtedness and other liabilities of the subsidiaries of AstraZeneca PLC, none of which guarantee the AstraZeneca Finance Notes.

4 Called-up share capital
Details of share capital movements in the year are included in Note 24 to the Group Financial Statements.

5 Contingent liabilities
The Company has guaranteed the external borrowing of a subsidiary in the amount of $nil (2022: $286m).

Vermont US Attorney Investigation
In April 2020, AstraZeneca received a Civil Investigative Demand from the US Attorney's Office in Vermont and the Department of Justice, Civil Division, seeking documents and information relating to AstraZeneca's relationships with electronic health-record vendors. AstraZeneca is cooperating with this enquiry.

AZD1222 Securities Litigation
In January 2021, putative securities class action lawsuits were filed in the US District Court for the Southern District of New York (District Court) against AstraZeneca PLC and certain officers, on behalf of purchasers of AstraZeneca publicly traded securities during a period later amended to cover 15 June 2020 through 29 January 2021. The Amended Complaint alleges that defendants made materially false and misleading statements in connection with the development of AZD1222, AstraZeneca's vaccine for the prevention of COVID-19. In September 2022, the District Court granted AstraZeneca's motion to dismiss the Amended Complaint with prejudice. In May 2023, the US Court of Appeals for the Second Circuit affirmed the dismissal. The matter is now concluded.

6 Statutory and other information
The Directors of the Company were paid by another Group company in 2023 and 2022.

7 Subsequent events
There were no material subsequent events.

Group Financial Record

For the year ended 31 December	2019 $m	2020 $m	2021 $m	2022 $m	**2023 $m**
Revenue and profits					
Product Sales	23,565	25,890	36,541	42,998	**43,789**
Alliance Revenue	62	190	388	755	**1,428**
Collaboration Revenue	757	537	488	598	**594**
Cost of sales	(4,921)	(5,299)	(12,437)	(12,391)	**(8,268)**
Distribution expense	(339)	(399)	(446)	(536)	**(539)**
Research and development expense	(6,059)	(5,991)	(9,736)	(9,762)	**(10,935)**
Selling, general and administrative expense	(11,682)	(11,294)	(15,234)	(18,419)	**(19,216)**
Other operating income and expense	1,541	1,528	1,492	514	**1,340**
Operating profit	2,924	5,162	1,056	3,757	**8,193**
Finance income	172	87	43	95	**344**
Finance expense	(1,432)	(1,306)	(1,300)	(1,346)	**(1,626)**
Share of after tax losses in associates and joint ventures	(116)	(27)	(64)	(5)	**(12)**
Profit/(loss) before tax	1,548	3,916	(265)	2,501	**6,899**
Taxation	(321)	(772)	380	792	**(938)**
Profit for the period	1,227	3,144	115	3,293	**5,961**
Other comprehensive income/(expense) for the period, net of tax	(611)	1,608	(145)	(878)	**733**
Total comprehensive income/(expense) for the period	616	4,752	(30)	2,415	**6,694**
Profit attributable to:					
Owners of the Parent	1,335	3,196	112	3,288	**5,955**
Non-controlling interests	(108)	(52)	3	5	**6**
Earnings per share					
Basic earnings per $0.25 Ordinary Share	$1.03	$2.44	$0.08	$2.12	**$3.84**
Diluted earnings per $0.25 Ordinary Share	$1.03	$2.44	$0.08	$2.11	**$3.81**
Dividends	$2.80	$2.80	$2.80	$2.90	**$2.90**