

Financial statements

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Independent auditor's report to the members of Pearson plc

Report on the audit of the financial statements

Opinion

In our opinion, Pearson plc's Group financial statements and parent company financial statements (the "financial statements"):

- › give a true and fair view of the state of the Group's and of the parent company's affairs at 31 December 2018 and of the Group's profit and of the Group's and the parent company's cash flows for the year then ended;
- › have been properly prepared in accordance with International Financial Reporting Standards (IFRSs) as adopted by the European Union and, as regards the parent company's financial statements, as applied in accordance with the provisions of the Companies Act 2006; and
- › have been prepared in accordance with the requirements of the Companies Act 2006 and, as regards the Group financial statements, Article 4 of the IAS Regulation.

We have audited the financial statements, included within the Annual Report and Accounts (the "Annual Report"), which comprise: the consolidated and company balance sheets at 31 December 2018; the consolidated income statement and consolidated statement of comprehensive income, the consolidated and company cash flow statements and the consolidated and company statements of changes in equity for the year then ended; and the notes to the consolidated financial statements and notes to the company financial statements, which include a description of the significant accounting policies.

Our opinion is consistent with our reporting to the Audit Committee.

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (UK) ("ISAs (UK)") and applicable law. Our responsibilities under ISAs (UK) are further described in the auditors' responsibilities for the audit of the financial statements section of our report. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Independence

We remained independent of the Group in accordance with the ethical requirements that are relevant to our audit of the financial statements in the UK, which includes the FRC's Ethical Standard, as applicable to listed public interest entities, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

To the best of our knowledge and belief, we declare that non-audit services prohibited by the FRC's Ethical Standard were not provided to the Group or to the parent company.

Other than those disclosed in note 4 to the financial statements, we have provided no non-audit services to the Group or to the parent company in the period from 1 January 2018 to 31 December 2018.

Our audit approach



Overview

Materiality

- › Overall Group materiality: £25 million (2017: £22 million) based on approximately 5% of adjusted profit before tax.
- › Overall parent company materiality: £45 million (2017: £20 million) based on approximately 1% of net assets.

Audit scope

- › We conducted work in four key territories, being the UK, US, Brazil and Italy. This included full scope audits at three reporting components and specific audit procedures at a further 20 components. In addition, we obtained an audit opinion on the financial information reported by the Group's associate, Penguin Random House.
- › The territories where we conducted audit procedures, together with work performed at corporate functions and at the Group level, accounted for approximately: 69% of the Group's revenue; 64% of the Group's profit before tax; and 63% of the Group's adjusted profit before tax.

Areas of focus for the 2018 audit were as follows:

- › Carrying values of goodwill and intangible assets (Group)
- › Returns provisioning (Group)
- › Recoverability of pre-publication assets (Group)
- › Accounting for major transactions (Group)
- › Provisions for uncertain tax positions (Group)
- › Finance transformation (Group)
- › Risk of fraud in revenue recognition (Group)
- › Carrying values of investments in subsidiaries (parent company)

The scope of our audit

As part of designing our audit, we determined materiality and assessed the risks of material misstatement in the financial statements. In particular, we looked at where the directors made subjective judgements, for example in respect of significant accounting estimates that involved making assumptions and considering future events that are inherently uncertain.

Capability of the audit in detecting irregularities, including fraud

Based on our understanding of the Group and the industry in which it operates, we identified that the principal risks of non-compliance with laws and regulations related to the failure to comply with international tax regulations and we considered the extent to which non-compliance might have a material effect on the financial statements. We also considered those laws and regulations that have a direct impact on the financial statements such as the Companies Act 2006. We evaluated management's incentives and opportunities for fraudulent manipulation of the financial statements (including the risk of override of controls) and determined that the principal risks were related to posting inappropriate journal entries, management bias in accounting for estimates and manipulation of cut-off of shipments at major warehouse locations. The Group engagement team shared this risk assessment with the component auditors so that they could include appropriate audit procedures in response to such risks in their work. Audit procedures performed by the Group engagement team and/or component auditors included:

- › Discussions with management, internal audit and the Group's legal advisors, including consideration of known or suspected instances of non-compliance with laws and regulations and fraud;
- › Evaluation of the effectiveness of management's controls designed to prevent and detect irregularities; and
- › Identifying and testing significant manual journal entries and reviewing assumptions and judgements made by management in making significant accounting estimates.

There are inherent limitations in the audit procedures described above and the further removed non-compliance with laws and regulations is from the events and transactions reflected in the financial statements, the less likely we would become aware of it. Also, the risk of not detecting a material misstatement due to fraud is higher than the risk of not detecting one resulting from error, as fraud may involve deliberate concealment by, for example, forgery or intentional misrepresentations or through collusion.

We did not identify any key audit matters relating to irregularities, including fraud. As in all of our audits, we addressed the risk of management override of internal controls, including testing journals and evaluating whether there was evidence of bias by the directors that represented a risk of material misstatement due to fraud, and the risk of fraud in revenue recognition.

Independent auditor's report to the members of Pearson plc

Key audit matters

Key audit matters are those matters that, in the auditors' professional judgement, were of most significance in the audit of the financial statements of the current period and include the most significant assessed risks of material misstatement (whether or not due to fraud) identified by the auditors, including those which had the greatest effect on: the overall audit strategy; the allocation of resources in the audit; and directing the efforts of the engagement team. These matters, and any comments we make on the results of our procedures thereon, were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters. This is not a complete list of all risks identified by our audit.

Key audit matter	How our audit addressed the key audit matter
<p>Carrying values of goodwill and intangible assets</p> <p>Refer to note 11 in the Group financial statements.</p> <p>The Group recorded goodwill of £2,111m and intangible assets of £898m at 31 December 2018, including software, acquired customer lists, contracts and relationships, acquired trademarks and brands and acquired publishing rights.</p> <p>The Group recorded an impairment charge of £2,548m in 2016 against the North America CGU. The carrying values of goodwill and intangible assets are dependent on future cash flows of the underlying CGUs and there is a risk that if management does not achieve these cash flows it could give rise to further impairment charges. This risk increases in periods when the Group's trading performance and projections do not meet expectations.</p> <p>The impairment reviews performed by management contain a number of significant judgements and estimates. Changes in these assumptions can result in materially different impairment charges or available headroom.</p>	<p>We obtained management's fair value less costs of disposal impairment model and tested and evaluated the reasonableness of key assumptions, including CGU identification; operating cash flow forecasts and key inputs into these forecasts; the appropriateness of the inclusion of restructuring cost savings; perpetuity growth rates; and discount rates.</p> <p>We tested the mathematical integrity of the forecasts and carrying values in management's impairment model and we confirmed that management's estimate of each CGU's recoverable amount is appropriately based on the higher of fair value less costs of disposal and value-in-use. Our procedures focused on the North America, Core and Brazil CGUs where there was lower available headroom.</p> <p>We agreed the forecast cash flows to board approved budgets, assessed how these budgets are compiled and understood key related judgements and estimates, including short-term growth rates, corporate cost allocations and restructuring costs and related savings.</p> <p>We deployed valuations experts to assess the perpetuity growth rate and discount rate for each CGU by comparison with third party information, past performance and relevant risk factors. We also considered management's estimate of disposal costs for reasonableness.</p> <p>We performed our own sensitivity analyses to understand the impact of reasonably possible changes in key assumptions. We agreed with management's decision to provide additional disclosures and sensitivities in note 11 of the consolidated financial statements in relation to the North America, Core and Brazil CGUs.</p>
<p>Returns provisioning</p> <p>Refer to notes 1b and 24 in the Group financial statements.</p> <p>The Group has provided £173m for sales returns at 31 December 2018. The most significant exposure to potential returns within the Group arises in the US higher education courseware business. Trends in the US market, including the growth of textbook rentals and the availability of free online content, continue to affect this business and have the potential to impact returns levels if shipping practices and arrangements with retailers are not managed in response to these trends.</p> <p>Management provides for returns based on past experience by customer and channel, using a three year average methodology.</p>	<p>We assessed management's evaluation of market trends and the Group's responses and considered whether management's methodology and three year averaging remained appropriate. We tested the returns provision calculations at 31 December 2018 and agreed inputs such as historical sales and returns experience to underlying records.</p> <p>We performed detailed testing over shipment and returns levels around the year-end in particular at major shipping locations in the US and UK and evaluated whether these gave rise to an increased risk of future returns. We concluded that management had adopted methods and reached estimates for future returns that were supportable and appropriate.</p>
<p>Recoverability of pre-publication assets</p> <p>Refer to notes 20 and 32 in the Group financial statements.</p> <p>The Group has £817m of pre-publication assets at 31 December 2018 and a further £242m recorded in businesses classified as held for sale. Pre-publication assets represent direct costs incurred in the development of education platforms, programmes and titles prior to their public release.</p> <p>Judgement is required to assess the recoverability of the carrying value of these assets. This judgement is further complicated by the transition to digital as the Group invests in new, less proven, inter-linked digital content and platforms.</p>	<p>We assessed the appropriateness of capitalisation and amortisation policies and selected a sample of costs deferred to the balance sheet as pre-publication assets to test their magnitude and appropriateness for capitalisation and the reasonableness of amortisation profiles against sales forecasts, including considering the impact of the transition towards digital products.</p> <p>We challenged the carrying value of certain pre-publication assets where products are yet to be launched, are less proven or where sales are lower than originally anticipated.</p> <p>We assessed forecast cash flows against historical experience and obtained supporting evidence for management's explanations. Where the pre-publication assets formed part of a held for sale business, we considered whether the expected disposal proceeds are expected to exceed the carrying value of those assets.</p> <p>We found the Group's policies to be appropriate and consistently applied. While recoverability of the carrying values of certain assets depends on future sales growth, we considered the year-end carrying values to be appropriate and supported by reasonable forecasts.</p>

Key audit matter	How our audit addressed the key audit matter
<p>Accounting for major transactions</p> <p>Refer to notes 31 and 32 in the Group financial statements.</p> <p>The Group has disposed of Wall Street English and UTEL during 2018. Pre-tax gains on disposal of £207m and £19m respectively have been recorded on these disposals.</p> <p>Additionally, at 31 December 2018 the US K12 courseware business remains classified as held for sale. Therefore, assets of £648m and liabilities of £573m have been classified as held for sale on the face of the balance sheet. The Group has recorded the net held for sale assets at the lower of carrying value and fair value less costs to dispose. No impairments were recorded on classification of the US K12 courseware business as held for sale.</p>	<p>We obtained and reviewed the sale agreements and evidence of proceeds received for both disposals completed during 2018. We reviewed the contractual agreements to assess the accounting treatment and classification of proceeds and the gains on disposal of both Wall Street English and UTEL. We consider the accounting treatment to be appropriate and the gains to have been appropriately calculated and disclosed.</p> <p>We have obtained evidence to support the held for sale determination including board approval and evidence in support of a well advanced sales process at 31 December 2018. From the evidence we have obtained, including the post year-end announcement that a disposal transaction has been agreed and is expected to complete in 2019, we were satisfied that the US K12 courseware business has been appropriately measured and classified as held for sale at 31 December 2018.</p>
<p>Provisions for uncertain tax liabilities</p> <p>Refer to notes 7 and 34 in the Group financial statements.</p> <p>The Group is subject to several tax regimes due to the geographical diversity of its businesses. At 31 December 2018, the Group held provisions for uncertain tax positions of £181m.</p> <p>Management is required to exercise significant judgement in determining the appropriate amount to provide in respect of potential tax exposures and uncertain tax positions. The most significant potential exposures relate to US tax, transfer pricing, tax on prior year disposals and EU state aid.</p> <p>Changes in assumptions about the views that might be taken by tax authorities can materially impact the level of provisions recorded in the financial statements.</p>	<p>We engaged our tax specialists in support of our audit of tax and obtained an understanding of the Group's tax strategy and risks. We recalculated the Group's tax provisions and determined whether the treatments adopted were in line with the Group's tax policies and had been applied consistently.</p> <p>We evaluated the key underlying assumptions, particularly in the US and UK. In making this evaluation, we considered the status of tax authority audits and enquiries. We considered the basis and support in particular for provisions not subject to tax audit in comparison with our experience for similar situations.</p> <p>We evaluated the consistency of management's approach to establishing or changing prior provision estimates and validated that changes in prior provisions reflected a change in facts and circumstances during 2018. Where provisions have not been established, including for material potential exposures like EU state aid, we evaluated the basis for management's judgements, including an assessment of the treatment of similar exposures at comparable companies.</p> <p>We noted that the assumptions and judgements required to formulate these provisions mean that the range of possible outcomes is broad. However, based on the evidence obtained, we were satisfied that management's provisioning estimates for uncertain tax positions were prepared on a consistent basis with the prior year and were adequately supported.</p> <p>We also evaluated the disclosures in notes 7 and 34 in relation to uncertain tax provisions and we were satisfied that the disclosures were consistent with the underlying positions and with the requirements of IAS 1.</p>
<p>Finance transformation</p> <p>The Group is in the midst of a period of significant change with the continued roll-out of The Enabling Programme (TEP) and the organisational change resulting from implementing the target operating model. The ERP implementation programme continued in 2018 with certain US and Canadian businesses going live.</p> <p>This change represents a risk as controls and processes that have been established and embedded over a number of years are changed and migrated to the new ERP environment. There is an increased risk of break-down in internal control during the transition.</p>	<p>We centrally managed the work performed by component audit teams at Pearson Finance Services and in migrating markets like the US, which consisted of controls and substantive testing, and we conducted oversight visits to key sites impacted by the transformation activities to direct the work performed.</p> <p>We evaluated the design and tested the operating effectiveness of key automated and manual controls both before and after the migration including IT general controls and controls over the migration of data into the new ERP environment. We also tested balance sheet reconciliations for migrating entities to identify any migration issues. Where issues were identified, we performed testing of compensating controls and we increased the level of transaction testing to address any residual risk.</p>

Independent auditor's report to the members of Pearson plc

Key audit matter	How our audit addressed the key audit matter
<p>Risk of fraud in revenue recognition</p> <p>Refer to notes 1b and 3 in the Group financial statements.</p> <p>There are two types of complex contracts into which the Group enters that require significant judgements and estimates, which could be subject to either accidental error or deliberate fraud:</p> <ul style="list-style-type: none"> › Multiple element arrangements, such as the sale of physical textbooks accompanied by digital content or supplementary workbooks, where revenue is recognised for each element as if it were an individual contractual arrangement requiring the estimation of its relative fair value; › Certain long-term contracts that span year-end, where revenue is recognised using estimated percentage of completion based on costs. These include contracts to design, develop and deliver testing and accreditation and contracts to secure students and support the online delivery of their teaching. <p>These complex contracts generate material deferred revenue and accrued income balances and are areas where misstatements in the underlying assumptions or estimation calculations could have a material effect on the financial statements. The accounting for certain of these arrangements has been impacted in 2018 by the adoption of IFRS 15.</p> <p>In addition, there are material shipments around year-end from major distribution locations giving rise to the potential risk of a cut-off error.</p>	<p>Where books are sold together with workbooks that are delivered later or companion digital materials that are made available online, we assessed the basis for allocation of the purchase price between each element based on individual contractual arrangements and tested the detailed calculations supporting the revenue deferral calculations. This included validating adjustments for the extent of user take-up of digital content to underlying support. We found the revenue deferrals to be based on reasonable estimates of the relative fair value of each element and to be properly and consistently calculated.</p> <p>For a selection of the larger, more judgemental and more recent long-term contracts, covering both assessment activities and online delivery of teaching, we reviewed the contracts and assessed the accounting methodologies being applied to calculate the proportion of revenue being recognised. We also tested costs incurred to date and management's estimates of forecast costs and revenues by reference to historical experience and current contract status.</p> <p>We reviewed revenue recognised around year-end to ensure that it was recognised in the right period, focusing on the Group's major shipping locations.</p> <p>In addition, we have performed manual journals testing focusing on unusual or unexpected entries to revenue and we have tested the more significant adjustments required on adoption of IFRS 15 for accuracy and completeness.</p> <p>Our testing showed that revenue recognition practices are in accordance with Group policies and related accounting standards with appropriate methods for calculating the revenue recognised.</p>
<p>Carrying values of investments in subsidiaries</p> <p>Refer to note 2 in the company financial statements.</p> <p>The company holds investments in subsidiaries of £6,710m at 31 December 2018.</p> <p>Investments in subsidiaries are accounted for at cost less impairment in the company balance sheet. Investments are tested for impairment if impairment indicators exist. If such indicators exist, the recoverable amounts of investments in subsidiaries are estimated in order to determine the extent of the impairment loss, if any. Any such impairment loss is recognised in the income statement.</p> <p>Impairment indicators were identified in connection with certain of the investments in subsidiaries due to the carrying value of investments exceeding their net assets. As a result, an impairment loss of £57m was recognised against the carrying value of the company's investment in Pearson International Finance Limited.</p> <p>The impairment assessment performed by management was considered a key audit matter given the size of the underlying investment carrying values and recognising the significance of the impairment loss that has been recorded. The assessment required the application of management judgement, particularly in determining whether any impairment indicators have arisen that trigger the need for an impairment assessment and in assessing whether the carrying value of each investment can be supported by the recoverable amount.</p>	<p>We evaluated management's assumption whether any indicators of impairment existed by comparing the carrying values of investments in subsidiaries with their net assets at 31 December 2018.</p> <p>For the investment in Pearson International Finance Limited where an impairment of £57m was recorded, we challenged management on the basis of the impairment recognised and considered how it had been calculated by reference to the relevant accounting requirements to conclude on its reasonableness.</p> <p>For other investments where the net assets were lower than the carrying values but no impairment was recognised, we considered their recoverable value by reference to the fair value less costs of disposal of the investments compared to their carrying values at 31 December 2018.</p> <p>As a result of our work, we agreed with management that the impairment charge was appropriate and that the remaining carrying values of the investments held by the company at 31 December 2018 are supportable in the context of the company financial statements taken as a whole.</p>

How we tailored our audit scope

We tailored the scope of our audit to ensure that we performed enough work to be able to give an opinion on the financial statements as a whole, taking into account the structure of the Group and the parent company, the accounting processes and controls and the industry in which they operate.

The consolidated financial statements are a consolidation of 479 reporting units, each of which is considered to be a component. We identified three components in the UK, US and Italy that required a full scope audit due to their size. Audit procedures over specific financial statement line items were performed at a further 20 components in the UK, US and Brazil to give appropriate audit coverage. In addition, we obtained an audit opinion on the financial information reported by the US component of the Group's associate, Penguin Random House.

In establishing the overall approach to the Group audit, we determined the type of work that needed to be performed at the components by us, as the Group engagement team, or component auditors within PwC UK and from other PwC network firms operating under our instruction. Where the work was performed by component auditors, we determined the level of involvement we needed to have in the audit work at those reporting units to be able to conclude whether sufficient appropriate audit evidence had been obtained as a basis for our opinion on the consolidated financial statements as a whole.

We performed full scope audits in respect of US Higher Education, Pearson Education UK, Pearson Italy and Penguin Random House US which, in our view, required a full scope audit due to their size.

We performed specified procedures at 20 components over financial statement line items including revenue, trade and other receivables and deferred income, cash, software intangibles, accruals, provisions for returns, product development and amortisation, fixed assets and depreciation, cost of sales and operating expenses. This ensured that sufficient and appropriate audit procedures were performed to achieve sufficient coverage over these financial statement line items.

In addition to instructing and reviewing the reporting from our component audit teams, we conducted visits to component teams in the US (New York and Minneapolis), Italy, Brazil and the UK (Belfast), which included file reviews and attendance at key meetings with local management. We also had regular dialogue with component teams throughout the year.

The Group consolidation, financial statement disclosures and corporate functions were audited by the Group audit team. This included our work over taxation, goodwill and intangible assets, post-retirement benefits and major transactions.

Taken together, the components and corporate functions where we conducted audit procedures accounted for approximately 69% of the Group's revenue, 64% of the Group's statutory profit before tax and 63% of the Group's adjusted profit before tax. This provided the evidence we needed for our opinion on the consolidated financial statements taken as a whole. This was before considering the contribution to our audit evidence from performing audit work at the Group level, including disaggregated analytical review procedures, which covers certain of the Group's smaller and lower risk components that were not directly included in our Group audit scope.

Materiality

The scope of our audit was influenced by our application of materiality. We set certain quantitative thresholds for materiality. These, together with qualitative considerations, helped us to determine the scope of our audit and the nature, timing and extent of our audit procedures on the individual financial statement line items and disclosures and in evaluating the effect of misstatements, both individually and in aggregate, on the financial statements as a whole.

Based on our professional judgement, we determined materiality for the financial statements as a whole as follows:

	Group financial statements	Parent company financial statements
Overall materiality	£25 million (2017: £22 million).	£45 million (2017: £20 million).
How we determined it	Approximately 5% of adjusted profit before tax.	Approximately 1% of net assets
Rationale for benchmark applied	Note 8 of the financial statements explains that the Group's principal measure of performance is adjusted operating profit (£546m), which excludes one-off gains and losses, costs of major restructuring and acquired intangible asset amortisation, in order to present results from operating activities on a consistent basis. From adjusted operating profit, we deducted net finance costs.	We consider net assets to be an appropriate benchmark for a Group holding company. Certain account balances were included in scope for the Group audit and were audited to a materiality level set below Group overall materiality.

For each component in the scope of our Group audit, we allocated a materiality that is less than our overall Group materiality. The range of materiality allocated across components was between £3m and £20m.

We agreed with the Audit Committee that we would report to them misstatements identified during our audit above £2 million (2017: £2 million) as well as misstatements below those amounts that, in our view, warranted reporting for qualitative reasons.

Independent auditor's report to the members of Pearson plc

Going concern

In accordance with ISAs (UK) we report as follows:

Reporting obligation	Outcome
We are required to report if we have anything material to add or draw attention to in respect of the directors' statement in the financial statements about whether the directors considered it appropriate to adopt the going concern basis of accounting in preparing the financial statements and the directors' identification of any material uncertainties to the Group's and the parent company's ability to continue as a going concern over a period of at least twelve months from the date of approval of the financial statements.	We have nothing material to add or to draw attention to. However, because not all future events or conditions can be predicted, this statement is not a guarantee as to the Group's and parent company's ability to continue as a going concern. For example, the terms on which the United Kingdom may withdraw from the European Union, which is currently due to occur on 29 March 2019, are not clear and it is difficult to evaluate all of the potential implications on the Group's trade, customers, suppliers and the wider economy.
We are required to report if the directors' statement relating to going concern in accordance with Listing Rule 9.8.6R(3) is materially inconsistent with our knowledge obtained in the audit.	We have nothing to report.

Reporting on other information

The other information comprises all of the information in the Annual Report other than the financial statements and our auditors' report thereon. The directors are responsible for the other information. Our opinion on the financial statements does not cover the other information and, accordingly, we do not express an audit opinion or, except to the extent otherwise explicitly stated in this report, any form of assurance thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If we identify an apparent material inconsistency or material misstatement, we are required to perform procedures to conclude whether there is a material misstatement of the financial statements or a material misstatement of the other information. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report based on these responsibilities.

With respect to the strategic report and governance report, we also considered whether the disclosures required by the UK Companies Act 2006 have been included.

Based on the responsibilities described above and our work undertaken in the course of the audit, the Companies Act 2006 (CA06), ISAs (UK) and the Listing Rules of the Financial Conduct Authority (FCA) require us also to report certain opinions and matters as described below (required by ISAs (UK) unless otherwise stated).

Strategic report and governance report

In our opinion, based on the work undertaken in the course of the audit, the information given in the Strategic report and Governance report for the year ended 31 December 2018 is consistent with the financial statements and has been prepared in accordance with applicable legal requirements. (CA06)

In light of the knowledge and understanding of the Group and parent company and their environment obtained in the course of the audit, we did not identify any material misstatements in the Strategic report and Governance report. (CA06)

The directors' assessment of the prospects of the Group and of the principal risks that would threaten the solvency or liquidity of the Group

We have nothing material to add or draw attention to regarding:

- › The directors' confirmation on p62, p76 and p127 of the Annual Report that they have carried out a robust assessment of the principal risks facing the Group, including those that would threaten its business model, future performance, solvency or liquidity;
- › The disclosures in the Annual Report that describe those risks and explain how they are being managed or mitigated; and
- › The directors' explanation on p76 and p127 of the Annual Report as to how they have assessed the prospects of the Group, over what period they have done so and why they consider that period to be appropriate and their statement as to whether they have a reasonable expectation that the Group will be able to continue in operation and meet its liabilities as they fall due over the period of their assessment, including any related disclosures drawing attention to any necessary qualifications or assumptions.

We have nothing to report having performed a review of the directors' statement that they have carried out a robust assessment of the principal risks facing the Group and statement in relation to the longer-term viability of the Group. Our review was substantially less in scope than an audit and only consisted of making inquiries and considering the directors' process supporting their statements; checking that the statements are in alignment with the relevant provisions of the UK Corporate Governance Code (the "Code"); and considering whether the statements are consistent with the knowledge and understanding of the Group and parent company and their environment obtained in the course of the audit. (Listing Rules).

Other Code provisions

We have nothing to report in respect of our responsibility to report when:

- › The statement given by the directors, on p130, that they consider the Annual Report taken as a whole to be fair, balanced and understandable, and provides the information necessary for the members to assess the Group's and parent company's position and performance, business model and strategy is materially inconsistent with our knowledge of the Group and parent company obtained in the course of performing our audit;

- › The section of the Annual Report on p96-103 describing the work of the Audit Committee does not appropriately address matters communicated by us to the Audit Committee; and
- › The directors' statement relating to the parent company's compliance with the Code does not properly disclose a departure from a relevant provision of the Code specified, under the Listing Rules, for review by the auditors.

Directors' remuneration

In our opinion, the part of the Directors' Remuneration Report to be audited has been properly prepared in accordance with the Companies Act 2006. (CA06)

Responsibilities for the financial statements and the audit

Responsibilities of the directors for the financial statements

As explained more fully in the statement of directors' responsibilities set out on p132, the directors are responsible for the preparation of the financial statements in accordance with the applicable framework and for being satisfied that they give a true and fair view. The directors are also responsible for such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the directors are responsible for assessing the Group's and the parent company's ability to continue as a going concern, disclosing as applicable, matters related to going concern and using the going concern basis of accounting unless the directors either intend to liquidate the Group or the parent company or to cease operations, or have no realistic alternative but to do so.

Auditors' responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

A further description of our responsibilities for the audit of the financial statements is located on the FRC's website at: www.frc.org.uk/auditorsresponsibilities. This description forms part of our auditors' report.

Use of this report

This report, including the opinions, has been prepared for and only for the parent company's members as a body in accordance with Chapter 3 of Part 16 of the Companies Act 2006 and for no other purpose. We do not, in giving these opinions, accept or assume responsibility for any other purpose or to any other person to whom this report is shown or into whose hands it may come save where expressly agreed by our prior consent in writing.

Other required reporting

Companies Act 2006 exception reporting

Under the Companies Act 2006, we are required to report to you if, in our opinion:

- › We have not received all the information and explanations we require for our audit; or
- › Adequate accounting records have not been kept by the parent company or returns adequate for our audit have not been received from branches not visited by us; or
- › Certain disclosures of directors' remuneration specified by law are not made; or
- › The parent company financial statements and the part of the Directors' Remuneration Report to be audited are not in agreement with the accounting records and returns.

We have no exceptions to report arising from this responsibility.

Appointment

Following the recommendation of the Audit Committee, we were appointed by the members on 6 February 1996 to audit the financial statements for the year ended 31 December 1996 and subsequent financial periods. The period of total uninterrupted engagement is 23 years, covering the years ended 31 December 1996 to 31 December 2018.

Giles Hannam

(Senior Statutory Auditor)

for and on behalf of PricewaterhouseCoopers LLP
Chartered Accountants and Statutory Auditors
London

11 March 2019

Consolidated income statement

Year ended 31 December 2018

All figures in £ millions	Notes	2018	2017
Continuing operations			
Sales	2	4,129	4,513
Cost of goods sold	4	(1,943)	(2,066)
Gross profit		2,186	2,447
Operating expenses	4	(1,907)	(2,202)
Other net gains and losses	4	230	128
Share of results of joint ventures and associates	12	44	78
Operating profit	2	553	451
Finance costs	6	(91)	(110)
Finance income	6	36	80
Profit before tax		498	421
Income tax	7	92	(13)
Profit for the year		590	408
Attributable to:			
Equity holders of the company		588	406
Non-controlling interest		2	2
Earnings per share attributable to equity holders of the company during the year (expressed in pence per share)			
- basic	8	75.6p	49.9p
- diluted	8	75.5p	49.9p

Consolidated statement of comprehensive income

Year ended 31 December 2018

All figures in £ millions	Notes	2018	2017
Profit for the year		590	408
Items that may be reclassified to the income statement			
Net exchange differences on translation of foreign operations – Group		91	(158)
Net exchange differences on translation of foreign operations – associates		(1)	(104)
Currency translation adjustment disposed		(4)	(51)
Attributable tax	7	(4)	9
Items that are not reclassified to the income statement			
Fair value gain on other financial assets		8	13
Attributable tax	7	-	(4)
Remeasurement of retirement benefit obligations – Group	25	22	175
Remeasurement of retirement benefit obligations – associates		3	7
Attributable tax	7	9	(42)
Other comprehensive income/(expense) for the year	29	124	(155)
Total comprehensive income for the year		714	253
Attributable to:			
Equity holders of the company		712	251
Non-controlling interest		2	2

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Consolidated balance sheet

As at 31 December 2018

All figures in £ millions	Notes	2018	2017
Assets			
Non-current assets			
Property, plant and equipment	10	237	281
Intangible assets	11	3,009	2,964
Investments in joint ventures and associates	12	392	398
Deferred income tax assets	13	60	95
Financial assets – derivative financial instruments	16	67	140
Retirement benefit assets	25	571	545
Other financial assets	15	93	77
Trade and other receivables	22	100	103
		4,529	4,603
Current assets			
Intangible assets – pre-publication	20	817	741
Inventories	21	164	148
Trade and other receivables	22	1,178	1,110
Financial assets – derivative financial instruments	16	1	–
Financial assets – marketable securities	14	–	8
Cash and cash equivalents (excluding overdrafts)	17	568	518
		2,728	2,525
Assets classified as held for sale	32	648	760
Total assets		7,905	7,888
Liabilities			
Non-current liabilities			
Financial liabilities – borrowings	18	(674)	(1,066)
Financial liabilities – derivative financial instruments	16	(36)	(140)
Deferred income tax liabilities	13	(136)	(164)
Retirement benefit obligations	25	(100)	(104)
Provisions for other liabilities and charges	23	(145)	(55)
Other liabilities	24	(155)	(133)
		(1,246)	(1,662)

Consolidated balance sheet continued

As at 31 December 2018

All figures in £ millions	Notes	2018	2017
Current liabilities			
Trade and other liabilities	24	(1,400)	(1,342)
Financial liabilities – borrowings	18	(46)	(19)
Financial liabilities – derivative financial instruments	16	(23)	-
Current income tax liabilities		(72)	(231)
Provisions for other liabilities and charges	23	(20)	(25)
		(1,561)	(1,617)
Liabilities classified as held for sale	32	(573)	(588)
Total liabilities		(3,380)	(3,867)
Net assets		4,525	4,021
Equity			
Share capital	27	195	200
Share premium	27	2,607	2,602
Treasury shares	28	(33)	(61)
Capital redemption reserve		11	5
Fair value reserve		19	13
Translation reserve		678	592
Retained earnings		1,039	662
Total equity attributable to equity holders of the company		4,516	4,013
Non-controlling interest		9	8
Total equity		4,525	4,021

These financial statements have been approved for issue by the Board of Directors on 11 March 2019 and signed on its behalf by

Coram Williams
Chief Financial Officer

Consolidated statement of changes in equity

Year ended 31 December 2018

All figures in £ millions	Equity attributable to equity holders of the company								Non-controlling interest	Total equity
	Share capital	Share premium	Treasury shares	Capital redemption reserve	Fair value reserve	Translation reserve	Retained earnings	Total		
At 1 January 2018	200	2,602	(61)	5	13	592	662	4,013	8	4,021
Adjustment on initial application of IFRS 15 net of tax (see note 1b)	-	-	-	-	-	-	(108)	(108)	-	(108)
Adjustment on initial application of IFRS 9 net of tax (see note 1c)	-	-	-	-	-	-	(10)	(10)	-	(10)
At 1 January 2018 (restated)	200	2,602	(61)	5	13	592	544	3,895	8	3,903
Profit for the year	-	-	-	-	-	-	588	588	2	590
Other comprehensive income	-	-	-	-	8	86	30	124	-	124
Total comprehensive income	-	-	-	-	8	86	618	712	2	714
Equity-settled transactions	-	-	-	-	-	-	37	37	-	37
Tax on equity settled transactions	-	-	-	-	-	-	4	4	-	4
Issue of ordinary shares under share option schemes	1	5	-	-	-	-	-	6	-	6
Buyback of equity	(6)	-	-	6	-	-	(2)	(2)	-	(2)
Release of treasury shares	-	-	28	-	-	-	(28)	-	-	-
Transfer of gain on disposal of FVOCI investment	-	-	-	-	(2)	-	2	-	-	-
Changes in non-controlling interest	-	-	-	-	-	-	-	-	-	-
Dividends	-	-	-	-	-	-	(136)	(136)	(1)	(137)
At 31 December 2018	195	2,607	(33)	11	19	678	1,039	4,516	9	4,525

All figures in £ millions	Equity attributable to equity holders of the company								Non-controlling interest	Total equity
	Share capital	Share premium	Treasury shares	Capital redemption reserve	Fair value reserve	Translation reserve	Retained earnings	Total		
At 1 January 2017	205	2,597	(79)	-	-	905	716	4,344	4	4,348
Profit for the year	-	-	-	-	-	-	406	406	2	408
Other comprehensive income/(expense)	-	-	-	-	13	(313)	145	(155)	-	(155)
Total comprehensive income/(expense)	-	-	-	-	13	(313)	551	251	2	253
Equity-settled transactions	-	-	-	-	-	-	33	33	-	33
Tax on equity settled transactions	-	-	-	-	-	-	-	-	-	-
Issue of ordinary shares under share option schemes	-	5	-	-	-	-	-	5	-	5
Buyback of equity	(5)	-	-	5	-	-	(300)	(300)	-	(300)
Release of treasury shares	-	-	18	-	-	-	(18)	-	-	-
Transfer of gain on disposal of FVOCI investment	-	-	-	-	-	-	-	-	-	-
Changes in non-controlling interest	-	-	-	-	-	-	(2)	(2)	2	-
Dividends	-	-	-	-	-	-	(318)	(318)	-	(318)
At 31 December 2017	200	2,602	(61)	5	13	592	662	4,013	8	4,021

The capital redemption reserve reflects the nominal value of shares cancelled in the Group's share buyback programme. The fair value reserve arises on revaluation of other financial assets. The translation reserve includes exchange differences arising from the translation of the net investment in foreign operations and of borrowings and other currency instruments designated as hedges of such investments.

Consolidated cash flow statement

Year ended 31 December 2018

All figures in £ millions	Notes	2018	2017
Cash flows from operating activities			
Net cash generated from operations	33	547	462
Interest paid		(42)	(89)
Tax paid		(43)	(75)
Net cash generated from operating activities		462	298
Cash flows from investing activities			
Acquisition of subsidiaries, net of cash acquired	30	(5)	(11)
Purchase of investments		(10)	(3)
Purchase of property, plant and equipment		(70)	(82)
Purchase of intangible assets		(130)	(150)
Disposal of subsidiaries, net of cash disposed	31	83	19
Proceeds from sale of associates	31	18	411
Proceeds from sale of investments		6	-
Proceeds from sale of property, plant and equipment	33	128	-
Proceeds from sale of liquid resources		10	20
Loans repaid by/(advance to) related parties		46	(13)
Investment in liquid resources		(2)	(18)
Interest received		20	20
Dividends received from joint ventures and associates		117	458
Net cash generated from investing activities		211	651
Cash flows from financing activities			
Proceeds from issue of ordinary shares	27	6	5
Buyback of equity	27	(153)	(149)
Proceeds from borrowings		-	2
Repayment of borrowings		(441)	(1,294)
Finance lease principal payments		(4)	(5)
Dividends paid to company's shareholders	9	(136)	(318)
Dividends paid to non-controlling interest		(1)	-
Net cash used in financing activities		(729)	(1,759)
Effects of exchange rate changes on cash and cash equivalents		(49)	16
Net decrease in cash and cash equivalents		(105)	(794)
Cash and cash equivalents at beginning of year		630	1,424
Cash and cash equivalents at end of year	17	525	630

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General information

Pearson plc (the company), its subsidiaries and associates (together the Group) are international businesses covering educational courseware, assessments and services, and consumer publishing through its associate interest in Penguin Random House.

The company is a public limited company incorporated and domiciled in England. The address of its registered office is 80 Strand, London WC2R 0RL.

The company has its primary listing on the London Stock Exchange and is also listed on the New York Stock Exchange.

These consolidated financial statements were approved for issue by the Board of Directors on 11 March 2019.

1a. Accounting policies

The principal accounting policies applied in the preparation of these consolidated financial statements are set out below.

Basis of preparation

These consolidated financial statements have been prepared on the going concern basis and in accordance with International Financial Reporting Standards (IFRS) and IFRS Interpretations Committee (IFRS IC) interpretations as adopted by the European Union (EU) and with those parts of the Companies Act 2006 applicable to companies reporting under IFRS. In respect of the accounting standards applicable to the Group; there is no difference between EU-adopted and IASB-adopted IFRS.

These consolidated financial statements have been prepared under the historical cost convention as modified by the revaluation of financial assets and liabilities (including derivative financial instruments) at fair value.

These accounting policies have been consistently applied to all years presented, unless otherwise stated.

1. Interpretations and amendments to published standards effective 2018

The following standards were adopted in 2018:

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

The impact of the adoption of these new standards is set out in notes 1b and 1c.

A number of other new pronouncements are also effective from 1 January 2018 but they do not have a material impact on the consolidated financial statements. Additional disclosure has been given where relevant.

2. Standards, interpretations and amendments to published standards that are not yet effective New accounting standards and interpretations have been published that are not mandatory for the year ended 31 December 2018. The Group has elected not to early-adopt these new standards and interpretations. The Group's assessment of the impact of these new standards is set out below.

IFRS 16 'Leases', effective for annual reporting periods beginning on or after 1 January 2019. The Group will apply IFRS 16 on 1 January 2019 using the modified retrospective approach. Under this approach, the cumulative effect of adopting IFRS 16 will be recognised as an adjustment to the opening balance of retained earnings on 1 January 2019, with no restatement of comparative information.

IFRS 16 requires lessees to recognise right-of-use assets and lease liabilities on the balance sheet for all applicable leases with associated depreciation and interest charges recorded in the income statement together with changes to the classification of cash flows. In addition, IFRS 16 requires an intermediate lessor to assess and classify subleases as either a finance lease or an operating lease.

The Group has assessed the impact of adopting IFRS 16 with reference to its existing lease portfolio. The most significant part of the portfolio is property leases, amounting to approximately 750, together with a number of low value vehicle and equipment leases. The lease liability has been measured at the present value of the remaining lease payments, discounted using the incremental borrowing rate at transition. The right-of-use asset is measured at its carrying amount as if the standard had been applied since the commencement of the lease, discounted using the incremental borrowing rate at transition. Where data is not available to enable this measurement to be made, the right-of-use asset is measured at an amount equal to the lease liability. Transition recognition exemptions relating to short-term and low value leases have been applied as well as practical expedients taken, where available, to simplify the transition process.

Adoption of the new standard will have a material impact on the Group. It is estimated that on transition the lease liability to be brought on balance sheet will be around £910m with the corresponding right-of-use asset valued at around £435m. In addition, certain subleases have been reclassified as finance leases resulting in an additional lease receivable of around £215m being brought on balance sheet. The net impact on the balance sheet will be a reduction of net assets of around £100m after taking into account existing liabilities relating to onerous lease provisions and lease incentives. The impact on the income statement in 2019 is expected to reduce profit before tax by approximately £10m (increasing operating profit by approximately £20m and increasing net finance costs by approximately £30m); the operating lease expense recognised under the existing standard (IAS 17) being replaced by depreciation and finance costs and finance income. There will be no impact on the Group's cash and cash equivalents.

In June 2015, the IASB issued an exposure draft ED/2015/5 'Remeasurement on a Plan Amendment, Curtailment or Settlement/ Availability of a Refund from a Defined benefit Plan (Proposed Amendments to IAS 19 and IFRIC 14)'. The proposed amendments to IFRIC 14, which may have restricted the Group's ability to recognise a pension asset in respect of pension surpluses in its UK defined benefit plan, are currently on hold with the IASB.

1a. Accounting policies continued

Basis of preparation continued

A number of other new standards and amendments to standards and interpretations are effective for annual periods beginning after 1 January 2019, and have not been applied in preparing these financial statements. None of these is expected to have a material impact on the consolidated financial statements.

3. Critical accounting assumptions and judgements The preparation of financial statements in conformity with IFRS requires the use of certain critical accounting assumptions. It also requires management to exercise its judgement in the process of applying the Group's accounting policies. The areas requiring a higher degree of judgement or complexity, or areas where assumptions and estimates are significant to the consolidated financial statements, are discussed in the relevant accounting policies under the following headings and in the notes to the accounts where appropriate:

Intangible assets: Goodwill

Intangible assets: Pre-publication assets

Taxation

Revenue recognition including provisions for returns

Employee benefits: Pensions

Provisions: Onerous leases

Consolidation

1. Business combinations The acquisition method of accounting is used to account for business combinations.

The consideration transferred for the acquisition of a subsidiary is the fair value of the assets transferred, the liabilities incurred and the equity interest issued by the Group. The consideration transferred includes the fair value of any asset or liability resulting from a contingent consideration arrangement. Acquisition-related costs are expensed as incurred in the operating expenses line of the income statement. Identifiable assets acquired and identifiable liabilities and contingent liabilities assumed in a business combination are measured initially at their fair values at the acquisition date. The determination of fair values often requires significant judgements and the use of estimates, and, for material acquisitions, the fair value of the acquired intangible assets is determined by an independent valuer. The excess of the consideration transferred, the amount of any non-controlling interest in the acquiree and the acquisition date fair value of any previous equity interest in the acquiree over the fair value of the identifiable net assets acquired is recorded as goodwill (see note 30).

See the 'Intangible assets' policy for the accounting policy on goodwill. If this is less than the fair value of the net assets of the subsidiary acquired, in the case of a bargain purchase, the difference is recognised directly in the income statement.

On an acquisition-by-acquisition basis, the Group recognises any non-controlling interest in the acquiree either at fair value or at the non-controlling interest's proportionate share of the acquiree's net assets.

IFRS 3 'Business Combinations' has not been applied retrospectively to business combinations before the date of transition to IFRS.

Management exercises judgement in determining the classification of its investments in its businesses, in line with the following:

2. Subsidiaries Subsidiaries are entities over which the Group has control. The Group controls an entity when the Group is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. Subsidiaries are fully consolidated from the date on which control is transferred to the Group. They are deconsolidated from the date that control ceases.

3. Transactions with non-controlling interests Transactions with non-controlling interests that do not result in loss of control are accounted for as equity transactions, that is, as transactions with the owners in their capacity as owners. Any surplus or deficit arising from disposals to a non-controlling interest is recorded in equity. For purchases from a non-controlling interest, the difference between consideration paid and the relevant share acquired of the carrying value of the subsidiary is recorded in equity.

4. Joint ventures and associates Joint ventures are entities in which the Group holds an interest on a long-term basis and has rights to the net assets through contractually agreed sharing of control. Associates are entities over which the Group has significant influence but not the power to control the financial and operating policies, generally accompanying a shareholding of between 20% and 50% of the voting rights. Ownership percentage is likely to be the key indicator of investment classification; however, other factors, such as Board representation, may also affect the accounting classification. Judgement is required to assess all of the qualitative and quantitative factors which may indicate that the Group does, or does not, have significant influence over an investment. Penguin Random House is the Group's only material associate – see note 12 for further details on the judgements involved in its accounting classification. Investments in joint ventures and associates are accounted for by the equity method and are initially recognised at the fair value of consideration transferred.

The Group's share of its joint ventures' and associates' post-acquisition profits or losses is recognised in the income statement and its share of post-acquisition movements in reserves is recognised in reserves.

The Group's share of its joint ventures' and associates' results is recognised as a component of operating profit as these operations form part of the core publishing business of the Group and are an integral part of existing wholly-owned businesses. The cumulative post-acquisition movements are adjusted against the carrying amount of the investment. When the Group's share of losses in a joint venture or associate equals or exceeds its interest in the joint venture or associate, the Group does not recognise further losses unless the Group has incurred obligations or made payments on behalf of the joint venture or associate.

Unrealised gains and losses on transactions between the Group and its joint ventures and associates are eliminated to the extent of the Group's interest in these entities.

Notes to the consolidated financial statements

1a. Accounting policies continued

Consolidation continued

5. Contribution of a subsidiary to an associate or joint venture

The gain or loss resulting from the contribution or sale of a subsidiary to an associate or a joint venture is recognised in full. Where such transactions do not involve cash consideration, significant judgements and estimates are used in determining the fair values of the consideration received.

Foreign currency translation

1. Functional and presentation currency Items included in the financial statements of each of the Group's entities are measured using the currency of the primary economic environment in which the entity operates (the functional currency). The consolidated financial statements are presented in sterling, which is the company's functional and presentation currency.

2. Transactions and balances Foreign currency transactions are translated into the functional currency using the exchange rates prevailing at the dates of the transactions. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation at year-end exchange rates of monetary assets and liabilities denominated in foreign currencies are recognised in the income statement, except when deferred in equity as qualifying net investment hedges.

3. Group companies The results and financial position of all Group companies that have a functional currency different from the presentation currency are translated into the presentation currency as follows:

- i) Assets and liabilities are translated at the closing rate at the date of the balance sheet
- ii) Income and expenses are translated at average exchange rates
- iii) All resulting exchange differences are recognised as a separate component of equity.

On consolidation, exchange differences arising from the translation of the net investment in foreign entities, and of borrowings and other currency instruments designated as hedges of such investments, are taken to shareholders' equity. The Group treats specific inter-company loan balances, which are not intended to be repaid in the foreseeable future, as part of its net investment. When a foreign operation is sold, such exchange differences are recognised in the income statement as part of the gain or loss on sale.

The principal overseas currency for the Group is the US dollar. The average rate for the year against sterling was \$1.34 (2017: \$1.30) and the year-end rate was \$1.27 (2017: \$1.35).

Property, plant and equipment

Property, plant and equipment are stated at historical cost less depreciation. Cost includes the original purchase price of the asset and the costs attributable to bringing the asset to its working condition for intended use. Land is not depreciated. Depreciation on other assets is calculated using the straight-line method to allocate their cost less their residual values over their estimated useful lives as follows:

Buildings (freehold):	20–50 years
Buildings (leasehold):	over the period of the lease
Plant and equipment:	3–10 years

The assets' residual values and useful lives are reviewed, and adjusted if appropriate, at each balance sheet date.

The carrying value of an asset is written down to its recoverable amount if the carrying value of the asset is greater than its estimated recoverable amount.

Intangible assets

1. Goodwill For the acquisition of subsidiaries made on or after 1 January 2010, goodwill represents the excess of the consideration transferred, the amount of any non-controlling interest in the acquiree and the acquisition date fair value of any previous equity interest in the acquiree over the fair value of the identifiable net assets acquired. For the acquisition of subsidiaries made from the date of transition to IFRS to 31 December 2009, goodwill represents the excess of the cost of an acquisition over the fair value of the Group's share of the net identifiable assets acquired. Goodwill on acquisitions of subsidiaries is included in intangible assets. Goodwill on acquisition of associates and joint ventures represents the excess of the cost of an acquisition over the fair value of the Group's share of the net identifiable assets acquired. Goodwill on acquisitions of associates and joint ventures is included in investments in associates and joint ventures.

Goodwill is tested at least annually for impairment and carried at cost less accumulated impairment losses. An impairment loss is recognised to the extent that the carrying value of goodwill exceeds the recoverable amount. The recoverable amount is the higher of fair value less costs of disposal and value in use. These calculations require the use of estimates in respect of forecast cash flows and discount rates and significant management judgement in respect of CGU and cost allocation. A description of the key assumptions and sensitivities is included in note 11. Goodwill is allocated to aggregated cash-generating units for the purpose of impairment testing. The allocation is made to those aggregated cash-generating units that are expected to benefit from the business combination in which the goodwill arose.

Gains and losses on the disposal of an entity include the carrying amount of goodwill relating to the entity sold.

2. Acquired software Software separately acquired for internal use is capitalised at cost. Software acquired in material business combinations is capitalised at its fair value as determined by an independent valuer. Acquired software is amortised on a straight-line basis over its estimated useful life of between three and eight years.

1a. Accounting policies continued

Intangible assets continued

3. Internally developed software Internal and external costs incurred during the preliminary stage of developing computer software for internal use are expensed as incurred. Internal and external costs incurred to develop computer software for internal use during the application development stage are capitalised if the Group expects economic benefits from the development. Capitalisation in the application development stage begins once the Group can reliably measure the expenditure attributable to the software development and has demonstrated its intention to complete and use the software. Internally developed software is amortised on a straight-line basis over its estimated useful life of between three and eight years.

4. Acquired intangible assets Acquired intangible assets include customer lists, contracts and relationships, trademarks and brands, publishing rights, content, technology and software rights. These assets are capitalised on acquisition at cost and included in intangible assets. Intangible assets acquired in material business combinations are capitalised at their fair value as determined by an independent valuer. Intangible assets are amortised over their estimated useful lives of between two and 20 years, using an amortisation method that reflects the pattern of their consumption.

5. Pre-publication assets Pre-publication assets represent direct costs incurred in the development of educational programmes and titles prior to their publication. These costs are recognised as current intangible assets where the title will generate probable future economic benefits and costs can be measured reliably.

Pre-publication assets are amortised upon publication of the title over estimated economic lives of five years or less, being an estimate of the expected operating lifecycle of the title, with a higher proportion of the amortisation taken in the earlier years.

The assessment of the useful economic life and the recoverability of pre-publication assets involves a significant degree of judgement based on historical trends and management estimation of future potential sales. An incorrect amortisation profile could result in excess amounts being carried forward as intangible assets that would otherwise have been written off to the income statement in an earlier period.

Reviews are performed regularly to estimate recoverability of pre-publication assets. The carrying amount of pre-publication assets is set out in note 20.

The investment in pre-publication assets has been disclosed as part of cash generated from operations in the cash flow statement (see note 33).

Other financial assets

Other financial assets are non-derivative financial assets classified and measured at estimated fair value.

Marketable securities and cash deposits with maturities of greater than three months are classified and subsequently measured at fair value through profit and loss.

They are remeasured at each balance sheet date by using market data and the use of established valuation techniques. Any movement in the fair value is immediately recognised in finance income or finance costs in the income statement.

Investments in the equity instruments of other entities are classified and subsequently measured at fair value through other comprehensive income. Changes in fair value are recorded in equity in the fair value reserve via other comprehensive income. On subsequent disposal of the asset, the net fair value gains or losses are reclassified from the fair value reserve to retained earnings. Any dividends received from equity investments classified as fair value through other comprehensive income are recognised in the P&L unless they represent a return of capital.

Inventories

Inventories are stated at the lower of cost and net realisable value. Cost is determined using the weighted average method or an approximation thereof, such as the first in first out (FIFO) method. The cost of finished goods and work in progress comprises raw materials, direct labour, other direct costs and related production overheads. Net realisable value is the estimated selling price in the ordinary course of business, less estimated costs necessary to make the sale. Provisions are made for slow-moving and obsolete stock.

Royalty advances

Advances of royalties to authors are included within trade and other receivables when the advance is paid less any provision required to adjust the advance to its net realisable value. The realisable value of royalty advances relies on a degree of management estimation in determining the profitability of individual author contracts. If the estimated realisable value of author contracts is overstated, this will have an adverse effect on operating profits as these excess amounts will be written off.

The recoverability of royalty advances is based upon an annual detailed management review of the age of the advance, the future sales projections for new authors and prior sales history of repeat authors.

The royalty advance is expensed at the contracted or effective royalty rate as the related revenues are earned. Royalty advances which will be consumed within one year are held in current assets. Royalty advances which will be consumed after one year are held in non-current assets.

Cash and cash equivalents

Cash and cash equivalents in the cash flow statement include cash in hand, deposits held on call with banks, other short-term highly liquid investments with original maturities of three months or less, and bank overdrafts. Bank overdrafts are included in borrowings in current liabilities in the balance sheet.

Short-term deposits and marketable securities with maturities of greater than three months do not qualify as cash and cash equivalents and are reported as financial assets. Movements on these financial assets are classified as cash flows from financing activities in the cash flow statement where these amounts are used to offset the borrowings of the Group or as cash flows from investing activities where these amounts are held to generate an investment return.

Notes to the consolidated financial statements

1a. Accounting policies continued

Share capital

Ordinary shares are classified as equity.

Incremental costs directly attributable to the issue of new shares or options are shown in equity as a deduction, net of tax, from the proceeds.

Where any Group company purchases the company's equity share capital (treasury shares), the consideration paid, including any directly attributable incremental costs, net of income taxes, is deducted from equity attributable to the company's equity holders until the shares are cancelled, reissued or disposed of. Where such shares are subsequently sold or reissued, any consideration received, net of any directly attributable transaction costs and the related income tax effects, is included in equity attributable to the company's equity holders.

Ordinary shares purchased under a buyback programme are cancelled and the nominal value of the shares is transferred to a capital redemption reserve.

Borrowings

Borrowings are recognised initially at fair value, which is proceeds received net of transaction costs incurred. Borrowings are subsequently stated at amortised cost with any difference between the proceeds (net of transaction costs) and the redemption value being recognised in the income statement over the period of the borrowings using the effective interest method. Accrued interest is included as part of borrowings.

Where a debt instrument is in a fair value hedging relationship, an adjustment is made to its carrying value in the income statement to reflect the hedged risk.

Where a debt instrument is in a net investment hedge relationship gains and losses on the effective portion of the hedge are recognised in other comprehensive income.

Derivative financial instruments

Derivatives are recognised at fair value and remeasured at each balance sheet date. The fair value of derivatives is determined by using market data and the use of established estimation techniques such as discounted cash flow and option valuation models.

For derivatives in a hedge relationship, the currency basis spread is excluded from the designation as a hedging instrument and is separately accounted for as a cost of hedging, which is recognised in equity in a cost of hedging reserve.

Changes in the fair value of derivatives are recognised immediately in finance income or costs. However, derivatives relating to borrowings and certain foreign exchange contracts are designated as part of a hedging transaction.

The accounting treatment is summarised as follows:

Typical reason for designation	Reporting of gains and losses on effective portion of the hedge	Reporting of gains and losses on disposal
Net investment hedge		
The derivative creates a foreign currency liability which is used to hedge changes in the value of a subsidiary which transacts in that currency.	Recognised in other comprehensive income.	On disposal, the accumulated value of gains and losses reported in other comprehensive income is transferred to the income statement.
Fair value hedges		
The derivative transforms the interest profile on debt from fixed rate to floating rate. Changes in the value of the debt as a result of changes in interest rates are offset by equal and opposite changes in the value of the derivative. When the Group's debt is swapped to floating rates, the contracts used are designated as fair value hedges.	Gains and losses on the derivative are reported in finance income or finance costs. However, an equal and opposite change is made to the carrying value of the debt (a 'fair value adjustment') with the benefit/cost reported in finance income or finance costs. The net result should be a zero charge on a perfectly effective hedge.	If the debt and derivative are disposed of, the value of the derivative and the debt (including the fair value adjustment) are reset to zero. Any resultant gain or loss is recognised in finance income or finance costs.
Non-hedge accounted contracts		
These are not designated as hedging instruments. Typically these are short-term contracts to convert debt back to fixed rates or foreign exchange contracts where a natural offset exists.	No hedge accounting applies.	

Taxation

Current tax is recognised at the amounts expected to be paid or recovered under the tax rates and laws that have been enacted or substantively enacted at the balance sheet date.

Deferred income tax is provided, using the balance sheet liability method, on temporary differences arising between the tax bases of assets and liabilities and their carrying amounts. Deferred income tax is determined using tax rates and laws that have been enacted or substantively enacted by the balance sheet date and are expected to apply when the related deferred tax asset is realised or the deferred income tax liability is settled.

Deferred tax assets are recognised to the extent that it is probable that future taxable profit will be available against which the temporary differences can be utilised.

Deferred income tax is provided in respect of the undistributed earnings of subsidiaries, associates and joint ventures other than where it is intended that those undistributed earnings will not be remitted in the foreseeable future.

1a. Accounting policies continued

Taxation continued

Current and deferred tax are recognised in the income statement, except when the tax relates to items charged or credited directly to equity or other comprehensive income, in which case the tax is also recognised in equity or other comprehensive income.

The Group is subject to income taxes in numerous jurisdictions. Significant judgement is required in determining the estimates in relation to the worldwide provision for income taxes. There are many transactions and calculations for which the ultimate tax determination is uncertain during the ordinary course of business. The Group recognises tax provisions when it is considered probable that there will be a future outflow of funds to a tax authority. The provisions are based on management's best judgement of the application of tax legislation and best estimates of future settlement amounts (see note 7). Where the final tax outcome of these matters is different from the amounts that were initially recorded, such differences will impact the income tax and deferred tax provisions in the period in which such determination is made.

Deferred tax assets and liabilities require management judgement and estimation in determining the amounts to be recognised. In particular, when assessing the extent to which deferred tax assets should be recognised, significant judgement is used when considering the timing of the recognition and estimation is used to determine the level of future taxable income together with any future tax planning strategies (see note 13).

Employee benefits

1. Pensions The retirement benefit asset and obligation recognised in the balance sheet represents the net of the present value of the defined benefit obligation and the fair value of plan assets at the balance sheet date. The defined benefit obligation is calculated annually by independent actuaries using the projected unit credit method. The present value of the defined benefit obligation is determined by discounting estimated future cash flows using yields on high-quality corporate bonds which have terms to maturity approximating the terms of the related liability.

When the calculation results in a potential asset, the recognition of that asset is limited to the asset ceiling – that is the present value of any economic benefits available in the form of refunds from the plan or a reduction in future contributions. Management uses judgement to determine the level of refunds available from the plan in recognising an asset.

The determination of the pension cost and defined benefit obligation of the Group's defined benefit pension schemes depends on the selection of certain assumptions, which include the discount rate, inflation rate, salary growth and longevity (see note 25).

Actuarial gains and losses arising from experience adjustments and changes in actuarial assumptions are charged or credited to equity in other comprehensive income in the period in which they arise.

The service cost, representing benefits accruing over the year, is included in the income statement as an operating cost. Net interest is calculated by applying the discount rate to the net defined benefit obligation and is presented as finance costs or finance income.

Obligations for contributions to defined contribution pension plans are recognised as an operating expense in the income statement as incurred.

2. Other post-retirement obligations The expected costs of post-retirement medical and life assurance benefits are accrued over the period of employment, using a similar accounting methodology as for defined benefit pension obligations. The liabilities and costs relating to significant other post-retirement obligations are assessed annually by independent qualified actuaries.

3. Share-based payments The fair value of options or shares granted under the Group's share and option plans is recognised as an employee expense after taking into account the Group's best estimate of the number of awards expected to vest. Fair value is measured at the date of grant and is spread over the vesting period of the option or share. The fair value of the options granted is measured using an option model that is most appropriate to the award. The fair value of shares awarded is measured using the share price at the date of grant unless another method is more appropriate. Any proceeds received are credited to share capital and share premium when the options are exercised.

Provisions Provisions are recognised if the Group has a present legal or constructive obligation as a result of past events, it is more likely than not that an outflow of resources will be required to settle the obligation and the amount can be reliably estimated. Provisions are discounted to present value where the effect is material.

The Group recognises a provision for deferred consideration. Where this is contingent on future performance or a future event, judgement is exercised in establishing the fair value.

The Group recognises a provision for onerous lease contracts when the expected benefits to be derived from a contract are less than the unavoidable costs of meeting the obligations under the contract. The calculation of onerous lease provisions involves estimates of potential sublet income, lease terms including rent free periods, void periods, lease incentives and running costs.

The provision is based on the present value of future payments for surplus leased properties under non-cancellable operating leases, net of estimated sub-leasing income.

Revenue recognition

The Group's revenue streams are courseware, assessments and services. Courseware includes curriculum materials provided in book form and/or via access to digital content. Assessments includes test development, processing and scoring services provided to governments, educational institutions, corporations and professional bodies. Services includes the operation of schools, colleges and universities, including sistemas in Brazil, as well as the provision of online learning services in partnership with universities and other academic institutions.

Revenue is recognised in order to depict the transfer of control of promised goods and services to customers in an amount that reflects the consideration to which we expect to be entitled in exchange for those goods and services. This process begins with the identification of our contract with a customer, which is generally through a master services agreement, customer purchase order, or a combination thereof. Within each contract, judgement is

Notes to the consolidated financial statements

1a. Accounting policies continued

Revenue recognition continued

applied to determine the extent to which activities within the contract represent distinct performance obligations to be delivered and the total amount of transaction price to which we expect to be entitled.

The transaction price determined is net of sales taxes, rebates and discounts, and after eliminating sales within the Group. Where a contract contains multiple performance obligations such as the provision of supplementary materials or online access with textbooks, revenue is allocated on the basis of relative standalone selling prices. Where a contract contains variable consideration significant estimation is required to determine the amount to which the Group is expected to be entitled.

Revenue is recognised on contracts with customers when or as performance obligations are satisfied which is the period or the point in time where control of goods or services transfer to the customer. Judgement is applied to determine first whether control passes over time and if not, then the point in time at which control passes. Where revenue is recognised over time judgement is used to determine the method which best depicts the transfer of control. Where an input method is used significant estimation is required to determine the progress towards delivering the performance obligation.

Revenue from the sale of books is recognised net of a provision for anticipated returns. This provision is based primarily on historical return rates, customer buying patterns and retailer behaviours including stock levels (see note 22). If these estimates do not reflect actual returns in future periods then revenues could be understated or overstated for a particular period. When the provision for returns is remeasured at each reporting date to reflect changes in estimates, a corresponding adjustment is also recorded to revenue.

The Group may enter into contracts with another party in addition to our customer. In making the determination as to whether revenue should be recognised on a gross or net basis, the contract with the customer is analysed to understand which party controls the relevant good or service prior to transferring to the customer. This judgement is informed by facts and circumstances of the contract in determining whether the Group has promised to provide the specified good or service or whether the Group is arranging for the transfer of the specified good or service, including which party is responsible for fulfilment, has discretion to set the price to the customer and is responsible for inventory risk. On certain contracts, where the Group acts as an agent, only commissions and fees receivable for services rendered are recognised as revenue. Any third party costs incurred on behalf of the principal that are rechargeable under the contractual arrangement are not included in revenue.

Income from recharges of freight and other activities which are incidental to the normal revenue-generating activities is included in other income.

The Group has applied IFRS 15 using the cumulative effect method and therefore comparative information has not been restated and continues to be reported under IAS 18 and IAS 11. The details of accounting policies under IAS 18 and IAS 11 are disclosed separately if they are different from those under IFRS 15. A description of the changes impacting the Group as well as a quantitative impact analysis has been disclosed in note 1b.

Additional details on the Group's revenue streams are also included in note 3.

Leases

Leases of property, plant and equipment where the Group has substantially all the risks and rewards of ownership are classified as finance leases. Finance leases are capitalised at the commencement of the lease at the lower of the fair value of the leased property and the present value of the minimum lease payments. Each lease payment is allocated between the liability and finance charges to achieve a constant rate on the finance balance outstanding. The corresponding rental obligations, net of finance charges, are included in financial liabilities – borrowings. The interest element of the finance cost is charged to the income statement over the lease period to produce a constant periodic rate of interest on the remaining balance of the liability for each period. The property, plant and equipment acquired under finance leases are depreciated over the shorter of the useful life of the asset or the lease term.

Leases where a significant portion of the risks and rewards of ownership are retained by the lessor are classified as operating leases by the lessee. Payments made under operating leases (net of any incentives received from the lessor) are charged to the income statement on a straight-line basis over the period of the lease.

Dividends

Final dividends are recorded in the Group's financial statements in the period in which they are approved by the company's shareholders. Interim dividends are recorded when paid.

Discontinued operations

A discontinued operation is a component of the Group's business that represents a separate major line of business or geographical area of operations that has been disposed of or meets the criteria to be classified as held for sale.

Discontinued operations are presented in the income statement as a separate line and are shown net of tax.

Assets and liabilities held for sale

Assets and liabilities are classified as held for sale and stated at the lower of carrying amount and fair value less costs to sell if it is highly probable that the carrying amount will be recovered principally through a sale transaction rather than through continuing use. No depreciation is charged in respect of non-current assets classified as held for sale. Amounts relating to non-current assets and liabilities held for sale are classified as discontinued operations in the income statement where appropriate.

1a. Accounting policies continued

Trade receivables

Trade receivables are stated at fair value after provision for bad and doubtful debts. Following the adoption of IFRS 9 in 2018, provisions for bad and doubtful debts are based on the expected credit loss model. The 'simplified approach' is used with the expected loss allowance measured at an amount equal to the lifetime expected credit losses. In 2017, trade receivables are also stated after provision for anticipated future sales returns (also see Revenue recognition policy and note 1b).

1b. Change of accounting policy: IFRS 15

The Group has adopted IFRS 15 'Revenue from Contracts with Customers' at 1 January 2018 and applied the modified retrospective approach. Comparatives for 2017 have not been restated and the cumulative impact of adoption has been recognised as a decrease to retained earnings with a corresponding decrease in net assets at 1 January 2018 as follows:

All figures in £ millions	2018 1 January
Retained earnings	
Unexercised customer rights (or breakage)	(103)
Online Program Management (OPM) marketing	(38)
Administration fees	(2)
Commissions	1
Income tax	34
Total impact at 1 January 2018	(108)
Current assets	
Inventories	12
Trade and other receivables	133
Assets classified as held for sale	31
Non-current liabilities	
Deferred income tax liabilities	16
Current liabilities	
Trade and other liabilities	(215)
Liabilities classified as held for sale	(85)
Total impact at 1 January 2018	(108)

IFRS 15 has had an impact on retained earnings in four areas as outlined below. There was no net impact on any associate investments of the Group.

Unexercised customer rights (or breakage): The Group sells rights to future performance to customers which may go unexercised. While the customer has paid for future performance, usage is at the customer's discretion and those rights may expire prior to usage, or never be used. The Group maintains historical customer data to understand usage patterns over time (i.e. redemption rates).

Where the Group expects to have no future obligation (based on these redemption rates), revenue has historically been recognised immediately for this portion of the sale. Under IFRS 15, where the Group previously recognised this breakage element on subscriptions, revenue is now recognised evenly over the period of use. Where breakage relates to sales of tests or vouchers, revenue is now recognised when the underlying tests are delivered. This revised treatment in respect of breakage has primarily affected the school and higher education businesses in North America and resulted in higher deferred income at adoption on 1 January 2018.

Online Program Management (OPM) marketing: Historically the OPM business recognised revenue for the pre-semester costs of marketing and recruitment as a separate performance obligation from course delivery during the semester (i.e. revenue was recognised in line with the marketing costs incurred). Under IFRS 15, revenue has been recognised on a straight-line basis over the semester with no revenue recognised up front for pre-semester recruitment and marketing costs based on management's judgement under the new standard's requirements assessing the start of the Group's contract and determining the Group's performance obligations. This revised treatment of pre-semester costs only affects the OPM business in North America and has resulted in a lower contract related asset balance at adoption on 1 January 2018.

Administration fees: This relates to non-refundable up front administration fees charged to customers which do not relate to the transfer of a promised good or service to the customer. Rather these fees are charged to cover internal costs, such as registration fees for testing candidate exams. Historically administration fees have been recognised in revenue up-front when charged. Under IFRS 15, such fees have been deferred and recognised over the period over which services are provided as they do not relate to a specific performance obligation. This revised treatment primarily affects the UK Assessments business and has resulted in higher deferred income at adoption on 1 January 2018.

Commissions: This relates to incremental costs of obtaining customer contracts, such as sales incentive plans or sales commissions specifically linked to obtaining new contracts. Historically such commissions have been charged to the profit and loss account as incurred. Under IFRS 15, sales commissions in respect of customer transactions with an accounting period of greater than one year have been capitalised and amortised over that accounting period, using practical expedients permissible under the new standard. This revised treatment affects the US Assessments business and resulted in a higher contract related asset upon adoption on 1 January 2018.

Notes to the consolidated financial statements

1b. Change of accounting policy: IFRS 15 continued

In addition to the changes above, IFRS 15 also requires that the Group's provision for sales returns is reclassified. This provision was previously netted off in trade receivables and from 1 January 2018 this is now shown in two parts as a separate sales return liability within trade and other liabilities and an inventory returns asset within inventory. The effect on transition was to increase trade and other receivables by £170m, increase trade and other liabilities by £182m and inventory by £12m. In addition, held for sale assets and liabilities were both increased by £13m. The impact of adoption on the results for 2018 is outlined below.

All figures in £ millions	2018			
	Amounts pre IFRS 15	Transition adjustment	In period adjustment	Amounts as reported
Sales	4,120	-	9	4,129
Operating profit	544	-	9	553
Profit before tax	489	-	9	498
Income tax	94	-	(2)	92
Profit for the year	583	-	7	590
Other comprehensive income/(expense) for the year	130	-	(6)	124
Total comprehensive income for the year	713	-	1	714
Current assets				
Inventories	154	12	(2)	164
Trade and other receivables	1,058	133	(13)	1,178
Assets classified as held for sale	630	31	(13)	648
Non-current liabilities				
Deferred income tax liabilities	(154)	16	2	(136)
Current liabilities				
Trade and other liabilities	(1,193)	(215)	8	(1,400)
Liabilities classified as held for sale	(507)	(85)	19	(573)
Net assets	4,632	(108)	1	4,525

Had the Group been applying IFRS 15 during 2017, it is estimated that both sales and profit before tax would have been £2m higher for the full year, with the balance sheet impact at the beginning and end of the year being similar.

1c. Change of accounting policy: IFRS 9

The Group adopted IFRS 9 'Financial Instruments' at 1 January 2018 and applied the new rules in accordance with the transitional provisions. Comparatives for 2017 have not been restated. The Group has assessed the impact of adopting IFRS 9 and the only material adjustment is an increase in the provision for losses against trade debtors which was reflected as an adjustment to retained earnings at 1 January 2018 as shown below.

All figures in £ millions	2018 1 January
Retained earnings	
Provision for losses against trade debtors	(13)
Income tax	3
Total impact at 1 January 2018	(10)
Non-current assets	
Deferred income tax assets	3
Current assets	
Trade and other receivables	(12)
Assets classified as held for sale	(1)
Total impact at 1 January 2018	(10)

The adjustment arises from adoption of the expected credit loss model for impairments under IFRS 9. The adoption of this model requires the recognition of impairment provisions based on expected credit losses rather than only incurred credit losses, as is the case under IAS 39. Although there is a transition impact from adoption of the new model there was no material impact on profit before tax for 2018.

Under IFRS 9, the Group's equity financial investments continue to be recognised at fair value and the Group has elected to take the option to recognise all movements in fair value in other comprehensive income (FVOCI). Gains or losses realised on the subsequent sale of these financial assets (FVOCI investments) are no longer recycled through the profit and loss account, but are instead reclassified from the FVOCI reserve to retained earnings. There was one small disposal of these assets during 2018 resulting in a reclassification of a £2m gain.

IFRS 9 also introduced a new, simpler hedge accounting model with a principles-based approach designed to align the accounting result with the economic hedging strategy. The Group previously used fair value hedge relationships to hedge interest rate risk and currency risk on its bond borrowings and also used net investment hedging relationships to hedge currency re-translation risk on its overseas assets. The Group has confirmed that its previous hedge relationships continue to qualify as hedges under IFRS 9 in 2018.

The following table shows the original classification and measurement categories of financial assets and liabilities under IAS 39 and the new classification and measurement categories under IFRS 9 as at 1 January 2018. The effect of adopting IFRS 9 on the carrying amounts of financial assets and liabilities relates solely to the new impairment requirements as shown in the previous table, all other carrying values remained the same.

	Original classification and measurement under IAS 39	New classification and measurement under IFRS 9
Financial assets		
Investments in unlisted securities	Available for sale – fair value	Fair value through OCI
Cash and cash equivalents	Loans and receivables – amortised cost	Financial assets at amortised cost
Marketable securities	Available for sale – fair value	Fair value through profit or loss
Derivative financial instruments used for hedging	Derivatives in a hedge relationship – fair value	Fair value – hedging instrument
Other derivative financial instruments	Held for trading – fair value	Fair value through profit or loss
Trade receivables	Loans and receivables – amortised cost	Financial assets at amortised cost
Financial liabilities		
Derivative financial instruments used for hedging	Derivatives in a hedge relationship – fair value	Fair value – hedging instrument
Other derivative financial instruments	Held for trading – fair value	Fair value through profit or loss
Trade payables	Other liabilities – amortised cost	Other financial liabilities – amortised cost
Liability to purchase own shares	Other liabilities – amortised cost	Other financial liabilities – amortised cost
Bank loans and overdrafts	Other liabilities – amortised cost	Other financial liabilities – amortised cost
Finance lease liabilities	Other liabilities – amortised cost	Other financial liabilities – amortised cost
Bonds	Other liabilities – amortised cost	Other financial liabilities – amortised cost

Notes to the consolidated financial statements

2. Segment information

The primary segments for management and reporting are geographies as outlined below. In addition, the Group separately discloses the results from the Penguin Random House associate.

The chief operating decision-maker is the Pearson executive.

North America Courseware, Assessments and Services businesses in the US and Canada.

Core Courseware, Assessments and Services businesses in more mature markets including UK, Europe, Asia Pacific and North Africa.

Growth Courseware, Assessments and Services businesses in emerging markets including Brazil, India, South Africa, Hispano-America, Hong Kong and China, and the Middle East.

For more detail on the services and products included in each business segment refer to the strategic report.

All figures in £ millions	Notes						2018
		North America	Core	Growth	Penguin Random House	Corporate	Group
Sales		2,784	806	539	-	-	4,129
Adjusted operating profit		362	57	59	68	-	546
Cost of major restructuring		(78)	(16)	-	(8)	-	(102)
Intangible charges		(72)	(8)	(19)	(14)	-	(113)
Other net gains and losses		4	-	226	-	-	230
UK pension GMP equalisation		-	(8)	-	-	-	(8)
Operating profit		216	25	266	46	-	553
Finance costs	6						(91)
Finance income	6						36
Profit before tax							498
Income tax	7						92
Profit for the year							590
Segment assets		4,366	1,975	536	-	636	7,513
Joint ventures	12	-	-	-	-	-	-
Associates	12	-	5	-	387	-	392
Total assets		4,366	1,980	536	387	636	7,905
Other segment items							
Share of results of joint ventures and associates	12	(4)	1	1	46	-	44
Capital expenditure	10, 11	135	25	36	-	-	196
Pre-publication investment	20	234	90	64	-	-	388
Depreciation	10	41	12	13	-	-	66
Amortisation	11, 20	344	92	89	-	-	525

Included in the North America segment above is £60m in pre-publication investment and £67m in amortisation relating to assets held for sale.

2. Segment information continued

All figures in £ millions	Notes						2017
		North America	Core	Growth	Penguin Random House	Corporate	Group
Sales		2,929	815	769	-	-	4,513
Adjusted operating profit		394	50	38	94	-	576
Cost of major restructuring		(60)	(11)	(8)	-	-	(79)
Intangible charges		(89)	(12)	(37)	(28)	-	(166)
Other net gains and losses		(3)	-	35	96	-	128
Impact of US tax reform		-	-	-	(8)	-	(8)
Operating profit		242	27	28	154	-	451
Finance costs	6						(110)
Finance income	6						80
Profit before tax							421
Income tax	7						(13)
Profit for the year							408
Segment assets		4,116	1,914	667	-	793	7,490
Joint ventures	12	-	-	3	-	-	3
Associates	12	4	3	-	388	-	395
Total assets		4,120	1,917	670	388	793	7,888
Other segment items							
Share of results of joint ventures and associates	12	5	1	1	71	-	78
Capital expenditure	10, 11	162	35	43	-	-	240
Pre-publication investment	20	218	84	59	-	-	361
Depreciation	10	56	13	21	-	-	90
Amortisation	11, 20	348	103	110	-	-	561

There were no material inter-segment sales in either 2018 or 2017.

For additional detailed information on the calculation of adjusted operating profit as shown in the above tables, see p222-225 (Financial key performance indicators).

Adjusted operating profit is shown in the above tables as it is the key financial measure used by management to evaluate the performance of the Group and allocate resources to business segments. The measure also enables investors to more easily, and consistently, track the underlying operational performance of the Group and its business segments over time by separating out those items of income and expenditure relating to acquisition and disposal transactions, major restructuring programmes and certain other items that are also not representative of underlying performance, which are explained below and reconciled in note 8.

Cost of major restructuring In May 2017, the Group announced a restructuring programme, to run between 2017 and 2019, to drive significant cost savings. This programme began in the second half of 2017 and net costs incurred were £79m in 2017 and £102m in 2018 and relate to delivery of cost efficiencies in the enabling functions and the US Higher Education Courseware business together with further rationalisation of the property and supplier portfolio. The restructuring costs in 2018 relate predominantly to staff redundancies and the net cost of property rationalisation. Included in the property rationalisation in 2018 is the impact of the consolidation of the Group's property footprint in London which

resulted in a charge for onerous leases of £91m partially offset by profit from the sale of property of £81m. The costs of this restructuring programme are significant enough to exclude from the adjusted operating profit measure so as to better highlight the underlying performance (see note 4).

Intangible charges These represent charges in respect of intangible assets acquired through business combinations and the direct costs of acquiring those businesses. These charges are excluded as they reflect past acquisition activity and do not necessarily reflect the current year performance of the Group. Intangible amortisation charges in 2018 were £113m compared to a charge of £166m in 2017.

Other net gains and losses These represent profits and losses on the sale of subsidiaries, joint ventures, associates and other financial assets and are excluded from adjusted operating profit as they distort the performance of the Group as reported on a statutory basis. Other net gains of £230m in 2018 relate to the sale of the Wall Street English language teaching business (WSE), realising a gain of £207m, the disposal of the Group's equity interest in UTEL, the online University partnership in Mexico, realising a gain of £19m, and various other smaller disposal items for a net gain of £4m. Other net gains of £128m in 2017 relate to the sale of the test preparation business in China which resulted in a profit on sale of £44m and the part sale of the Group's share in Penguin Random House which resulted in a profit of £96m and other smaller disposal items for a net loss of £12m (see note 31).

Notes to the consolidated financial statements

2. Segment information continued

UK pension GMP equalisation In 2018, also excluded is the impact of adjustments arising from clarification of guaranteed minimum pension (GMP) equalisation legislation in the UK as this relates to historical circumstances (see note 25).

Impact of US tax reform In 2017, as a result of US tax reform, the Group's share of profit from associates was adversely impacted by £8m. This amount was excluded from adjusted operating profit as it is considered to be a transition adjustment that is not expected to recur in the near future.

Corporate costs are allocated to business segments on an appropriate basis depending on the nature of the cost and therefore the total segment result is equal to the Group operating profit.

Segment assets, excluding corporate assets, consist of property, plant and equipment, intangible assets, inventories, receivables, deferred taxation and other financial assets and exclude cash and cash equivalents and derivative assets. Corporate assets comprise cash and cash equivalents, marketable securities and derivative financial instruments. Capital expenditure comprises additions to property, plant and equipment and software (see notes 10 and 11).

Property, plant and equipment and intangible assets acquired through business combinations were £nil (2017: £nil) (see note 30).

The Group operates in the following main geographic areas:

All figures in £ millions	Sales		Non-current assets	
	2018	2017	2018	2017
UK	377	384	900	796
Other European countries	246	262	143	128
US	2,627	2,770	2,162	2,247
Canada	126	126	250	240
Asia Pacific	455	643	146	151
Other countries	298	328	137	184
Total	4,129	4,513	3,738	3,746

Sales are allocated based on the country in which the customer is located. This does not differ materially from the location where the order is received. The geographical split of non-current assets is based on the subsidiary's country of domicile. This is not materially different to the location of the assets. Non-current assets comprise property, plant and equipment, intangible assets, investments in joint ventures and associates and trade and other receivables.

3. Revenue from contracts with customers

The following tables analyse the Group's revenue streams. Courseware includes curriculum materials provided in book form and/or via access to digital content. Assessments includes test development, processing and scoring services provided to governments, educational institutions, corporations and professional bodies. Services includes the operation of schools, colleges and universities, including sistemas in Brazil as well as the provision of online learning services in partnership with universities and other academic institutions.

All figures in £ millions	2018			
	North America	Core	Growth	Group
Sales:				
Courseware				
School Courseware	378	172	127	677
Higher Education Courseware	1,042	87	57	1,186
English Courseware	16	58	102	176
	1,436	317	286	2,039
Assessments				
School and Higher Education Assessments	332	247	23	602
Clinical Assessments	140	45	-	185
Professional and English Certification	344	150	64	558
	816	442	87	1,345
Services				
School Services	288	2	47	337
Higher Education Services	244	40	29	313
English Services	-	5	90	95
	532	47	166	745
Total	2,784	806	539	4,129

All figures in £ millions	2017			
	North America	Core	Growth	Group
Sales:				
Courseware				
School Courseware	394	171	139	704
Higher Education Courseware	1,146	93	63	1,302
English Courseware	20	60	102	182
	1,560	324	304	2,188
Assessments				
School and Higher Education Assessments	355	256	23	634
Clinical Assessments	146	46	-	192
Professional and English Certification	341	138	60	539
	842	440	83	1,365
Services				
School Services	274	5	54	333
Higher Education Services	253	34	32	319
English Services	-	12	296	308
	527	51	382	960
Total	2,929	815	769	4,513

Notes to the consolidated financial statements

3. Revenue from contracts with customers continued

The Group derived revenue for the year to 31 December 2018 from the transfer of goods and services over time and at a point in time in the following major product lines:

All figures in £ millions	North America	Core	Growth	Total
Courseware				
Products transferred at a point in time (sale or return)	718	313	197	1,228
Products transferred at a point in time (other)	–	–	35	35
Products and services transferred over time	718	4	54	776
	1,436	317	286	2,039
Assessments				
Products transferred at a point in time	146	65	6	217
Products and services transferred over time	670	377	81	1,128
	816	442	87	1,345
Services				
Products transferred at a point in time	–	26	38	64
Products and services transferred over time	532	21	128	681
	532	47	166	745
Total sales	2,784	806	539	4,129

a. Nature of goods and services

The following is a description of the nature of the Group's performance obligations within contracts with customers broken down by revenue stream, along with significant judgements and estimates made within each of those revenue streams.

Courseware

Revenue is generated from customers through the sales of print and digital courseware materials to schools, bookstores, and direct to individual learners. Goods and services may be sold separately or purchased together in bundled packages. The goods and services included in bundled arrangements are considered distinct performance obligations, except for where Pearson provides both a licence of intellectual property and an on-going hosting service. As the licence of intellectual property is only available with the concurrent hosting service, the licence is not treated as a distinct performance obligation separate from the hosting service.

The transaction price is allocated between distinct performance obligations on the basis of their relative standalone selling prices.

In determining the transaction price, variable consideration exists in the form of discounts and anticipated returns. Discounts reduce the transaction price on a given transaction. A provision for anticipated returns is made based primarily on historical return rates, customer buying patterns and retailer behaviours including stock levels (see note 22). If these estimates do not reflect actual returns in future periods then revenues could be understated or overstated for a particular period. Variable consideration as described above is determined using the expected value approach.

While payment for these goods and services generally occurs at the start of these arrangements, the length of time between payment and delivery of the performance obligations is generally short-term in nature or the reason for early payment relates to reasons other than financing, including customers securing a vendor in a longer-term arrangement or the transfer of goods or services is at the discretion of the customer. For these reasons and the use of the practical expedient on short-term financing, significant financing components are not recognised within Courseware transactions.

Revenue from the sale of physical books is recognised at a point in time when control passes. This is generally at the point of shipment when title passes to the customer, when the Group has a present right to payment and the significant risks and rewards of ownership have passed to the customer. Revenue from physical books sold through the direct print rental method is recognised over the rental period, as the customer is simultaneously receiving and consuming the benefits of this rental service through the passage of time.

Revenue from the sale of digital courseware products is recognised on a straight-line basis over the subscription period, unless hosted by a third party or representative of a downloadable product, in which case Pearson has no on-going obligation and recognises revenue when control transfers as the customer is granted access to the digital product.

Revenue from the sale of 'off-the-shelf' software is recognised on delivery or on installation of the software where that is a condition of the contract. In certain circumstances, where installation is complex, revenue is recognised when the customer has completed their acceptance procedures.

3. Revenue from contracts with customers continued

a. Nature of goods and services continued

Assessments

Revenue is primarily generated from multi-year contractual arrangements related to large-scale assessment delivery, such as contracts to process qualifying tests for individual professions and government departments, and is recognised as performance occurs. Under these arrangements, while the agreement spans for multiple years, the contract duration has been determined to be each testing cycle based on contract structure, including clauses regarding termination. While in some cases the customer may have the ability to terminate during the term for convenience, significant financial or qualitative barriers exist limiting the potential for such terminations in the middle of a testing cycle.

Within each testing cycle, a variety of service activities are performed such as test administration, delivery, scoring, reporting, item development, operational services, and programme management. While each of these service activities is capable of being distinct, they are not treated as distinct in the context of the customer contract as Pearson provides an integrated managed service offering and these activities are accounted for together as one comprehensive performance obligation.

Within each testing cycle, the transaction price may contain both fixed and variable amounts. Variable consideration within these transactions primarily relates to expected testing volumes to be delivered in the cycle. The assumptions, risks and uncertainties inherent to long-term contract accounting can affect the amounts and timing of revenue and related expenses reported. Variable consideration is measured using the expected value method, except where amounts are contingent upon a future event's occurrence, such as performance bonuses. Such event-driven contingency payments are measured using the most likely amount approach. To the extent a higher degree of uncertainty exists regarding variable consideration, these amounts are excluded from the transaction price and expensed when the uncertainty is reasonably removed.

Customer payments are generally defined in the contract through a payment schedule, which may require customer acceptance for services rendered. Pearson has a history of providing satisfactory services which are accepted by the customer. While a delay between rendering of services and payment may exist, payment terms are within 12 months and the Group has elected to use the practical expedient available in IFRS 15 and not identify a significant financing component on these transactions.

Revenue is recognised for Assessment contracts over time as the customer is benefiting as performance takes place through a continuous transfer of control to the customer. This continuous transfer of control to the customer is supported by clauses in the contracts which may allow the customer to terminate for convenience, compensate us for work performed to date, and take possession of work in process.

As control transfers over time, revenue is recognised based on the extent of progress towards completion of the performance obligation. The selection of the method to measure progress towards completion requires judgement and is based on the nature of the services provided. Revenue is recognised on a percentage completion basis calculated using the proportion of the total estimated costs incurred to date. Percentage of completion is used to recognise the transfer of control of services provided as these services are not provided evenly throughout the testing cycle and involve varying degrees of effort during the term.

Losses on contracts are recognised in the period in which the loss first becomes foreseeable. Contract losses are determined to be the amount by which estimated total costs of the contract exceed the estimated total revenues that will be generated.

In Assessments contracts driven primarily by transactions directly to end users, Pearson's main obligation to the customer involves test delivery and scoring. Test delivery and scoring are defined as a single performance obligation delivered over time whether the test is subsequently manually scored or digitally scored on the day of the assessment. Customers may also purchase print and digital supplemental materials. Print products in this revenue stream are recognised at a point in time when control passes to the customer upon shipment. Recognition of digital revenue will occur based on the extent of Pearson's on-going hosting obligation.

Services

Revenue is primarily generated from multi-year contractual arrangements related to large-scale educational service delivery to academic institutions, such as schools and higher education universities. Under these arrangements, while an agreement may span for multiple years, the contract duration has been determined to be each academic period based on the structure of contracts, including clauses regarding termination. While in some cases the customer may have the ability to terminate during the term for convenience, significant financial or qualitative barriers exist limiting the potential for such terminations in the middle of an academic period. The academic period for this customer base is normally an academic year for schools and a semester for higher education universities.

Within each academic period, while a variety of services are provided such as programme development, student acquisition, education technology and student support services. While each of these services is capable of being distinct, they are not distinct in the context of the customer contract as Pearson provides an integrated managed service offering and these activities are accounted for together as a comprehensive performance obligation.

Notes to the consolidated financial statements

3. Revenue from contracts with customers continued

a. Nature of goods and services continued

Services continued

Where Services are provided to university customers, volumes and transaction price is fixed at the start of the semester. Where Services are provided to School customers, the transaction price may contain both fixed and variable amounts which require estimation during the academic period. Estimation is required where consideration is based upon average enrolments or other metrics which are not known at the start of the academic year. Variable consideration is measured using the expected value method. To the extent a higher degree of uncertainty exists regarding variable consideration, these amounts are excluded from the transaction price and recognised when the uncertainty is reasonably removed.

Customer payments are generally defined in the contract as occurring shortly after invoicing. Where there is a longer payment term offered to a customer through a payment schedule, payment terms are within 12 months and the Group has elected to use the practical expedient available in IFRS 15 and not identify a significant financing component on these transactions.

Revenue is recognised for Service contracts over time as the customer is benefiting as performance takes place through a continuous transfer of control to the customer. This continuous transfer of control to the customer is supported by clauses in the contracts which may allow the customer to terminate for convenience, compensate us for work performed to date, and take possession of work in process.

As control transfers over time, revenue is recognised based on the extent of progress towards completion of the performance obligation. The selection of the method to measure progress towards completion requires judgement and is based on the nature of the products or services provided. Within the comprehensive service obligation, the timing of services occurs relatively evenly over each academic period and as such, time elapsed is used to recognise the transfer of control to the customer on a straight-line basis.

Losses on contracts are recognised in the period in which the loss first becomes foreseeable. Contract losses are determined to be the amount by which estimated total costs of the contract exceed the estimated total revenues that will be generated.

In cases of optional or add-on purchases, institutions may purchase physical goods priced at their standalone value, which are accounted for separately and recognised at the point in time when control passes to the customer upon shipment.

b. Disaggregation of revenue

The tables in notes 2 and 3 show revenue from contracts with customers disaggregated by operating segment, geography and revenue stream. These disaggregation categories are appropriate as they represent the key groupings used in managing and evaluating underlying performance of each of the businesses. The categories also reflect groups of similar types of transactional characteristics, among similar customers, with similar accounting conclusions.

c. Contract balances

Transactions within the Courseware revenue stream generally entail customer billings at or near the contract's inception and accordingly Courseware deferred income balances are primarily related to subscription performance obligations to be delivered over time.

Transactions within the Assessments and Services revenue streams generally entail customer billings over time based on periodic intervals, progress towards milestones or enrolment census dates. As the performance obligations within these arrangements are delivered over time, the extent of accrued income or deferred income will ultimately depend upon the difference between revenue recognised and billings to date.

Refer to note 22 for opening and closing balances of accrued income. Refer to note 24 for opening and closing balances of deferred income. Revenue recognised during the period from changes in deferred income was driven primarily by the release of revenue over time from digital subscriptions.

d. Contract costs

The Group capitalises incremental costs to obtain contracts with customers where it is expected these costs will be recoverable. Incremental costs to obtain contracts with customers are considered those which would not have been incurred if the contract had not been obtained. For the Group, these costs relate primarily to sales commissions. The Group has elected to use the practical expedient as allowable by IFRS 15 whereby such costs will be expensed as incurred where the expected amortisation period is one year or less. Where the amortisation period is greater than one year, these costs are amortised over the contract term on a systematic basis consistent with the transfer of the underlying goods and services within the contract to which these costs relate, which will generally be on a ratable basis. Impairment of capitalised contract costs was £nil in 2018.

The Group does not recognise any material costs to fulfil contracts with customers as these types of activities are governed by other accounting standards.

Refer to note 22 for further details of opening and closing balances of these costs reflected within deferred contract costs.

3. Revenue from contracts with customers continued

e. Remaining transaction price

The below table depicts the remaining transaction price on unsatisfied or partially unsatisfied performance obligations from contracts with customers as at 31 December 2018.

	Sales	Deferred income	Committed sales	Total remaining transaction price	2019	2020	2021 and later
Courseware							
Products transferred at a point in time (sale or return)	1,228	1	-	1	1	-	-
Products transferred at a point in time (other)	35	-	-	-	-	-	-
Products and services transferred over time	776	679	8	687	272	131	284
Assessments							
Products transferred at a point in time	217	-	-	-	-	-	-
Products and services transferred over time	1,128	196	402	598	420	173	5
Services							
Products transferred at a point in time	64	-	-	-	-	-	-
Products and services transferred over time – subscriptions	310	17	-	17	13	3	1
Products and services transferred over time – other ongoing performance obligations	371	19	145	164	162	1	1
Total	4,129	912	555	1,467	868	308	291

Committed sales amounts are equal to the transaction price from contracts with customers excluding those amounts previously recognised as revenue and amounts currently recognised in deferred income. The total of committed sales and deferred income is equal to the remaining transaction price.

Time bands represented above represent the expected timing of when the remaining transaction price will be recognised as revenue.

4. Operating expenses

All figures in £ millions	2018	2017
By function:		
Cost of goods sold	1,943	2,066
Operating expenses		
Distribution costs	88	84
Selling, marketing and product development costs	759	896
Administrative and other expenses	1,039	1,207
Restructuring costs	90	79
Other income	(69)	(64)
Total net operating expenses	1,907	2,202
Other net gains and losses	(230)	(128)
Total	3,620	4,140

Included in other income is service fee income from Penguin Random House of £3m (2017: £3m). Included in administrative and other expenses are research and efficacy costs of £14m (2017: £14m). In addition to the restructuring costs shown above, there were major restructuring costs in relation to associates of £12m (2017: £nil).

Notes to the consolidated financial statements

4. Operating expenses continued

An analysis of major restructuring costs is as follows:

All figures in £ millions	2018	2017
By nature:		
Product costs	12	15
Employee costs	56	11
Depreciation and amortisation	1	13
Property and facilities	(5)	24
Technology and communications	1	2
Professional and outsourced services	9	12
General and administrative costs	16	2
Total restructuring – operating expenses	90	79
Share of associate restructuring	12	-
Total	102	79

The 2017-2019 restructuring programme was announced in May 2017, began in the second half of 2017 and is expected to drive significant cost savings. The costs of this programme have been excluded from adjusted operating profit so as to better highlight the underlying performance (see note 8). In 2018, property and facilities costs include gains on the disposal of properties sold as part of the restructuring programme.

All figures in £ millions	Notes	2018	2017
By nature:			
Royalties expensed		236	246
Other product costs		516	564
Employee benefit expense	5	1,637	1,805
Contract labour		161	152
Employee-related expense		115	127
Promotional costs		233	229
Depreciation of property, plant and equipment	10	66	90
Amortisation of intangible assets – pre-publication	20	338	338
Amortisation of intangible assets – software	11	88	85
Amortisation of intangible assets – other	11	99	138
Property and facilities		147	202
Technology and communications		192	218
Professional and outsourced services		396	322
Other general and administrative costs		85	140
Costs capitalised to intangible assets		(390)	(324)
Other net gains and losses		(230)	(128)
Other income		(69)	(64)
Total		3,620	4,140

4. Operating expenses continued

During the year the Group obtained the following services from the Group's auditors:

All figures in £ millions	2018	2017
The audit of parent company and consolidated financial statements	4	4
The audit of the company's subsidiaries	2	2
Total audit fees	6	6
Audit-related and other assurance services	1	1
Other non-audit services	–	1
Total other services	1	2
Total non-audit services	1	2
Total	7	8

Reconciliation between audit and non-audit service fees is shown below:

All figures in £ millions	2018	2017
Group audit fees including fees for attestation under section 404 of the Sarbanes-Oxley Act	6	6
Non-audit fees	1	2
Total	7	8

Fees for attestation under section 404 of the Sarbanes-Oxley Act are allocated between fees payable for the audits of consolidated and subsidiary accounts.

Included in non-audit fees is audit related work in relation to disposal transactions and other assurance work related to the audit of the Group's efficacy programme.

5. Employee information

All figures in £ millions	Notes	2018	2017
Employee benefit expense			
Wages and salaries (including termination costs)		1,421	1,567
Social security costs		112	130
Share-based payment costs	26	37	33
Retirement benefits – defined contribution plans	25	56	57
Retirement benefits – defined benefit plans	25	23	19
Other post-retirement medical benefits	25	(12)	(1)
Total		1,637	1,805

The details of the emoluments of the Directors of Pearson plc are shown in the report on Directors' remuneration.

Average number employed	2018	2017
Employee numbers		
North America	14,113	16,295
Core	5,192	5,291
Growth	4,521	8,268
Other	496	485
Total	24,322	30,339

Notes to the consolidated financial statements

6. Net finance costs

All figures in £ millions	Notes	2018	2017
Interest payable on financial liabilities at amortised cost and associated derivatives		(42)	(99)
Net foreign exchange losses		(36)	-
Finance costs associated with transactions		(1)	(6)
Derivatives not in a hedge relationship		(7)	(5)
Derivatives in a hedge relationship		(5)	-
Finance costs		(91)	(110)
Interest receivable on financial assets at amortised cost		18	20
Net finance income in respect of retirement benefits	25	11	3
Net foreign exchange gains		-	44
Derivatives not in a hedge relationship		6	12
Derivatives in a hedge relationship		1	1
Finance income		36	80
Net finance costs		(55)	(30)
Analysed as:			
Net interest payable reflected in adjusted earnings		(24)	(79)
Other net finance income/(costs)		(31)	49
Total net finance costs		(55)	(30)

Included in interest receivable is £1m (2017: £1m) of interest receivable from related parties. There was a net movement of £nil on fair value hedges in 2018 (2017: £1m), comprising a gain of £4m (2017: gain of £37m) on the underlying bonds, offset by a loss of £4m (2017: loss of £36m) on the related derivative financial instruments.

For further information on adjusted measures above, see note 8.

7. Income tax

All figures in £ millions	Notes	2018	2017
Current tax			
Credit/(charge) in respect of current year		92	(121)
Adjustments in respect of prior years		34	(2)
Total current tax credit/(charge)		126	(123)
Deferred tax			
In respect of temporary differences		(6)	96
Other adjustments in respect of prior years		(28)	14
Total deferred tax (charge)/credit	13	(34)	110
Total tax credit/(charge)		92	(13)

The adjustments in respect of prior years in both 2018 and 2017 primarily arise from revising the previous year's reported tax provision to reflect the tax returns subsequently filed. This results in a change between deferred and current tax as well as an absolute benefit to the total tax charge.

7. Income tax continued

The tax on the Group's profit before tax differs from the theoretical amount that would arise using the UK tax rate as follows:

All figures in £ millions	2018	2017
Profit before tax	498	421
Tax calculated at UK rate (2018: 19%, 2017: 19.25%)	(94)	(81)
Effect of overseas tax rates	(28)	15
Joint venture and associate income reported net of tax	8	15
Intra-group financing benefit	25	26
Movement in provisions for tax uncertainties	111	49
Impact of US tax reform	-	(1)
Net expense not subject to tax	(29)	(39)
Benefit from change in US tax accounting treatment	25	-
Gains and losses on sale of businesses not subject to tax	77	8
Utilisation of previously unrecognised tax losses and credits	-	(1)
Unrecognised tax losses	(9)	(16)
Adjustments in respect of prior years	6	12
Total tax credit/(charge)	92	(13)
UK	37	(36)
Overseas	55	23
Total tax credit/(charge)	92	(13)
Tax rate reflected in earnings	(18.5)%	3.1%

Included in net expense not subject to tax are foreign taxes not creditable, the tax impact of share-based payments and other expenses not deductible.

Factors which may affect future tax charges include changes in tax legislation, transfer pricing regulations, the level and mix of profitability in different countries, and settlements with tax authorities.

The movement in provisions for tax uncertainties primarily reflects releases due to the expiry of relevant statutes of limitation and the reassessment of historical tax positions. The current tax liability of £72m (2017: £231m) includes £181m (2017: £280m) of provisions for tax uncertainties principally in respect of a number of issues in the US, the UK and China. The issues provided for include the allocation between territories of proceeds of historical business disposals and

the potential disallowance of intra-group recharges. The Group is currently under audit in a number of countries, and the timing of any resolution of these audits is uncertain. Of the balance of £181m, £57m relates to 2014 and earlier and is mostly under audit. In most countries tax years up to and including 2014 are now statute barred from examination by tax authorities. Of the remaining balance, £66m relates to 2015, £29m to 2016, £23m to 2017 and £6m to 2018. If relevant enquiry windows pass with no audit, management believes it is reasonably possible that provision levels will reduce by an estimated £50m within the next 12 months. However the tax authorities may take a different view from management and the final liability may be greater than provided. For items currently under audit if tax authorities are successful, liabilities could increase by £25m (2017: £25m).

Notes to the consolidated financial statements

7. Income tax continued

The tax rate reflected in adjusted earnings is calculated as follows:

All figures in £ millions	2018	2017
Profit before tax	498	421
Adjustments:		
Cost of major restructuring	102	79
Other net gains and losses	(230)	(128)
Intangible charges	113	166
Other net finance costs/(income)	31	(49)
UK pension GMP equalisation	8	-
Impact of US tax reform	-	8
Adjusted profit before tax	522	497
Total tax credit/(charge)	92	(13)
Adjustments:		
Tax benefit on cost of major restructuring	(37)	(26)
Tax (benefit)/charge on other net gains and losses	(31)	20
Tax benefit on intangible charges	(18)	(85)
Tax (benefit)/charge on other net finance (income)/costs	(6)	9
Tax benefit on UK pension GMP equalisation	(2)	-
Impact of US tax reform	-	1
Tax amortisation benefit on goodwill and intangibles	29	39
Adjusted income tax credit/(charge)	27	(55)
Tax rate reflected in adjusted earnings	(5.2)%	11.1%

For further information on adjusted measures above, see note 8.

The tax benefit/(charge) recognised in other comprehensive income is as follows:

All figures in £ millions	2018	2017
Net exchange differences on translation of foreign operations	(4)	9
Fair value gain on other financial assets	-	(4)
Remeasurement of retirement benefit obligations	9	(42)
	5	(37)

8. Earnings per share

Basic

Basic earnings per share is calculated by dividing the profit attributable to equity shareholders of the company by the weighted average number of ordinary shares in issue during the year, excluding ordinary shares purchased by the company and held as treasury shares.

Diluted

Diluted earnings per share is calculated by adjusting the weighted average number of ordinary shares to take account of all dilutive potential ordinary shares and adjusting the profit attributable, if applicable, to account for any tax consequences that might arise from conversion of those shares.

All figures in £ millions	2018	2017
Earnings for the year	590	408
Non-controlling interest	(2)	(2)
Earnings attributable to equity holders of the company	588	406
Weighted average number of shares (millions)	778.1	813.4
Effect of dilutive share options (millions)	0.6	0.3
Weighted average number of shares (millions) for diluted earnings	778.7	813.7
Earnings per share		
Basic	75.6p	49.9p
Diluted	75.5p	49.9p

Adjusted

For additional detailed information on the calculation of adjusted measures, see p222-225 (Financial key performance indicators). See note 2 for details of specific items excluded from or included in adjusted operating profit in 2018 and 2017.

In order to show results from operating activities on a consistent basis, an adjusted earnings per share is presented. The Group's definition of adjusted earnings per share may not be comparable with other similarly titled measures reported by other companies.

Adjusted earnings is a non-GAAP (non-statutory) financial measure and is included as it is a key financial measure used by management to evaluate the performance of the Group and allocate resources to business segments. The measure also enables investors to more easily, and consistently, track the underlying operational performance of the Group and its business segments over time by separating out those items of income and expenditure relating to acquisition and disposal transactions, major restructuring programmes and certain other items that are also not representative of underlying performance.

Adjusted earnings per share is calculated as adjusted earnings divided by the weighted average number of shares in issue on an undiluted basis. The following items are excluded from or included in adjusted earnings:

Cost of major restructuring In May 2017, the Group announced a restructuring programme, to run between 2017 and 2019, to drive significant cost savings. This programme began in the second half of 2017 and net costs incurred were £79m in 2017 and £102m in 2018 and relate to delivery of cost efficiencies in the enabling functions and the US Higher Education Courseware business together with further rationalisation of the property and supplier portfolio. The restructuring costs in 2018 relate predominantly to staff redundancies and the net cost of property rationalisation. Included in the property rationalisation in 2018 is the impact

of the consolidation of the Group's property footprint in London which resulted in a charge for onerous leases of £91m partially offset by profit from the sale of property of £81m. The costs of this restructuring programme are significant enough to exclude from the adjusted operating profit measure so as to better highlight the underlying performance (see note 4).

Other net gains and losses These represent profits and losses on the sale of subsidiaries, joint ventures, associates and other financial assets and are excluded from adjusted earnings as they distort the performance of the Group as reported on a statutory basis.

Intangible charges These represent charges in respect of intangible assets acquired through business combinations and the direct costs of acquiring those businesses. These charges are excluded as they reflect past acquisition activity and do not necessarily reflect the current year performance of the Group. Intangible amortisation charges in 2018 were £113m compared to a charge of £166m in 2017.

Other net finance income/costs These include finance costs in respect of retirement benefits, finance costs of deferred consideration and foreign exchange and other gains and losses. Finance income relating to retirement benefits is excluded as management does not believe that the consolidated income statement presentation under IAS 19 reflects the economic substance of the underlying assets and liabilities. Finance costs associated with transactions are excluded as these relate to future earn-outs or acquisition expenses and are not part of the underlying financing. Foreign exchange and other gains and losses are excluded as they represent short-term fluctuations in market value and are subject to significant volatility. Other gains and losses may not be realised in due course as it is normally the intention to hold the related instruments to maturity. In 2018 and 2017, the foreign exchange gains and losses largely relate to foreign exchange differences on unhedged US dollar and euro loans, cash and cash equivalents.

9. Dividends

All figures in £ millions	2018	2017
Final paid in respect of prior year 12.0p (2017: 34.0p)	93	277
Interim paid in respect of current year 5.5p (2017: 5.0p)	43	41
	136	318

The Directors are proposing a final dividend in respect of the financial year ended 31 December 2018 of 13.0p per share which will absorb an estimated £102m of shareholders' funds. It will be paid on 10 May 2019 to shareholders who are on the register of members on 5 April 2019. These financial statements do not reflect this dividend.

10. Property, plant and equipment

All figures in £ millions	Land and buildings	Plant and equipment	Assets in course of construction	Total
Cost				
At 1 January 2017	398	560	20	978
Exchange differences	(20)	(29)	(2)	(51)
Additions	26	40	24	90
Disposals	(13)	(34)	-	(47)
Disposal through business disposal	(11)	(5)	-	(16)
Reclassifications	5	8	(13)	-
Transfer to intangible assets	-	(11)	-	(11)
Transfer to assets classified as held for sale	(55)	(2)	-	(57)
At 31 December 2017	330	527	29	886
Exchange differences	11	14	1	26
Additions	32	22	12	66
Disposals	(75)	(97)	-	(172)
Reclassifications	19	(8)	(11)	-
Transfer to intangible assets	-	-	(11)	(11)
Transfer to intangible assets – pre-publication	-	-	(2)	(2)
At 31 December 2018	317	458	18	793

All figures in £ millions	Land and buildings	Plant and equipment	Assets in course of construction	Total
Depreciation				
At 1 January 2017	(229)	(406)	-	(635)
Exchange differences	12	23	-	35
Charge for the year	(35)	(55)	-	(90)
Disposals	9	26	-	35
Disposal through business disposal	6	3	-	9
Transfer to assets classified as held for sale	40	1	-	41
At 31 December 2017	(197)	(408)	-	(605)
Exchange differences	(5)	(11)	-	(16)
Charge for the year	(20)	(46)	-	(66)
Disposals	34	97	-	131
Reclassifications	(7)	7	-	-
At 31 December 2018	(195)	(361)	-	(556)
Carrying amounts				
At 1 January 2017	169	154	20	343
At 31 December 2017	133	119	29	281
At 31 December 2018	122	97	18	237

Notes to the consolidated financial statements

10. Property, plant and equipment continued

Depreciation expense of £18m (2017: £23m) has been included in the income statement in cost of goods sold and £48m (2017: £67m) in operating expenses.

The Group leases certain equipment under a number of finance lease agreements. The net carrying amount of leased plant and equipment included within property, plant and equipment was £7m (2017: £9m).

11. Intangible assets

All figures in £ millions	Goodwill	Software	Acquired customer lists, contracts and relationships	Acquired trademarks and brands	Acquired publishing rights	Other intangibles acquired	Total
Cost							
At 1 January 2017	2,341	798	974	353	211	600	5,277
Exchange differences	(148)	(46)	(74)	(26)	(6)	(50)	(350)
Additions – internal development	–	133	–	–	–	–	133
Additions – purchased	–	17	–	–	–	–	17
Disposals	–	(23)	–	–	–	–	(23)
Disposal through business disposal	–	(4)	(9)	(19)	–	(27)	(59)
Transfer from property, plant and equipment	–	11	–	–	–	–	11
Transfer to assets classified as held for sale	(163)	(4)	(2)	(27)	(21)	(34)	(251)
At 31 December 2017	2,030	882	889	281	184	489	4,755
Exchange differences	74	32	39	(2)	–	1	144
Additions – internal development	–	124	–	–	–	–	124
Additions – purchased	–	6	–	–	–	–	6
Disposals	–	(94)	(18)	(12)	–	(33)	(157)
Disposal through business disposal	–	(2)	–	–	–	–	(2)
Transfer from property, plant and equipment	–	11	–	–	–	–	11
Transfer from assets classified as held for sale	7	–	–	–	–	–	7
At 31 December 2018	2,111	959	910	267	184	457	4,888

11. Intangible assets continued

All figures in £ millions	Goodwill	Software	Acquired customer lists, contracts and relationships	Acquired trademarks and brands	Acquired publishing rights	Other intangibles acquired	Total
Amortisation							
At 1 January 2017	-	(461)	(555)	(209)	(198)	(412)	(1,835)
Exchange differences	-	30	43	13	4	36	126
Charge for the year	-	(85)	(77)	(18)	(3)	(40)	(223)
Disposals	-	21	-	-	-	-	21
Disposal through business disposal	-	2	8	18	-	22	50
Transfer to assets classified as held for sale	-	-	1	16	19	34	70
At 31 December 2017	-	(493)	(580)	(180)	(178)	(360)	(1,791)
Exchange differences	-	(23)	(26)	1	2	(10)	(56)
Charge for the year	-	(88)	(59)	(14)	(2)	(24)	(187)
Disposals	-	92	18	12	-	33	155
Disposal through business disposal	-	-	-	-	-	-	-
At 31 December 2018	-	(512)	(647)	(181)	(178)	(361)	(1,879)
Carrying amounts							
At 1 January 2017	2,341	337	419	144	13	188	3,442
At 31 December 2017	2,030	389	309	101	6	129	2,964
At 31 December 2018	2,111	447	263	86	6	96	3,009

Goodwill

The goodwill carrying value of £2,111m relates to acquisitions completed after 1 January 1998. Prior to 1 January 1998 all goodwill was written off to reserves on the date of acquisition. For acquisitions completed between 1 January 1998 and 31 December 2002, no value was ascribed to intangibles other than goodwill which was amortised over a period of up to 20 years. On adoption of IFRS on 1 January 2003, the Group chose not to restate the goodwill balance and at that date the balance was frozen (i.e. amortisation ceased). If goodwill had been restated, then a significant value would have been ascribed to other intangible assets, which would be subject to amortisation, and the carrying value of goodwill would be significantly lower. For acquisitions completed after 1 January 2003, value has been ascribed to other intangible assets which are amortised.

Other intangible assets

Other intangibles acquired include content, technology and software rights.

Intangible assets are valued separately for each acquisition and the primary method of valuation used is the discounted cash flow method. The majority of acquired intangibles are amortised using an amortisation profile based on the projected cash flows underlying the acquisition date valuation of the intangible asset, which generally results in a larger proportion of amortisation being recognised in the early years of the asset's life. The Group keeps the expected pattern of consumption under review.

Amortisation of £18m (2017: £17m) is included in the income statement in cost of goods sold and £169m (2017: £206m) in operating expenses.

Notes to the consolidated financial statements

11. Intangible assets continued

Other intangible assets continued

The range of useful economic lives for each major class of intangible asset (excluding goodwill and software) is shown below:

Class of intangible asset	2018
	Useful economic life
Acquired customer lists, contracts and relationships	3-20 years
Acquired trademarks and brands	2-20 years
Acquired publishing rights	5-20 years
Other intangibles acquired	2-20 years

The expected amortisation profile of acquired intangible assets is shown below:

All figures in £ millions	2018			
	One to five years	Six to ten years	More than ten years	Total
Class of intangible asset				
Acquired customer lists, contracts and relationships	187	66	10	263
Acquired trademarks and brands	49	27	10	86
Acquired publishing rights	5	1	–	6
Other intangibles acquired	77	19	–	96

Impairment tests for cash-generating units (CGUs) containing goodwill

Impairment tests have been carried out where appropriate as described below. Goodwill was allocated to CGUs, or an aggregation of CGUs, where goodwill could not be reasonably allocated to individual business units. Impairment reviews were conducted on these CGUs (including Growth given the recent write down of goodwill). The recoverable amount for each unit exceeds its carrying value, therefore there is no impairment in 2018. The carrying value of the goodwill in each of the CGUs is summarised below:

All figures in £ millions	2018	2017
North America	930	1,013
Core	701	641
Growth (includes Brazil, China, India and South Africa)	–	–
Pearson VUE	480	376
Total	2,111	2,030

The recoverable amount of each aggregated CGU is based on fair value less costs of disposal. Goodwill is tested at least annually for impairment. Other than goodwill there are no intangible assets with indefinite lives. The goodwill is generally denominated in the currency of the relevant cash flows and therefore the impairment review is not materially sensitive to exchange rate fluctuations.

11. Intangible assets continued

Key assumptions

For the purpose of estimating the fair value less costs of disposal of the CGUs, management has used an income approach based on present value techniques. The calculations use cash flow projections based on financial budgets approved by management covering a five-year period, management's best estimate about future developments and market assumptions. The fair value less costs of disposal measurement is categorised as Level 3 on the fair value hierarchy. The key assumptions used by management in the fair value less costs of disposal calculations were:

Discount rates The discount rate is based on the risk-free rate for government bonds, adjusted for a risk premium to reflect the increased risk in investing in equities. The risk premium adjustment is assessed for each specific CGU. The average post-tax discount rates range from 7.9% to 15.8%. Discount rates are lower for those businesses which operate in more mature markets with low inflation and higher for those operating in emerging markets with higher inflation.

Perpetuity growth rates A perpetuity growth rate of 2.0% was used for cash flows subsequent to the approved budget period for CGUs operating in mature markets. This perpetuity growth rate is a conservative rate and is considered to be lower than the long-term historical growth rates of the underlying territories in which the CGU operates and the long-term growth rate prospects of the sectors in which the CGU operates. CGU growth rates between 3.0% and 6.5% were used for cash flows subsequent to the approved budget period for CGUs operating in emerging markets with high inflation. These growth rates are also below the long-term historical growth rates in these markets.

Sensitivities

Impairment testing for the year ended 31 December 2018 has identified the following CGUs, or groups of CGUs, as being sensitive to changes in assumptions. The table below shows the headroom at 31 December 2018 and the cumulative impact of changes in the assumptions used in calculating the fair value.

All figures in £ millions	Headroom at 31 December 2018	1% increase in average discount rate	5% decrease in annual contribution	10% decrease in annual contribution	1% decrease in perpetuity growth rate
Headroom/(impairment)					
North America	356	128	27	(301)	167
Core	210	67	84	(42)	83
Brazil	20	(8)	3	(14)	(4)

The above analysis is performed at the exchange rates used in the Group's strategic planning process. CGU contribution excludes fixed costs and corporate overheads. The goodwill related to the Brazil CGU was fully impaired in prior years, and the intangibles related to the Brazil CGU are amortised over their useful economic life.

The key assumptions used by management in setting the financial budgets for the initial five-year period were as follows:

Forecast sales growth rates Forecast sales growth rates are based on past experience adjusted for the strategic direction and near-term investment priorities within each CGU. Key assumptions include growth in Online Program Management, Virtual Schools and Professional Certification, stabilisation in UK Qualifications and US Assessments, and ongoing pressures in the US Higher Education Courseware market. The five-year sales forecasts use average nominal growth rates between 2% and 3% for mature markets and between (1)% and 12% for emerging markets with high inflation.

Operating profits Operating profits are forecast based on historical experience of operating margins, adjusted for the impact of changes to product costs and cost-saving initiatives, including the impact of the implementation of our cost efficiency programme.

Cash conversion Cash conversion is the ratio of operating cash flow to operating profit. Management forecasts cash conversion rates based on historical experience.

Notes to the consolidated financial statements

12. Investments in joint ventures and associates

The amounts recognised in the balance sheet are as follows:

All figures in £ millions	2018	2017
Associates	392	395
Joint ventures	-	3
Total	392	398

The amounts recognised in the income statement are as follows:

All figures in £ millions	2018	2017
Associates	43	77
Joint ventures	1	1
Total	44	78

Investment in associates

The Group has the following material associates:

	Principal place of business	Ownership interest	Nature of relationship	Measurement method
Penguin Random House Ltd	UK/Global	25%	See below	Equity
Penguin Random House LLC	US	25%	See below	Equity

On 1 July 2013, Penguin Random House was formed, upon the completion of an agreement between Pearson and Bertelsmann to merge their respective trade publishing companies, Penguin and Random House, with the parent companies owning 47% and 53% of the combined business respectively. On 5 October 2017, Pearson sold a 22% stake in Penguin Random House to Bertelsmann, retaining a 25% share. Pearson owns its 25% interest in Penguin Random House via 25% interests in each of the two entities listed in the table above. Despite the separate legal structures of the two Penguin Random House entities, Pearson regards Penguin Random House as one combined global business. Consequently, Pearson discloses Penguin Random House as one single operating segment and presents disclosures related to its interests in Penguin Random House on a combined basis.

The shareholder agreement includes protective rights for Pearson as the minority shareholder, including rights to dividends. Management considers ownership percentage, Board composition and the additional protective rights, and exercises judgement to determine that Pearson has significant influence over Penguin Random House and Bertelsmann has the power to direct the relevant activities and therefore control. Following the transaction in 2017 the assessment of significant influence has not changed. Penguin Random House does not have a quoted market price.

12. Investments in joint ventures and associates continued

Investment in associates continued

The summarised financial information of the material associate is detailed below:

	2018	2017
	Penguin Random House	Penguin Random House
All figures in £ millions		
Assets		
Non-current assets	1,043	1,048
Current assets	1,929	1,758
Liabilities		
Non-current liabilities	(1,104)	(859)
Current liabilities	(1,546)	(1,579)
Net assets	322	368
Sales		
	2,775	2,693
Profit for the year	185	171
Other comprehensive income/(expense)	13	(60)
Total comprehensive income	198	111
Dividends received from associate in relation to profits	67	146
Re-capitalisation dividends received from associate	50	312

The information above reflects the amounts presented in the financial statements of the associate, adjusted for fair value and similar adjustments. The tax on Penguin Random House LLC is settled by the partners. For the purposes of clear and consistent presentation, the tax has been shown in the associate line items in the consolidated income statement and consolidated balance sheet, recording the Group's share of profit after tax consistently for the Penguin Random House associates.

A reconciliation of the summarised financial information to the carrying value of the material associate is shown below:

	2018	2017
	Penguin Random House	Penguin Random House
All figures in £ millions		
Opening net assets	368	1,386
Exchange differences	18	(18)
Profit for the year	185	171
Other comprehensive income/(expense)	13	(60)
Dividends, net of tax paid	(262)	(1,167)
Tax adjustments in relation to disposals	-	56
Closing net assets	322	368
Share of net assets	80	92
Goodwill	307	296
Carrying value of associate	387	388

Information on other individually immaterial associates is detailed below:

	2018	2017
All figures in £ millions		
(Loss)/profit for the year	(3)	7
Total comprehensive (expense)/income	(3)	7

Notes to the consolidated financial statements

12. Investments in joint ventures and associates continued

Transactions with material associates

From time to time the Group loans funds to Penguin Random House which are unsecured and interest is calculated based on market rates. The amount outstanding at 31 December 2018 was £nil (2017: £46m). The loans are provided under a working capital facility and fluctuate during the year. The loan outstanding at 31 December 2017 was repaid in its entirety in January 2018.

The Group also has a current asset receivable of £17m (2017: £19m) from Penguin Random House and a current liability payable of £nil (2017: £3m) arising from the provision of services. Included in other income (note 4) is £3m (2017: £3m) of service fees. In addition, the Group received a further re-capitalisation dividend of £50m in April 2018, which was triggered by the Group's decision to sell a 22% stake in Penguin Random House in 2017.

Investment in joint ventures

Information on joint ventures, all of which are individually immaterial, is detailed below:

All figures in £ millions	2018	2017
Profit for the year	1	1
Total comprehensive income	1	1

13. Deferred income tax

All figures in £ millions	2018	2017
Deferred income tax assets	60	95
Deferred income tax liabilities	(136)	(164)
Net deferred income tax	(76)	(69)

Substantially all of the deferred income tax assets are expected to be recovered after more than one year.

Deferred income tax assets and liabilities shall be offset when there is a legally enforceable right to offset current income tax assets with current income tax liabilities and where the deferred income taxes relate to the same fiscal authority. At 31 December 2018, the Group has unrecognised deferred income tax assets of £31m (2017: £32m) in respect of UK losses, £28m (2017: £18m) in respect of US losses and approximately £90m (2017: £86m) in respect of losses in other territories. The UK losses are capital losses. The US losses relate to state taxes and therefore have expiry periods of between five and 20 years. Other deferred tax assets of £12m (2017: £12m) have not been recognised.

Deferred tax assets of £43m (2017: £75m) have been recognised in countries that reported a tax loss in either the current or preceding year. The majority arises in Brazil in respect of tax deductible goodwill. It is considered more likely than not that there will be sufficient future taxable profits to realise these assets.

The recognition of the deferred income tax assets is supported by management's forecasts of the future profitability of the relevant countries.

13. Deferred income tax continued

The movement in deferred income tax assets and liabilities during the year is as follows:

All figures in £ millions	Trading losses	Returns provisions	Retirement benefit obligations	Deferred revenue	Goodwill and intangibles	Other	Total
Deferred income tax assets/(liabilities)							
At 1 January 2017	22	35	37	117	(295)	69	(15)
Exchange differences	(2)	(3)	(4)	(8)	19	(8)	(6)
Income statement (charge)/benefit	(11)	6	7	(9)	118	(1)	110
Disposal through business disposal	-	-	-	-	-	(3)	(3)
Tax benefit in other comprehensive income	-	-	(84)	-	-	(5)	(89)
Transfer to assets/(liabilities) classified as held for sale	-	(4)	-	(73)	3	8	(66)
At 31 December 2017	9	34	(44)	27	(155)	60	(69)
Adjustment on initial application of IFRS 15 (see note 1b)	-	-	-	15	-	1	16
Adjustment on initial application of IFRS 9 (see note 1c)	-	-	-	-	-	3	3
Exchange differences	-	1	1	6	(16)	(5)	(13)
Income statement (charge)/benefit	11	(4)	(21)	20	(34)	(14)	(42)
Disposal through business disposal	-	-	-	-	-	16	16
Tax charge in other comprehensive income	-	-	9	-	-	-	9
Tax charge in equity	-	-	-	-	-	4	4
At 31 December 2018	20	31	(55)	68	(205)	65	(76)

Other deferred income tax items include temporary differences in respect of share-based payments, provisions, depreciation and royalty advances.

In addition, £98m (2017: £68m asset and £2m liability) of deferred income tax assets are included in assets classified as held for sale with a charge of £8m in 2018 relating to assets and liabilities held for sale.

14. Classification of financial instruments

The accounting classification of each class of the Group's financial assets, and their carrying values, is as follows:

All figures in £ millions	Notes	2018					2017				
		Fair value			Amortised cost		Fair value			Amortised cost	
		FVOCI	FVTPL	Fair value – hedging instrument	Financial assets	Total carrying value	Available for sale	Derivatives held for trading	Derivatives in hedge relationship	Loans and receivables	Total carrying value
Investments in unlisted securities	15	93	-	-	-	93	77	-	-	-	77
Cash and cash equivalents	17	-	-	-	568	568	-	-	-	518	518
Cash and cash equivalents – within assets classified as held for sale	32	-	-	-	-	-	-	-	-	127	127
Marketable securities		-	-	-	-	-	8	-	-	-	8
Derivative financial instruments	16	-	4	64	-	68	-	3	137	-	140
Trade receivables	22	-	-	-	904	904	-	-	-	760	760
Trade receivables – within assets classified as held for sale		-	-	-	49	49	-	-	-	22	22
Total financial assets		93	4	64	1,521	1,682	85	3	137	1,427	1,652

The carrying value of the Group's financial assets is equal to, or approximately equal to, the market value. Following the adoption of IFRS 9 in 2018 the terminology used to describe financial assets has been changed (see note 1c).

Notes to the consolidated financial statements

14. Classification of financial instruments continued

The accounting classification of each class of the Group's financial liabilities, together with their carrying values and market values, is as follows:

All figures in £ millions	Notes	2018					2017				
		Fair value		Amortised cost	Total carrying value	Total market value	Fair value		Amortised cost	Total carrying value	Total market value
		FVTPL	Fair value – hedging instrument	Other financial liabilities			Derivatives held for trading	Derivatives in hedge relationship	Other liabilities		
Derivative financial instruments	16	-	(59)	-	(59)	(59)	-	(140)	-	(140)	(140)
Trade payables	24	-	-	(311)	(311)	(311)	-	-	(265)	(265)	(265)
Trade payables – within liabilities classified as held for sale		-	-	(22)	(22)	(22)	-	-	(20)	(20)	(20)
Liability to purchase own shares	24	-	-	-	-	-	-	-	(151)	(151)	(151)
Bank loans and overdrafts	18	-	-	(43)	(43)	(43)	-	-	(15)	(15)	(15)
Other borrowings due within one year	18	-	-	(3)	(3)	(3)	-	-	(4)	(4)	(4)
Borrowings due after more than one year	18	-	-	(674)	(674)	(663)	-	-	(1,066)	(1,066)	(1,070)
Total financial liabilities		-	(59)	(1,053)	(1,112)	(1,101)	-	(140)	(1,521)	(1,661)	(1,665)

Following the adoption of IFRS 9 in 2018 the terminology used to describe financial liabilities has been changed (see note 1c).

Fair value measurement

As shown above, the Group's derivative assets and liabilities, unlisted securities and marketable securities are held at fair value. Financial instruments that are measured subsequently to initial recognition at fair value are grouped into levels 1 to 3, based on the degree to which the fair value is observable, as follows:

Level 1 fair value measurements are those derived from unadjusted quoted prices in active markets for identical assets or liabilities.

Level 2 fair value measurements are those derived from inputs, other than quoted prices included within level 1, that are observable for the asset or liability, either directly (as prices) or indirectly (derived from prices).

Level 3 fair value measurements are those derived from valuation techniques that include inputs for the asset or liability that are not based on observable market data (unobservable inputs).

The Group's derivative assets valued at £68m (2017: £140m) and derivative liabilities valued at £59m (2017: £140m) are classified as level 2. The Group's marketable securities valued at £nil (2017: £8m) are classified as level 2. The Group's investments in unlisted securities are valued at £93m (2017: £77m) and are classified as level 3.

The following table analyses the movements in level 3 fair value remeasurements:

All figures in £ millions	2018	2017
	Investments in unlisted securities	Investments in unlisted securities
At beginning of year	77	65
Exchange differences	4	(4)
Acquisition of investments	13	3
Fair value movements	7	13
Disposal of investments	(8)	-
At end of year	93	77

The fair value of the investments in unlisted securities is determined by reference to the financial performance of the underlying asset, recent funding rounds and amounts realised on the sale of similar assets.

15. Other financial assets

All figures in £ millions	2018	2017
At beginning of year	77	65
Exchange differences	4	(4)
Acquisition of investments	13	3
Fair value movements	7	13
Disposal of investments	(8)	-
At end of year	93	77

Other financial assets comprise unlisted securities of £93m (2017: £77m) that are classified at fair value through other comprehensive income (FVOCI). The assets, which are not held for trading, relate to the Group's interests in new and innovative educational ventures across the world. These are strategic investments and the Group considers the classification as FVOCI to be more relevant. None of the investments are individually significant to the financial statements. In 2018, equities held at a fair value of £8m (2017: £nil) were disposed. The cumulative gain on disposal was £nil and £2m was recycled from the fair value reserve to retained earnings.

16. Derivative financial instruments and hedge accounting

The Group's approach to the management of financial risks is set out in note 19. The Group's outstanding derivative financial instruments are as follows:

All figures in £ millions	2018			2017		
	Gross notional amounts	Assets	Liabilities	Gross notional amounts	Assets	Liabilities
Interest rate derivatives – in a fair value hedge relationship	404	13	-	799	23	-
Interest rate derivatives – not in a hedge relationship	362	3	-	429	3	-
Cross-currency rate derivatives – in a hedge relationship	577	51	(35)	1,522	114	(140)
FX forwards and collars – in a hedge relationship	434	-	(24)	-	-	-
Other derivatives – not in a hedge relationship	473	1	-	-	-	-
Total	2,250	68	(59)	2,750	140	(140)
Analysed as expiring:						
In less than one year	771	1	(23)	-	-	-
Later than one year and not later than five years	795	22	(1)	1,638	65	(95)
Later than five years	684	45	(35)	1,112	75	(45)
Total	2,250	68	(59)	2,750	140	(140)

The Group's fixed rate USD debt is held as fixed rate instruments at amortised cost.

The majority of the Group's fixed rate euro debt is converted to a floating rate exposure using interest rate and cross-currency swaps. The Group receives interest under its euro debt related swap contracts to match the interest on the bonds (ranging from a receipt of 1.375% on its euro 2025 notes to 1.875% on its euro 2021 notes) and, in turn, pays either a floating US dollar or sterling variable rates of GBP Libor + 0.81% and US Libor + 1.36%.

GBP and USD Interest rate swaps are subsequently used to fix an element of the interest charge. The all-in rates (including the spread above Libor) that the Group pays are between 2.2% and 3.8%. At 31 December 2018, the Group had interest rate swap contracts to fix £361m of debt and a further £256m of outstanding fixed rate bonds bringing the total fixed rate debt to £617m. These pay fixed interest rate derivatives are not in designated hedging relationships. Additionally the group uses FX derivatives including forwards, collars and cross currency swaps to create synthetic USD debt as a hedge of its USD assets and to achieve certainty of USD currency conversion rates, in line with the Group's FX hedging policy. Outstanding contracts as at 31 December 2018

were held at an average GBP/USD rate of 1.39. These derivatives are in designated net investment hedging relationships. Outstanding contracts on the cross currency swaps at 31 December 2018 were held at an average EUR/GBP rate of 0.79. These derivatives are in designated fair value hedging relationships.

At the end of 2018, the currency split of the mark-to-market values of rate derivatives, including the exchange of principal on cross currency rate derivatives, was US dollar £(185)m, sterling (215)m and euro £432m (2017: US dollar £(869)m, sterling £12m and euro £857m).

The Group's portfolio of rate derivatives is diversified by maturity, counterparty and type. Natural offsets between transactions within the portfolio and the designation of certain derivatives as hedges significantly reduce the risk of income statement volatility. The sensitivity of the portfolio to changes in market rates is set out in note 19.

Notes to the consolidated financial statements

16. Derivative financial instruments and hedge accounting continued

Fair value hedges

The group uses Interest Rate Swaps and Cross Currency Swaps as Fair value hedges of the Groups euro issued debt.

Interest rate exposure arises from movements in the fair value of the Group's euro debt attributable to movements in euro interest rates. The hedged risk is the change the euro bonds fair value attributable to interest rate movements. The hedged items are the Group's euro bonds which are issued at a fixed rate. The hedging instruments are fixed to floating euro interest rate swaps where the Group receives fixed interest payments and pays three month Euribor.

As the critical terms of the interest rate swaps match the bonds such there is an expectation that the value of the hedging instrument and the value of the hedged item move in the opposite direction as a result of movements in the zero coupon Euribor curve. The hedge ratio is 100%. Sources of hedge ineffectiveness are a reduction or modification in the hedged item or a material change in the credit risk of swap counterparties.

A foreign currency exposure arises from foreign exchange fluctuations on translation of the Group's euro debt into GBP. The hedged risk is the risk of changes in the GBPEUR spot rate that will result in changes in the value of the euro debt when translated into GBP. The hedged items are a portion of the Group's euro bonds. The hedging instruments are floating to floating cross currency swaps which creates an exposure to euro strengthening against GBP within the hedge item. The final exchange on the cross currency swap creates an exposure to euro weakening against GBP.

As the critical terms of the cross currency swap match the bonds there is an expectation that the value of the hedging instrument and the value of the hedged item move in the opposite direction as a result of movements in the EURGBP exchange rate. The hedge ratio is 100%. Sources of hedge ineffectiveness are a reduction or modification in the hedged item or a material change in the credit risk of swap counterparties.

At December 2018, the Group held the following instruments to hedge exposures to changes in interest rates and foreign currency risk associated with borrowings.

All figures in £ millions	Carrying amount of hedging instruments	Change in fair value of hedging instrument used to determine hedge ineffectiveness	Nominal amounts of hedging instruments
Interest rate risk			
Financial assets – derivative financial instruments	13	(7)	404
Currency risk			
Financial assets – derivative financial instruments	51	3	404

The amounts at the reporting date relating to items designated as hedge items were as follows:

All figures in £ millions	Carrying amount of hedged items	Accumulated amount of fair value hedge adjustments on the hedged item included in the carrying amount	Change in fair value of hedged item used to determine hedge ineffectiveness	Hedge ineffectiveness	Line item in profit or loss that includes hedge ineffectiveness
Interest rate risk					
Financial liabilities – borrowings	(416)	(9)	7	–	n/a
Currency risk					
Financial liabilities – borrowings	(416)	n/a	(3)	–	n/a

Hedge of net investment in a foreign operation

A foreign currency exposure arises from the translation of the Group's net investments in its subsidiaries which have USD and euro functional currencies. The hedged risk is the risk of changes in the GBPUSD and GBPEUR spot rates that will result in changes in the value of the group's net investment in its USD and euro assets when translated into GBP. The hedged items are a portion of the Group's assets which are denominated in USD and euro. The hedging instruments are debt and derivative financial instruments, including Cross Currency Swaps, FX Forwards and FX Collars which creates an exposure to USD and euro weakening against GBP.

It is expected that the change in value of each of these items will mirror each other as there is a clear and direct economic relationship between the hedge and the hedged item in the hedge relationship.

Hedge ineffectiveness would arise if the value of the hedged items fell below the value of the hedging instruments however this is unlikely as the value of the group's assets denominated in USD and euro are significantly greater than the proposed net investment programme.

16. Derivative financial instruments and hedge accounting continued

The amounts related to items designated as hedging instruments were as follows:

All figures in £ millions	Carrying amount of hedged instruments	Change in value of hedging instrument used to determine hedge ineffectiveness	Nominal amounts of hedging instruments	Hedging gains/(losses) recognised in OCI	Hedge ineffectiveness recognised in profit or loss
Financial liabilities – derivative financial instruments	(59)	(22)	607	(22)	–
Financial liabilities – borrowings	(256)	(10)	(256)	(10)	–

In addition to the above, £15m of hedging losses were recognised in OCI in relation to derivative financial instruments that matured during the year.

Offsetting arrangements

Derivative financial assets and liabilities subject to offsetting arrangements are as follows:

All figures in £ millions	2018			2017		
	Gross derivative assets	Gross derivative liabilities	Net derivative assets/liabilities	Gross derivative assets	Gross derivative liabilities	Net derivative assets/liabilities
Counterparties in an asset position	67	(44)	23	103	(78)	25
Counterparties in a liability position	1	(15)	(14)	37	(62)	(25)
Total as presented in the balance sheet	68	(59)	9	140	(140)	–

All of the Group's derivative financial instruments are subject to enforceable netting arrangements with individual counterparties, allowing net settlement in the event of default of either party. Offset arrangements in respect of cash balances are described in note 17.

Counterparty exposure from all derivatives is managed, together with that from deposits and bank account balances, within credit limits that reflect published credit ratings and by reference to other market measures (e.g. market prices for credit default swaps) to ensure that there is no significant risk to any one counterparty.

The Group has no material embedded derivatives that are required to be separately accounted for in accordance with IFRS 9 'Financial Instruments'.

17. Cash and cash equivalents (excluding overdrafts)

All figures in £ millions	2018	2017
Cash at bank and in hand	533	361
Short-term bank deposits	35	157
	568	518
Cash at bank and in hand – within assets classified as held for sale	–	127
	568	645

Short-term bank deposits are invested with banks and earn interest at the prevailing short-term deposit rates.

At the end of 2018, the currency split of cash and cash equivalents was US dollar 18% (2017: 36%), sterling 30% (2017: 8%), Canadian dollar 14% (2017: 2%), euro 6% (2017: 7%), renminbi 3% (2017: 20%) and other 29% (2017: 27%). At the end of 2017, a significant proportion of the renminbi cash related to assets held for sale.

Cash and cash equivalents have fair values that approximate to their carrying value due to their short-term nature. Cash and cash equivalents include the following for the purpose of the cash flow statement:

All figures in £ millions	2018	2017
Cash and cash equivalents	568	518
Cash and cash equivalents – within assets classified as held for sale	–	127
Bank overdrafts	(43)	(15)
	525	630

The Group has certain cash pooling arrangements in US dollars, sterling, euro and Canadian dollars where both the company and the bank have a legal right of offset. Offsetting amounts are presented gross in the balance sheet. Offset arrangements in respect of derivatives are shown in note 16.

Notes to the consolidated financial statements

18. Financial liabilities – borrowings

The Group's current and non-current borrowings are as follows:

All figures in £ millions	2018	2017
Non-current		
1.875% euro notes 2021 (nominal amount €250m; 2017 nominal amount €500m)	233	463
3.75% US dollar notes 2022 (nominal amount \$117m)	92	85
3.25% US dollar notes 2023 (nominal amount \$94m)	74	69
1.375% euro notes 2025 (nominal amount €300m; nominal amount €500m)	273	445
Finance lease liabilities	2	4
	674	1,066
Current		
Due within one year or on-demand:		
Bank loans and overdrafts	43	15
Finance lease liabilities	3	4
	46	19
Total borrowings	720	1,085

Included in the non-current borrowings above is £6m of accrued interest (2017: £10m). Included in the current borrowings above is £nil of accrued interest (2017: £nil).

The maturities of the Group's non-current borrowings are as follows:

All figures in £ millions	2018	2017
Between one and two years	1	3
Between two and five years	400	549
Over five years	273	514
	674	1,066

The carrying amounts and market values of borrowings are as follows:

All figures in £ millions	2018			2017		
	Effective interest rate	Carrying value	Market value	Effective interest rate	Carrying value	Market value
Bank loans and overdrafts	n/a	43	43	n/a	15	15
1.875% euro notes 2021	2.04%	233	233	2.04%	463	467
3.75% US dollar notes 2022	3.94%	92	91	3.94%	85	87
3.25% US dollar notes 2023	3.36%	74	71	3.36%	69	67
1.375% euro notes 2025	1.44%	273	266	1.44%	445	445
Finance lease liabilities	n/a	5	5	n/a	8	8
		720	709		1,085	1,089

The market values stated above are based on clean market prices at the year end or, where these are not available, on the quoted market prices of comparable debt issued by other companies. The effective interest rates above relate to the underlying debt instruments.

The carrying amounts of the Group's borrowings before the effect of derivatives (see notes 16 and 19 for further information on the impact of derivatives) are denominated in the following currencies:

All figures in £ millions	2018	2017
US dollar	188	172
Sterling	23	1
Euro	506	911
Other	3	1
	720	1,085

18. Financial liabilities – borrowings continued

The Group has \$1.75bn (£1.4bn) of undrawn capacity on its committed borrowing facilities as at 31 December 2018 (2017: \$1.75bn (£1.3bn) undrawn). In addition, there are a number of short-term facilities that are utilised in the normal course of business. All of the Group's borrowings are unsecured. In respect of finance lease obligations, the rights to the leased asset revert to the lessor in the event of default.

The maturity of the Group's finance lease obligations is as follows:

All figures in £ millions	2018	2017
Finance lease liabilities – minimum lease payments		
Not later than one year	3	4
Later than one year and not later than two years	1	3
Later than two years and not later than three years	1	1
Later than three years and not later than four years	–	–
Later than four years and not later than five years	–	–
Later than five years	–	–
Future finance charges on finance leases	–	–
Present value of finance lease liabilities	5	8

The present value of the Group's finance lease obligations is as follows:

All figures in £ millions	2018	2017
Not later than one year	3	4
Later than one year and not later than five years	2	4
Later than five years	–	–
	5	8

The carrying amounts of the Group's lease obligations approximate their fair value.

19. Financial risk management

The Group's approach to the management of financial risks together with sensitivity analyses of its financial instruments is set out below.

Treasury policy

Pearson's treasury policies set out the group's principles for addressing key financial risks including capital risk, liquidity risk, foreign exchange risk and interest rate risk and sets out measurable targets for each. The Audit Committee receive quarterly reports incorporating compliance with these measurable targets and review and approve the treasury policies annually.

The treasury function is permitted to use derivatives where their use reduces a risk or allows a transaction to be undertaken more cost effectively. Derivatives permitted include swaps, forwards and collars to manage foreign exchange and interest rate risk, with foreign exchange swap and forward contracts the most commonly executed. Speculative transactions are not permitted.

Capital risk

The Group's objectives when managing capital are:

- › To maintain a strong balance sheet and a solid investment grade rating;
- › To continue to invest in the business;
- › To have a sustainable and progressive dividend policy, and;
- › To return surplus cash to our shareholders where appropriate.

The Group aims to maintain net debt at a level less than 1.5 times EBITDA before the adoption of IFRS 16 and less than 2.2 times EBITDA after the adoption of IFRS16. This is consistent with a solid investment grade rating (assuming no material deterioration in trading performance) and provides comfortable headroom against covenants.

The Group is currently rated BBB (negative outlook) with Standard and Poor's and Baa2 (stable outlook) with Moody's.

Notes to the consolidated financial statements

19. Financial risk management continued

Net debt

The Group's net debt position is set out below:

All figures in £ millions	2018	2017
Cash and cash equivalents	568	645
Marketable securities	-	8
Derivative financial instruments	9	-
Bank loans and overdrafts	(43)	(15)
Bonds	(672)	(1,062)
Finance lease liabilities	(5)	(8)
Net debt	(143)	(432)

Interest and foreign exchange rate management

The Group's principal currency exposure is to the US dollar which represents more than 60% of the Group's sales.

The Group's long-term debt is primarily held in US dollars to provide a natural hedge of this exposure, which is achieved through issued US dollar debt or converting euro debt to US dollars using cross-currency swaps, forwards and collars. As at 31 December 2018, £617m of the Group's debt is held at fixed rates (2017: £674m), with £103m held at floating rates (2017: £411m), partially offset by US dollar cash balances which attract floating rate interest.

See note 16 for details of the Group's hedging programme which addresses interest rate risk and foreign currency risk.

Overseas profits are converted to sterling to satisfy sterling cash outflows such as dividends at the prevailing spot rate at the time of the transaction. To the extent the Group has sufficient sterling, US dollars may be held as dollar cash to provide a natural offset to the Group's debt or to satisfy future US dollar cash outflows.

The Group does not have significant cross border foreign exchange transactional exposures.

As at 31 December 2018, the sensitivity of the carrying value of the Group's financial instruments to fluctuations in interest rates and exchange rates is as follows:

All figures in £ millions	Carrying value	Impact of 1% increase in interest rates	Impact of 1% decrease in interest rates	Impact of 10% strengthening in sterling	Impact of 10% weakening in sterling
Investments in unlisted securities	93	-	-	(7)	9
Cash and cash equivalents	568	-	-	(36)	45
Derivative financial instruments	9	(3)	3	1	(1)
Bonds	(672)	17	(17)	61	(74)
Other borrowings	(48)	-	-	2	(3)
Other net financial assets	620	-	-	(51)	62
Total financial instruments	570	14	(14)	(30)	38

The table shows the sensitivities of the fair values of each class of financial instrument to an isolated change in either interest rates or foreign exchange rates. Other net financial assets comprises trade receivables less trade payables. A significant proportion of the movements shown above would impact equity rather than the income statement due to the location and functional currency of the entities in which they arise and the availability of net investment hedging.

The Group's income statement is reported at average rates for the year while the balance sheet is translated at the year-end closing rate. Differences between these rates can distort ratio calculations such as debt to EBITDA and interest cover. Adjusted operating profit translated at year-end closing rates would be £28m higher than the reported figure of £546m at £574m. EBITDA translated at year-end closing rates would be £32m higher than the reported figure of £698m at £730m.

Liquidity and re-financing risk management

The Group regularly reviews the level of cash and debt facilities required to fund its activities. This involves preparing a prudent cash flow forecast for the next three to five years, determining the level of debt facilities required to fund the business, planning for shareholder returns and repayments of maturing debt, and identifying an appropriate amount of headroom to provide a reserve against unexpected outflows.

At 31 December 2018, the Group had cash of £0.5bn and an undrawn US dollar denominated revolving credit facility due 2021 of \$1.75bn (£1.4bn). At 31 December 2017, the Group had cash of £0.6bn and an undrawn US dollar denominated revolving credit facility due 2021 of \$1.75bn (£1.3bn).

19. Financial risk management continued

The \$1.75bn facility contains interest cover and leverage covenants which the Group has complied with for the year ended 31 December 2018. The maturity of the carrying values of the Group's borrowings and trade payables are set out in notes 18 and 24 respectively.

At the end of 2018, the currency split of the Group's trade payables was US dollar £178m, sterling £57m and other currencies £98m (2017: US dollar £137m, sterling £58m and other currencies £90m). Trade payables are all due within one year (2017: all due within one year).

The following table analyses the Group's bonds and derivative assets and liabilities into relevant maturity groupings based on the remaining period at the balance sheet date to the contractual maturity date. Short dated derivative instruments have not been included in this table. The amounts disclosed in the table are the contractual undiscounted cash flows (including interest) and as such may differ from the amounts disclosed on the balance sheet.

All figures in £ millions	Analysed by maturity			Total	Analysed by currency			Total
	Greater than one month and less than one year	Later than one year but less than five years	Five years or more		USD	GBP	Other	
At 31 December 2018								
Bonds	14	431	277	722	189	-	533	722
Rate derivatives – inflows	(20)	(288)	(343)	(651)	(40)	(167)	(444)	(651)
Rate derivatives – outflows	23	289	341	653	254	390	9	653
FX forwards – inflows	(251)	(35)	-	(286)	-	(286)	-	(286)
FX forwards – outflows	275	37	-	312	312	-	-	312
Total	41	434	275	750	715	(63)	98	750
At 31 December 2017								
Bonds	20	601	533	1,154	184	-	970	1,154
Rate derivatives – inflows	(38)	(975)	(684)	(1,697)	(53)	(751)	(893)	(1,697)
Rate derivatives – outflows	48	1,060	667	1,775	1,003	751	21	1,775
FX forwards – inflows	-	-	-	-	-	-	-	-
FX forwards – outflows	-	-	-	-	-	-	-	-
Total	30	686	516	1,232	1,134	-	98	1,232

Financial counterparty and credit risk management

Financial counterparty and credit risk arises from cash and cash equivalents, favourable derivative financial instruments and deposits with banks and financial institutions, as well as credit exposures to customers, including outstanding receivables.

Counterparty credit limits, which take published credit rating and other factors into account, are set to cover the Group's total aggregate exposure to a single financial institution. The limits applicable to published credit rating bands are approved by the Chief Financial Officer within guidelines approved by the Board. Exposures and limits applicable to each financial institution are reviewed on a regular basis.

Cash deposits and derivative transactions are made with approved counterparties up to pre-agreed limits. To manage counterparty risk associated with cash and cash equivalents, the Group uses a mixture of money market funds as well as bank deposits. As at 31 December 2018, 85% of cash and cash equivalents was held with investment grade bank counterparties, 7% with AAA money market funds and 8% held with non-investment grade bank counterparties. As at 31 December 2018, the Group had a net exposure of £33m with investment grade counterparties for derivative transactions.

For trade receivables and contract assets the Group's exposure to credit risk is influenced mainly by the individual characteristics of each customer. However, risk associated with the industry and country in which customers operate may also influence the credit risk. The credit quality of customers is assessed by taking into account financial position, past experience and other relevant factors. Individual credit limits are set for each customer based on internal ratings. The compliance with credit limits is regularly monitored by the Group. A default on a trade receivable is when the counterparty fails to make contractual payments within the stated payment terms. Trade receivables and contract assets are written off when there is no reasonable expectation of recovery. The carrying amounts of financial assets, trade receivables and contract assets represent the maximum credit exposure.

Trade receivables and contract assets are subject to impairment using the expected credit loss model. The Group applies the IFRS 9 simplified approach to measuring expected credit losses which uses a lifetime expected credit loss allowance for all trade receivables and contract assets. To measure the expected credit losses, trade receivables and contract assets have been grouped based on shared credit risk characteristics and the days past due. See note 22 for further details about trade receivables and contract assets including movements in provisions for bad and doubtful debts.

Notes to the consolidated financial statements

20. Intangible assets – pre-publication

All figures in £ millions	2018	2017
Cost		
At beginning of year	1,854	2,417
Exchange differences	70	(168)
Additions	328	362
Disposal through business disposal	–	(1)
Disposals	(158)	(248)
Transfer from property, plant and equipment	2	–
Transfer to assets classified as held for sale	–	(508)
At end of year	2,096	1,854
Amortisation		
At beginning of year	(1,113)	(1,393)
Exchange differences	(53)	109
Charge for the year	(271)	(338)
Disposals	158	248
Transfer to assets classified as held for sale	–	261
At end of year	(1,279)	(1,113)
Carrying amounts		
At end of year	817	741

Included in the above are pre-publication assets amounting to £577m (2017: £504m) which will be realised in more than one year.

Amortisation is included in the income statement in cost of goods sold.

In addition to the above £242m (2017: £247m) of pre-publication assets are included in assets classified as held for sale (see note 32) with a charge of £67m and additions of £60m in 2018 relating to assets and liabilities held for sale.

21. Inventories

All figures in £ millions	2018	2017
Raw materials	5	4
Work in progress	–	2
Finished goods	149	142
Returns asset	10	–
	164	148

The cost of inventories recognised as an expense and included in the income statement in cost of goods sold amounted to £375m (2017: £324m). In 2018 £39m (2017: £38m) of inventory provisions was charged in the income statement. None of the inventory is pledged as security.

Included within the inventory balance is the estimation of the right to receive goods from contracts with customers via returns (see note 1b). The value of the returns asset is measured at the carrying amount of the assets at the time of sale aligned to the Group's normal inventory valuation methodology less any expected costs to recover the asset and any expected reduction in value. Impairment charges against the inventory returns asset are £nil in 2018. The returns asset all relates to finished goods.

22. Trade and other receivables

All figures in £ millions	2018	2017
Current		
Trade receivables	874	739
Royalty advances	5	8
Prepayments	103	82
Deferred contract costs	1	-
Accrued income	2	1
Other receivables	193	280
	1,178	1,110
Non-current		
Trade receivables	30	21
Royalty advances	21	20
Prepayments	13	15
Deferred contract costs	1	-
Accrued income	10	10
Other receivables	25	37
	100	103

Accrued income represents contract assets which are unbilled amounts generally resulting from assessments and services revenue streams where revenue to be recognised over time has been recognised in excess of customer billings to date. Impairment charges on accrued income assets are £nil in 2018. The carrying value of the Group's trade and other receivables approximates its fair value. Trade receivables are stated net of provisions for bad and doubtful debts. Trade and other receivables includes the impact of adoption of IFRS 15 in 2018 (see note 1b). This impact increased trade and other receivables as a result of the transfer of the sales return liability of £173m to trade and other liabilities that was previously netted in trade receivables. Comparatives have not been restated.

The movements in the provision for bad and doubtful debts are as follows:

All figures in £ millions	2018	2017
At beginning of year	(116)	(112)
Adjustment on initial application of IFRS 9 (see note 1c)	(12)	-
Exchange differences	2	7
Income statement movements	(1)	(38)
Utilised	31	21
Disposal through business disposal	-	1
Transfer to assets classified as held for sale	-	5
At end of year	(96)	(116)

Concentrations of credit risk with respect to trade receivables are limited due to the Group's large number of customers, who are internationally dispersed.

The ageing of the Group's trade receivables is as follows:

All figures in £ millions	2018	2017
Within due date	606	661
Up to three months past due date	172	187
Three to six months past due date	72	48
Six to nine months past due date	16	18
Nine to 12 months past due date	24	13
More than 12 months past due date	14	3
Total trade receivables	904	930
Less: sales return liability	-	(170)
Net trade receivables	904	760

The Group reviews its bad debt provision at least twice a year following a detailed review of receivable balances and historical payment profiles. Management believes all the remaining receivable balances are fully recoverable.

Notes to the consolidated financial statements

23. Provisions for other liabilities and charges

All figures in £ millions	Deferred consideration	Property	Disposals and closures	Legal and other	Total
At 1 January 2018	45	3	11	21	80
Exchange differences	2	-	-	-	2
Charged to income statement	-	103	-	3	106
Released to income statement	-	(2)	-	(5)	(7)
Utilised	(5)	(2)	(5)	(3)	(15)
Disposal through business disposal	-	-	(1)	-	(1)
At 31 December 2018	42	102	5	16	165

Analysis of provisions:					2018
All figures in £ millions	Deferred consideration	Property	Disposals and closures	Legal and other	Total
Current	6	2	5	7	20
Non-current	36	100	-	9	145
	42	102	5	16	165
					2017
Current	5	1	11	8	25
Non-current	40	2	-	13	55
	45	3	11	21	80

Deferred consideration primarily relates to the formation of a venture in North America in 2011. The provision will be utilised over a number of years as payments are based on a royalty rate. The provision above represents management's best estimate of the liability, however, the maximum that could be payable is £84m. Property provisions predominantly relate to restructuring and onerous leases. The main provisions relate to the consolidation of London properties and are expected to be utilised from 2020. Uncertainties around property provisions relate to prevailing market conditions including potential sublet income, lease terms including rent free periods, void periods, lease incentives and running costs. Disposals and closures include liabilities related to recent disposals and are expected to be utilised in 2019. Legal and other includes legal claims, contract disputes and potential contract losses with the provisions utilised as the cases are settled. Also included in legal and other are other restructuring provisions that are generally utilised within one year.

24. Trade and other liabilities

All figures in £ millions	2018	2017
Trade payables	311	265
Sales return liability	173	-
Social security and other taxes	16	21
Accruals	397	447
Deferred income	387	322
Interest payable	46	45
Liability to purchase own shares	-	151
Other liabilities	225	224
	1,555	1,475
Less: non-current portion		
Accruals	15	26
Deferred income	66	35
Other liabilities	74	72
	155	133
Current portion	1,400	1,342

The carrying value of the Group's trade and other liabilities approximates its fair value. The deferred income balance comprises contract liabilities in respect of advance payments in assessment, testing and training businesses; subscription income in school and college businesses; and obligations to deliver digital content in future periods. Trade and other liabilities includes the impact of adoption of IFRS 15 in 2018 (see note 1b). This impact increased trade and other liabilities as a result of the transfer of the sales return liability of £173m that was previously netted in trade receivables and deferred income by £28m at 31 December 2018. Comparatives have not been restated. The liability to purchase own shares in 2017 relates to a buyback agreement for the purchase of the company's own shares (see note 27).

25. Retirement benefit and other post-retirement obligations

Background

The Group operates a number of defined benefit and defined contribution retirement plans throughout the world.

The largest plan is the Pearson Group Pension Plan (UK Group plan) in the UK, which is sectionalised to provide both defined benefit and defined contribution pension benefits. The defined benefit section was closed to new members from 1 November 2006. The defined contribution section, opened in 2003, is open to new and existing employees. Finally, there is a separate section within the UK Group plan set up for auto-enrolment. The defined benefit section of the UK Group plan is a final salary pension plan which provides benefits to members in the form of a guaranteed level of pension payable for life. The level of benefits depends on the length of service and final pensionable pay. The UK Group plan is funded with benefit payments from trustee-administered funds. The UK Group plan is administered in accordance with the Trust Deed and Rules in the interests of its beneficiaries by Pearson Group Pension Trustee Limited.

At 31 December 2018, the UK Group plan had approximately 24,000 members, analysed in the following table:

All figures in %	Active	Deferred	Pensioners	Total
Defined benefit	1	25	35	61
Defined contribution	9	30	-	39
Total	10	55	35	100

The other major defined benefit plans are based in the US. These are also final salary pension plans which provide benefits to members in the form of a guaranteed pension payable for life, with the level of benefits dependent on length of service and final pensionable pay. The majority of the US plans are funded.

The Group also has several post-retirement medical benefit plans (PRMBs), principally in the US. PRMBs are unfunded but are accounted for and valued similarly to defined benefit pension plans. In 2018, changes made to the US PRMB have resulted in a curtailment gain of £11m being recognised in the income statement.

The defined benefit schemes expose the Group to actuarial risks, such as life expectancy, inflation risks, and investment risk including asset volatility and changes in bond yields. The Group is not exposed to any unusual, entity-specific or plan-specific risks.

A ruling in the Lloyds Bank High Court case in October 2018 provided clarity on how pension plans should equalise guaranteed minimum pensions (GMP) between males and females. The case ruling resulted in a past service charge in the income statement of £8m and an additional liability of £8m which has been incorporated into the valuation of the UK Group plan defined benefit obligation. This charge has been excluded from the Group's adjusted earnings as this relates to historical circumstances (see note 8). The charge is an estimate based on available data and revisions to these estimates in future years will be treated as assumption changes and recorded in other comprehensive income rather than the income statement.

The defined contribution section of the UK Group plan operates a Reference Scheme Test (RST) pension underpin for its members. Where a member's fund value is insufficient to purchase the RST pension upon retirement, the UK Group plan is liable for the shortfall to cover the member's RST pension. In 2017, the UK Group plan revised its approach to securing the RST underpin by converting a member's fund value into a pension in the UK Group plan rather than purchasing an annuity with an insurer. A liability of £23m (2017: £32m) in respect of the underpin is included in the UK Group plan's defined benefit obligation, calculated as the present value of projected payments less the fund value. The UK Group plan's conversion factors are lower than the respective insurer annuity values and this drove a reduction in the underpin liability, resulting in an actuarial gain through other comprehensive income and an increase in the surplus at 31 December 2017. From 1 January 2018, members who have sufficient funds to purchase an RST pension are able to convert their fund value into a pension in the UK Group plan as an alternative to purchasing an annuity with an insurer. The Group does not recognise the assets and liabilities for members of the defined contribution section of the UK Group plan whose fund values are expected to be sufficient to purchase an RST pension without assistance from the UK Group plan. The defined contribution section of the UK Group plan had gross assets of £453m at 31 December 2018.

Notes to the consolidated financial statements

25. Retirement benefit and other post-retirement obligations continued

Assumptions

The principal assumptions used for the UK Group plan and the US PRMB are shown below. Weighted average assumptions have been shown for the other plans, which primarily relate to US pension plans.

All figures in %	2018			2017		
	UK Group plan	Other plans	PRMB	UK Group plan	Other plans	PRMB
Inflation	3.3	1.6	1.5	3.2	1.6	1.5
Rate used to discount plan liabilities	2.8	4.0	4.1	2.5	3.0	3.0
Expected rate of increase in salaries	3.8	2.9	3.0	3.7	3.0	3.0
Expected rate of increase for pensions in payment and deferred pensions	2.1 to 5.1	-	-	2.1 to 5.1	-	-
Initial rate of increase in healthcare rate	-	-	7.0	-	-	6.5
Ultimate rate of increase in healthcare rate	-	-	5.5	-	-	5.0

The UK discount rate is based on corporate bond yields adjusted to reflect the duration of liabilities.

The US discount rate is set by reference to a US bond portfolio matching model.

The inflation rate for the UK Group plan of 3.3% reflects the RPI rate. In line with changes to legislation in 2010, certain benefits have been calculated with reference to CPI as the inflationary measure and in these instances a rate of 2.3% has been used.

The expected rate of increase in salaries has been set at 3.8% for 2018.

For the UK Group plan, the mortality base table assumptions have been updated and are derived from the SAPS S2 for males and females, adjusted to reflect the observed experience of the plan, with CMI model improvement factors. A 1.5% long-term rate improvement on the CMI model is applied for both males and females.

For the US plans, the mortality table (RP – 2018) and 2018 improvement scale (MP – 2018) with generational projection for male and female annuitants has been adopted.

Using the above tables, the remaining average life expectancy in years of a pensioner retiring at age 65 on the balance sheet date for the UK Group plan and US plans is as follows:

All figures in years	UK		US	
	2018	2017	2018	2017
Male	23.8	23.6	20.7	20.8
Female	24.5	25.7	22.7	22.8

The remaining average life expectancy in years of a pensioner retiring at age 65, 20 years after the balance sheet date, for the UK and US Group plans is as follows:

All figures in years	UK		US	
	2018	2017	2018	2017
Male	25.4	25.7	22.3	22.5
Female	26.3	27.9	24.2	24.4

Although the Group anticipates that plan surpluses will be utilised during the life of the plan to address member benefits, the Group recognises its pension surplus in full in respect of the UK Group plan on the basis that it is management's judgement that there are no substantive restrictions on the return of residual plan assets in the event of a winding up of the plan after all member obligations have been met.

25. Retirement benefit and other post-retirement obligations continued

Financial statement information

The amounts recognised in the income statement are as follows:

All figures in £ millions	2018					Total
	UK Group plan	Defined benefit other	Sub-total	Defined contribution	PRMB	
Current service cost	7	2	9	56	(1)	64
Past service cost	8	–	8	–	–	8
Curtailments	–	–	–	–	(11)	(11)
Administration expenses	6	–	6	–	–	6
Total operating expense	21	2	23	56	(12)	67
Interest on plan assets	(82)	(5)	(87)	–	–	(87)
Interest on plan liabilities	68	6	74	–	2	76
Net finance (income)/expense	(14)	1	(13)	–	2	(11)
Net income statement charge	7	3	10	56	(10)	56

All figures in £ millions	2017					Total
	UK Group plan	Defined benefit other	Sub-total	Defined contribution	PRMB	
Current service cost	8	1	9	57	(1)	65
Administration expenses	9	1	10	–	–	10
Total operating expense	17	2	19	57	(1)	75
Interest on plan assets	(84)	(5)	(89)	–	–	(89)
Interest on plan liabilities	77	7	84	–	2	86
Net finance (income)/expense	(7)	2	(5)	–	2	(3)
Net income statement charge	10	4	14	57	1	72

The amounts recognised in the balance sheet are as follows:

All figures in £ millions	2018				2017			
	UK Group plan	Other funded plans	Other unfunded plans	Total	UK Group plan	Other funded plans	Other unfunded plans	Total
Fair value of plan assets	3,240	141	–	3,381	3,337	155	–	3,492
Present value of defined benefit obligation	(2,671)	(158)	(19)	(2,848)	(2,792)	(161)	(20)	(2,973)
Net pension asset/(liability)	569	(17)	(19)	533	545	(6)	(20)	519
Other post-retirement medical benefit obligation				(49)				(67)
Other pension accruals				(13)				(11)
Net retirement benefit asset				471				441
Analysed as:								
Retirement benefit assets				571				545
Retirement benefit obligations				(100)				(104)

Notes to the consolidated financial statements

25. Retirement benefit and other post-retirement obligations continued

Financial statement information continued

The following gains have been recognised in other comprehensive income:

All figures in £ millions	2018	2017
Amounts recognised for defined benefit plans	16	175
Amounts recognised for post-retirement medical benefit plans	6	-
Total recognised in year	22	175

The fair value of plan assets comprises the following:

All figures in %	2018			2017		
	UK Group plan	Other funded plans	Total	UK Group plan	Other funded plans	Total
Insurance	28	1	29	29	-	29
Equities	1	1	2	1	1	2
Bonds	-	2	2	-	3	3
Property	7	-	7	8	-	8
Pooled asset investment funds	44	-	44	44	-	44
Other	16	-	16	14	-	14

The plan assets do not include any of the Group's own financial instruments, or any property occupied by the Group. The table below further disaggregates the plan assets into additional categories and those assets which have a quoted market price in an active market and those that do not:

All figures in %	2018		2017	
	Quoted market price	No quoted market price	Quoted market price	No quoted market price
Insurance	29	-	29	-
Non-UK equities	-	2	-	2
Fixed-interest securities	2	-	3	-
Property	-	7	-	8
Pooled asset investment funds	44	-	44	-
Other	-	16	-	14
Total	75	25	76	24

The liquidity profile of the UK Group plan assets is as follows:

All figures in %	2018	2017
Liquid – call <1 month	51	50
Less liquid – call 1–3 months	-	-
Illiquid – call >3 months	49	50

25. Retirement benefit and other post-retirement obligations continued

Financial statement information continued

Changes in the values of plan assets and liabilities of the retirement benefit plans are as follows:

All figures in £ millions	2018			2017		
	UK Group plan	Other plans	Total	UK Group plan	Other plans	Total
Fair value of plan assets						
Opening fair value of plan assets	3,337	155	3,492	3,339	158	3,497
Exchange differences	-	4	4	-	(8)	(8)
Interest on plan assets	82	5	87	84	5	89
Return on plan assets excluding interest	(45)	(13)	(58)	(140)	10	(130)
Contributions by employer	6	1	7	234	8	242
Benefits paid	(140)	(11)	(151)	(188)	(18)	(206)
Other	-	-	-	8	-	8
Closing fair value of plan assets	3,240	141	3,381	3,337	155	3,492
Present value of defined benefit obligation						
Opening defined benefit obligation	(2,792)	(181)	(2,973)	(3,181)	(205)	(3,386)
Exchange differences	-	(3)	(3)	-	13	13
Current service cost	(7)	(2)	(9)	(8)	(1)	(9)
Past service cost	(8)	-	(8)	-	-	-
Administration expenses	(6)	-	(6)	(9)	(1)	(10)
Interest on plan liabilities	(68)	(6)	(74)	(77)	(7)	(84)
Actuarial gains/(losses) – experience	(49)	(2)	(51)	126	6	132
Actuarial gains/(losses) – demographic	(12)	-	(12)	133	1	134
Actuarial gains/(losses) – financial	131	6	137	44	(5)	39
Contributions by employee	-	-	-	-	-	-
Other	-	-	-	(8)	-	(8)
Benefits paid	140	11	151	188	18	206
Closing defined benefit obligation	(2,671)	(177)	(2,848)	(2,792)	(181)	(2,973)

The weighted average duration of the defined benefit obligation is 16.1 years for the UK and 7.1 years for the US.

Notes to the consolidated financial statements

25. Retirement benefit and other post-retirement obligations continued

Financial statement information continued

Changes in the value of the US PRMB are as follows:

All figures in £ millions	2018	2017
Opening defined benefit obligation	(67)	(77)
Exchange differences	(2)	5
Current service cost	1	1
Curtailments	11	-
Interest on plan liabilities	(2)	(2)
Actuarial gains/(losses) – experience	4	1
Actuarial gains/(losses) – demographic	-	1
Actuarial gains/(losses) – financial	2	(2)
Benefits paid	4	6
Closing defined benefit obligation	(49)	(67)

Funding

The UK Group plan is self-administered with the plan's assets being held independently of the Group in trust. The trustee of the plan is required to act in the best interest of the plan's beneficiaries.

The most recent triennial actuarial valuation for funding purposes was completed as at 1 January 2018 and this valuation revealed a technical provisions funding surplus of £163m. The plan expects to be able to provide benefits (in accordance with the plan rules) with a very low level of reliance on future funding from the Group.

Assets of the plan are divided into two elements: matching assets, which are assets that produce cash flows that can be expected to match the cash flows for a proportion of the membership, and include a liability-driven investment mandate (UK bonds, interest rate/inflation swaps and other derivative instruments), Pensioner buy-in insurance policies, inflation-linked property and infrastructure; and return seeking assets, which are assets invested with a longer-term horizon to generate the returns needed to provide the remaining expected cash flows for the beneficiaries, and include diversified growth funds, property and alternative asset classes. The plan's long-term investment strategy allocates 85% to matching assets and 15% to return seeking assets.

In February 2019, the UK Group plan purchased a further pensioner buy-in policy valued at approximately £500m with Legal & General. This is in addition to the previous buy-in policies with Aviva and Legal & General totalling £1.2bn which were purchased in 2017. As a result of this latest transaction, 95% of the UK Group plan's pensioner liabilities are now matched with buy-in policies. These transfer significant longevity risk to Aviva and Legal & General, reducing the pension risks being underwritten by the Group and providing additional security for members.

Regular contributions to the plan in respect of the defined benefit sections are estimated to be £3m for 2019.

Sensitivities

The effect of a one percentage point increase and decrease in the discount rate on the defined benefit obligation and the total pension expense is as follows:

All figures in £ millions	2018	
	1% increase	1% decrease
Effect:		
(Decrease)/increase in defined benefit obligation – UK Group plan	(386)	522
(Decrease)/increase in defined benefit obligation – US plan	(11)	13

25. Retirement benefit and other post-retirement obligations continued

Sensitivities continued

The effect of members living one year more or one year less on the defined benefit obligation is as follows:

All figures in £ millions	2018	
	One year increase	One year decrease
Effect:		
Increase/(decrease) in defined benefit obligation – UK Group plan	143	(138)
Increase/(decrease) in defined benefit obligation – US plan	7	(8)

The effect of a half percentage point increase and decrease in the inflation rate is as follows:

All figures in £ millions	2018	
	0.5% increase	0.5% decrease
Effect:		
Increase/(decrease) in defined benefit obligation – UK Group plan	129	(114)
Increase/(decrease) in defined benefit obligation – US plan	–	–

The above sensitivity analyses are based on a change in an assumption while holding all other assumptions constant, although in practice this is unlikely to occur and changes in some assumptions may be correlated. When calculating these sensitivities, the same method has been applied to calculate the defined benefit obligation as has been applied when calculating the liability recognised in the balance sheet. This methodology is the same as prior periods.

26. Share-based payments

The Group recognised the following charges in the income statement in respect of its equity-settled share-based payment plans:

All figures in £ millions	2018	2017
Pearson plans	37	33

The Group operates the following equity-settled employee option and share plans:

Worldwide Save for Shares Plan Since 1994, the Group has operated a Save-As-You-Earn plan for UK employees. In 1998, the Group introduced a Worldwide Save for Shares Plan. Under these plans, employees can save a portion of their monthly salary over periods of three or five years. At the end of this period, the employee has the option to purchase ordinary shares with the accumulated funds at a purchase price equal to 80% of the market price prevailing at the time of the commencement of the employee's participation in the plan. Options that are not exercised within six months of the end of the savings period lapse unconditionally.

Employee Stock Purchase Plan In 2000, the Group established an Employee Stock Purchase Plan which allows all employees in the US to save a portion of their monthly salary over six-month periods. At the end of the period, the employee has the option to purchase American Depository Receipts (ADRs) with their accumulated funds at a purchase price equal to 85% of the lower of the market prices prevailing at the beginning or end of the period.

Long-Term Incentive Plan The plan was first introduced in 2001, renewed again in 2006 and again in 2011. The plan consists of restricted shares. The vesting of restricted shares is normally dependent on continuing service over a three-to five-year period, and in the case of executive directors and senior management upon the satisfaction of corporate performance targets over a three-year period. These targets may be based on market and/or non-market performance criteria. Restricted shares awarded to executive directors in May 2018 and September 2017 vest dependent on relative total shareholder return, return on invested capital and adjusted earnings per share growth. Restricted shares awarded to senior management in March 2017 vest dependent on adjusted earnings per share growth. Other restricted shares awarded in 2018 and 2017 vest depending on continuing service over periods of up to three years.

Management Incentive Plan The plan was introduced in 2017 combining the Group's Annual Incentive Plan and Long-Term Incentive Plan for senior management. The number of shares to be granted to participants is dependent on Group performance in the calendar year preceding the date of grant (on the same basis as the Annual Incentive Plan). Subsequently, the shares vest dependent on continuing service over a three year period, and additionally in the case of Pearson Executive Management upon satisfaction of non-market based performance criteria as determined by the Remuneration Committee. Restricted shares awarded as part of the 2017 Management Incentive Plan were granted in April 2018. Restricted shares awarded as part of the 2018 Management Incentive Plan will be granted in April 2019.

Notes to the consolidated financial statements

26. Share-based payments continued

The number and weighted average exercise prices of share options granted under the Group's plans are as follows:

	2018		2017	
	Number of share options 000s	Weighted average exercise price £	Number of share options 000s	Weighted average exercise price £
Outstanding at beginning of year	2,981	6.84	2,978	8.14
Granted during the year	729	5.80	1,619	5.50
Exercised during the year	(70)	6.57	(9)	7.00
Forfeited during the year	(668)	7.58	(1,451)	8.04
Expired during the year	(244)	8.19	(156)	9.09
Outstanding at end of year	2,728	5.76	2,981	6.84
Options exercisable at end of year	169	11.31	350	8.18

Options were exercised regularly throughout the year. The weighted average share price during the year was £8.45 (2017: £6.71). Early exercises arising from redundancy, retirement or death are treated as an acceleration of vesting and the Group therefore recognises in the income statement the amount that otherwise would have been recognised for services received over the remainder of the original vesting period.

The options outstanding at the end of the year have weighted average remaining contractual lives and exercise prices as follows:

Range of exercise prices £	2018		2017	
	Number of share options 000s	Weighted average contractual life Years	Number of share options 000s	Weighted average contractual life Years
5-10	2,553	2.29	2,697	2.52
>10	175	0.29	284	1.24
	2,728	2.16	2,981	2.40

In 2018 and 2017, options were granted under the Worldwide Save for Shares Plan. The weighted average estimated fair value for the options granted was calculated using a Black-Scholes option pricing model.

The weighted average estimated fair values and the inputs into the Black-Scholes model are as follows:

	2018 Weighted average	2017 Weighted average
Fair value	£1.88	£1.24
Weighted average share price	£7.49	£6.83
Weighted average exercise price	£5.80	£5.50
Expected volatility	35.78%	34.75%
Expected life	3.7 years	3.7 years
Risk-free rate	0.87%	0.20%
Expected dividend yield	5.21%	7.61%
Forfeiture rate	3.2%	3.2%

The expected volatility is based on the historical volatility of the company's share price over the previous three to seven years depending on the vesting term of the options.

The following shares were granted under restricted share arrangements:

	2018		2017	
	Number of shares 000s	Weighted average fair value £	Number of shares 000s	Weighted average fair value £
Long-Term Incentive Plan	2,907	7.55	6,453	6.61
Management Incentive Plan	2,035	7.45	-	-

26. Share-based payments continued

The fair value of shares granted under the Long-Term Incentive Plan and the Management Incentive Plan that vest unconditionally is determined using the share price at the date of grant. The number of shares expected to vest is adjusted, based on historical experience, to account for potential forfeitures. Participants under the plan are entitled to dividends during the vesting period and therefore the share price is not discounted.

Restricted shares with a market performance condition were valued by an independent actuary using a Monte Carlo model. Restricted shares with a non-market performance condition were fair valued based on the share price at the date of grant. Non-market performance conditions are taken into consideration by adjusting the number of shares expected to vest based on the most likely outcome of the relevant performance criteria.

27. Share capital and share premium

	Number of shares 000s	Share capital £m	Share premium £m
At 1 January 2017	822,127	205	2,597
Issue of ordinary shares – share option schemes	923	–	5
Purchase of own shares	(20,996)	(5)	–
At 31 December 2017	802,054	200	2,602
Issue of ordinary shares – share option schemes	864	1	5
Purchase of own shares	(21,840)	(6)	–
At 31 December 2018	781,078	195	2,607

The ordinary shares have a par value of 25p per share (2017: 25p per share). All issued shares are fully paid. All shares have the same rights.

The £300m share buyback programme announced in October 2017 was completed on 16 February 2018. In 2017, the Group's brokers purchased 21m shares at a value of £153m of which £149m had been cancelled at 31 December 2017. Cash payments of £149m had been made in respect of the purchases with the outstanding £4m settlement made at the beginning of January 2018. This £4m together with the remaining value of the buyback programme of £147m was recorded as a liability at 31 December 2017 (see note 24). A further 22m shares were purchased under the programme in 2018 (see note 37). The shares bought back have been cancelled and the nominal value of these shares transferred to a capital redemption reserve. The nominal value of shares cancelled at 31 December 2018 was £11m (2017: £5m).

The Group manages its capital to ensure that entities in the Group will be able to continue as a going concern while maximising the return to shareholders through the optimisation of the debt and equity balance.

The capital structure of the Group consists of debt (see note 18), cash and cash equivalents (see note 17) and equity attributable to equity holders of the parent, comprising issued capital, reserves and retained earnings.

The Group reviews its capital structure on a regular basis and will balance its overall capital structure through payments of dividends, new share issues as well as the issue of new debt or the redemption of existing debt in line with the financial risk policies outlined in note 19.

28. Treasury shares

	Pearson plc	
	Number of shares 000s	£m
At 1 January 2017	7,719	79
Purchase of treasury shares	–	–
Release of treasury shares	(1,725)	(18)
At 31 December 2017	5,994	61
Purchase of treasury shares	–	–
Release of treasury shares	(2,769)	(28)
At 31 December 2018	3,225	33

The Group holds Pearson plc shares in trust to satisfy its obligations under its restricted share plans (see note 26). These shares, representing 0.4% (2017: 0.8%) of called-up share capital, are treated as treasury shares for accounting purposes and have a par value of 25p per share.

The nominal value of Pearson plc treasury shares amounts to £0.8m (2017: £1.5m). Dividends on treasury shares are waived.

At 31 December 2018, the market value of Pearson plc treasury shares was £30m (2017: £44m).

Notes to the consolidated financial statements

29. Other comprehensive income

All figures in £ millions	2018					
	Attributable to equity holders of the company				Non-controlling interest	Total
	Fair value reserve	Translation reserve	Retained earnings	Total		
Items that may be reclassified to the income statement						
Net exchange differences on translation of foreign operations – Group	–	91	–	91	–	91
Net exchange differences on translation of foreign operations – associates	–	(1)	–	(1)	–	(1)
Currency translation adjustment disposed	–	(4)	–	(4)	–	(4)
Attributable tax	–	–	(4)	(4)	–	(4)
Items that are not reclassified to the income statement						
Fair value gain on other financial assets	8	–	–	8	–	8
Attributable tax	–	–	–	–	–	–
Remeasurement of retirement benefit obligations – Group	–	–	22	22	–	22
Remeasurement of retirement benefit obligations – associates	–	–	3	3	–	3
Attributable tax	–	–	9	9	–	9
Other comprehensive income/(expense) for the year	8	86	30	124	–	124
	2017					
All figures in £ millions	Attributable to equity holders of the company				Non-controlling interest	Total
	Fair value reserve	Translation reserve	Retained earnings	Total		
	Items that may be reclassified to the income statement					
Net exchange differences on translation of foreign operations – Group	–	(158)	–	(158)	–	(158)
Net exchange differences on translation of foreign operations – associates	–	(104)	–	(104)	–	(104)
Currency translation adjustment disposed	–	(51)	–	(51)	–	(51)
Attributable tax	–	–	9	9	–	9
Items that are not reclassified to the income statement						
Fair value gain on other financial assets	13	–	–	13	–	13
Attributable tax	–	–	(4)	(4)	–	(4)
Remeasurement of retirement benefit obligations – Group	–	–	175	175	–	175
Remeasurement of retirement benefit obligations – associates	–	–	7	7	–	7
Attributable tax	–	–	(42)	(42)	–	(42)
Other comprehensive income/(expense) for the year	13	(313)	145	(155)	–	(155)

30. Business combinations

There were no significant acquisitions in 2018 or 2017. There were no material adjustments to prior year acquisitions. The net cash outflow relating to acquisitions in the year is shown below.

All figures in £ millions	2018	2017
Cash flow on acquisitions		
Deferred payments for prior year acquisitions and other items	(5)	(11)
Net cash outflow	(5)	(11)

31. Disposals

In March 2018, the Group completed the sale of its Wall Street English language teaching business (WSE) resulting in a pre-tax profit on sale of £207m. Tax on the disposal is estimated at £6m. WSE was classified as held for sale on the balance sheet at 31 December 2017 (see note 32). In May 2018 the Group disposed of the equity interest in UTEL, the online University partnership in Mexico realising a gain of £19m before tax of £2m.

All figures in £ millions	Notes				2018	2017
		WSE	UTEL	Other	Total	Total
Disposal of subsidiaries and associates						
Property, plant and equipment		(17)	-	-	(17)	(7)
Intangible assets		(15)	-	(2)	(17)	(9)
Investments in joint ventures and associates		-	(3)	-	(3)	(352)
Net deferred income tax assets		-	-	-	-	(3)
Intangible assets – pre-publication		(8)	-	-	(8)	(1)
Inventories		(1)	-	-	(1)	(2)
Trade and other receivables		(30)	-	-	(30)	(16)
Current income tax receivable		-	-	-	-	(5)
Cash and cash equivalents (excluding overdrafts)		(119)	-	-	(119)	(13)
Net deferred income tax liabilities		16	-	-	16	-
Trade and other liabilities		171	-	1	172	34
Provisions for other liabilities and charges	23	-	-	1	1	-
Cumulative currency translation adjustment	29	4	-	-	4	51
Net (assets)/liabilities disposed		1	(3)	-	(2)	(323)
Cash received		212	22	9	243	468
Deferred proceeds		-	-	2	2	-
Fair value of financial asset acquired		-	-	3	3	-
Costs		(6)	-	(10)	(16)	(17)
Gain on disposal		207	19	4	230	128

Notes to the consolidated financial statements

31. Disposals continued

All figures in £ millions	2018	2017
Cash flow from disposals		
Cash – current year disposals	243	468
Cash and cash equivalents disposed	(119)	(13)
Costs and other disposal liabilities paid	(23)	(25)
Net cash inflow	101	430
Analysed as:		
Cash inflow/ from sale of subsidiaries	83	19
Cash inflow from sale of joint ventures and associates	18	411

32. Held for sale

Held for sale assets and liabilities in 2018 relate to the K12 school courseware business in the US (K12). Following the decision in 2017 to sell both the Wall Street English language teaching business (WSE) and the K12 business, the assets and liabilities of those businesses were classified as held for sale on the balance sheet at 31 December 2017. During 2018 WSE was sold and the K12 business remains on the balance sheet as a held for sale asset prior to the disposal announced in February 2019 (see note 37).

All figures in £ millions	Notes	2018	2017
		Total	Total
Non-current assets			
Property, plant and equipment		–	16
Intangible assets		168	181
Deferred income tax assets		98	68
Trade and other receivables		25	27
		291	292
Current assets			
Intangible assets – pre-publication		242	247
Inventories		55	46
Trade and other receivables		60	48
Cash and cash equivalents (excluding overdrafts)	17	–	127
		357	468
Assets classified as held for sale		648	760
Non-current liabilities			
Deferred income tax liabilities		–	(2)
Other liabilities		(371)	(284)
		(371)	(286)
Current liabilities			
Trade and other liabilities		(202)	(302)
		(202)	(302)
Liabilities classified as held for sale		(573)	(588)
Net assets classified as held for sale		75	172

Goodwill is allocated to the held for sale businesses on a relative fair value basis where these businesses form part of a larger cash generating unit (CGU). The goodwill allocated to the K12 business was reassessed at 31 December 2018.

33. Cash generated from operations

All figures in £ millions	Notes	2018	2017
Profit		590	408
Adjustments for:			
Income tax		(92)	13
Depreciation	10	66	90
Amortisation and impairment of acquired intangibles and goodwill	11	99	138
Amortisation of software	11	88	85
Net finance costs	6	55	30
Charges relating to GMP equalisation		8	-
Share of results of joint ventures and associates	12	(44)	(78)
Profit on disposal of subsidiaries, associates, investments and fixed assets		(315)	(116)
Net foreign exchange adjustment from transactions		28	(26)
Share-based payment costs	26	37	33
Pre-publication		(37)	(35)
Inventories		(10)	24
Trade and other receivables		(15)	133
Trade and other liabilities		35	6
Retirement benefit obligations		(9)	(232)
Provisions for other liabilities and charges		63	(11)
Net cash generated from operations		547	462
Dividends from joint ventures and associates		117	458
Re-capitalisation dividends from Penguin Random House		(50)	(312)
Purchase of property, plant and equipment		(70)	(82)
Purchase of intangible software assets		(130)	(150)
Proceeds from sale of property, plant and equipment and intangible software assets		128	-
Finance lease principal payments		(4)	(5)
Special pension contribution		-	227
Net (proceeds from)/cost paid re major restructuring		(25)	71
Operating cash flow		513	669
Operating tax paid		(43)	(75)
Net operating finance costs paid		(22)	(69)
Operating free cash flow		448	525
Special pension contribution		-	(227)
Net proceeds from/(cost paid) re major restructuring		25	(71)
Free cash flow		473	227
Dividends paid (including to non-controlling interests)		(137)	(318)
Net movement of funds from operations		336	(91)
Acquisitions and disposals		92	416
Re-capitalisation dividends from Penguin Random House		50	312
Loans repaid/(advanced) (including to related parties)		46	(13)
New equity		6	5
Buyback of equity		(153)	(149)
Other movements on financial instruments		(6)	14
Net movement of funds		371	494
Exchange movements on net debt		(82)	166
Total movement in net debt		289	660

Notes to the consolidated financial statements

33. Cash generated from operations continued

Net cash generated from operations is translated at an exchange rate approximating the rate at the date of cash flow. The difference between this rate and the average rate used to translate profit gives rise to a currency adjustment in the reconciliation between net profit and net cash generated from operations. This adjustment reflects the timing difference between recognition of profit and the related cash receipts or payments.

Operating cash flow, operating free cash flow and total free cash flow are non-GAAP (non-statutory) measures and have been disclosed and reconciled in the above table as they are commonly used by investors to measure the cash performance of the Group. In the cash flow statement, proceeds from sale of property, plant and equipment comprise:

All figures in £ millions	2018	2017
Net book amount	41	12
Profit/(loss) on sale of property, plant and equipment	87	(12)
Proceeds from sale of property, plant and equipment	128	-

The movements in the Group's current and non-current borrowings are as follows:

All figures in £ millions	2017	Financing cash flows	Foreign exchange movements	Fair value and other movements	2018
Financial liabilities					
Non-current borrowings	1,066	(441)	10	8	643
Current borrowings	4	(1)	22	-	25
Total	1,070	(442)	32	8	668

Non-current borrowings include bonds, derivative financial instruments and finance leases. Current borrowings include loans repayable within one year and finance leases, but exclude overdrafts classified within cash and cash equivalents.

34. Contingencies

There are contingent Group liabilities that arise in the normal course of business in respect of indemnities, warranties and guarantees in relation to former subsidiaries and in respect of guarantees in relation to subsidiaries, joint ventures and associates. In addition, there are contingent liabilities of the Group in respect of unsettled or disputed tax liabilities, legal claims, contract disputes, royalties, copyright fees, permissions and other rights. None of these claims are expected to result in a material gain or loss to the Group.

As previously reported, on 24 November 2017 the European Commission published an opening decision that the United Kingdom controlled foreign company group financing partial exemption ("FCPE") constitutes State Aid. No final decision has yet been published, and may anyway be challenged by the UK tax authorities. The Group has benefited from the FCPE in 2018 and prior years by approximately £116m. At present the Group believes no provision is required in respect of this issue.

35. Commitments

At the balance sheet date there were no commitments for capital expenditure contracted for but not yet incurred.

The Group leases various offices and warehouses under non-cancellable operating lease agreements. The leases have varying terms and renewal rights. The Group also leases various plant and equipment under operating lease agreements, also with varying terms. Lease expenditure charged to the income statement was £128m (2017: £178m).

The future aggregate minimum lease payments in respect of operating leases are as follows:

All figures in £ millions	2018	2017
Not later than one year	143	156
Later than one year and not later than two years	130	139
Later than two years and not later than three years	115	121
Later than three years and not later than four years	101	100
Later than four years and not later than five years	91	86
Later than five years	595	599
	1,175	1,201

In the event that the Group has excess capacity in its leased offices and warehouses it will enter into sub-lease contracts in order to offset costs. The future aggregate minimum sub-lease payments expected to be received under non-cancellable sub-leases are as follows:

All figures in £ millions	2018	2017
Not later than one year	51	45
Later than one year and not later than two years	44	45
Later than two years and not later than three years	41	40
Later than three years and not later than four years	39	35
Later than four years and not later than five years	35	33
Later than five years	124	138
	334	336

36. Related party transactions

Joint ventures and associates

Amounts advanced to joint ventures and associates during the year and at the balance sheet date are set out in note 12.

Key management personnel

Key management personnel are deemed to be the members of the Pearson executive (see p13). It is this Committee which had responsibility for planning, directing and controlling the activities of the Group in 2018. Key management personnel compensation is disclosed below:

All figures in £ millions	2018	2017
Short-term employee benefits	6	12
Retirement benefits	1	1
Share-based payment costs	7	2
Total	14	15

There were no other material related party transactions. No guarantees have been provided to related parties.

37. Events after the balance sheet date

On 18 February 2019, the Group announced the sale of the US K12 courseware business to Nexus Capital Management LP for headline consideration of \$250m comprising an initial cash payment of \$25m and an unconditional vendor note for \$225m expected to be repaid in three to seven years. Following the repayment of the vendor note, the Group is entitled to 20% of all future cash flows to equity holders and 20% of net proceeds if the business is sold. The transaction is expected to complete in the first half of 2019.

Also in February 2019, the UK Group pension plan purchased a further pensioner buy-in policy valued at approximately £500m with

Legal & General. As a result of this latest transaction, 95% of the UK Group plan's pensioner liabilities are now matched with buy-in policies which significantly reduces longevity risk of the Group. The buy-in will be accounted for in 2019 and is expected to reduce the retirement benefit asset on the balance sheet but is not expected to have a material impact on the income statement.

On 6 March 2019, the Group announced a tender offer for up to €75m of its €500m 1.875% notes due 2021 of which €250m were outstanding at 31 December 2018. In addition, the Group also announced the refinancing of its bank facility, with a new \$1.19bn Revolving Credit Facility due to mature in February 2024.

38. Accounts and audit exemptions

The Pearson plc subsidiary companies listed below are exempt from the requirements of the Companies Act 2006 relating to the audit of individual accounts by virtue of section 479A.

	Company number		Company number
Aldwych Finance Limited	04720439	Pearson International Finance Limited	02496206
Edexcel Limited	04496750	Pearson Loan Finance No. 3 Limited	05052661
Education Development International plc	03914767	Pearson Loan Finance No. 4 Limited	02635107
Longman Group (Overseas Holdings) Limited	00690236	Pearson Loan Finance Unlimited	05144467
Major123 Limited	05333023	Pearson Management Services Limited	00096263
Pearson Affordable Learning Fund Limited	08038068	Pearson Overseas Holdings Limited	00145205
Pearson Australia Finance Unlimited	05578463	Pearson Pension Trustee Services Limited	10803853
Pearson Books Limited	02512075	Pearson PRH Holdings Limited	08561316
Pearson Brazil Finance Limited	08848874	Pearson Real Estate Holdings Limited	09768242
Pearson Canada Finance Unlimited	05578491	Pearson Services Limited	01341060
Pearson Dollar Finance plc	05111013	Pearson Shared Services Limited	04623186
Pearson Dollar Finance Two Limited	06507766	Pearson Strand Finance Limited	11091691
Pearson Education Holdings Limited	00210859	TQ Catalis Limited	07307943
Pearson Education Investments Limited	08444933	TQ Clapham Limited	07307925
Pearson Education Limited	00872828	TQ Global Limited	07802458
Pearson Funding Four plc	07970304		

Company balance sheet

As at 31 December 2018

All figures in £ millions	Notes	2018	2017
Assets			
Non-current assets			
Investments in subsidiaries	2	6,710	6,691
Amounts due from subsidiaries		2,269	3,118
Financial assets – derivative financial instruments	6	67	140
		9,046	9,949
Current assets			
Amounts due from subsidiaries		361	209
Amounts due from related parties		–	46
Current income tax assets		28	–
Cash and cash equivalents (excluding overdrafts)	4	50	119
Financial assets – derivative financial instruments	6	1	–
		440	374
Total assets		9,486	10,323
Liabilities			
Non-current liabilities			
Amounts due to subsidiaries		(2,944)	(3,530)
Financial liabilities – derivative financial instruments	6	(36)	(140)
		(2,980)	(3,670)
Current liabilities			
Amounts due to subsidiaries		(2,007)	(1,739)
Financial liabilities – borrowings	5	(11)	(3)
Current income tax liabilities		–	(4)
Other liabilities		(8)	(158)
Financial liabilities – derivative financial instruments	6	(23)	–
		(2,049)	(1,904)
Total liabilities		(5,029)	(5,574)
Net assets		4,457	4,749
Equity			
Share capital	7	195	200
Share premium	7	2,607	2,602
Treasury shares	8	12	(16)
Capital redemption reserve		11	5
Special reserve		447	447
Retained earnings – including loss for the year of £160m (2017: loss of £163m)		1,185	1,511
Total equity attributable to equity holders of the company		4,457	4,749

These financial statements have been approved for issue by the Board of Directors on 11 March 2019 and signed on its behalf by



Coram Williams
Chief Financial Officer

Company statement of changes in equity

Year ended 31 December 2018

All figures in £ millions	Equity attributable to equity holders of the company						
	Share capital	Share premium	Treasury shares	Capital redemption reserve	Special reserve	Retained earnings	Total
At 1 January 2018	200	2,602	(16)	5	447	1,511	4,749
Loss for the year	-	-	-	-	-	(160)	(160)
Issue of ordinary shares under share option schemes*	1	5	-	-	-	-	6
Buyback of equity	(6)	-	-	6	-	(2)	(2)
Purchase of treasury shares	-	-	-	-	-	-	-
Release of treasury shares	-	-	28	-	-	(28)	-
Dividends	-	-	-	-	-	(136)	(136)
At 31 December 2018	195	2,607	12	11	447	1,185	4,457

All figures in £ millions	Equity attributable to equity holders of the company						
	Share capital	Share premium	Treasury shares	Capital redemption reserve	Special reserve	Retained earnings	Total
At 1 January 2017	205	2,597	(34)	-	447	2,310	5,525
Loss for the year	-	-	-	-	-	(163)	(163)
Issue of ordinary shares under share option schemes*	-	5	-	-	-	-	5
Buyback of equity	(5)	-	-	5	-	(300)	(300)
Purchase of treasury shares	-	-	-	-	-	-	-
Release of treasury shares	-	-	18	-	-	(18)	-
Dividends	-	-	-	-	-	(318)	(318)
At 31 December 2017	200	2,602	(16)	5	447	1,511	4,749

The capital redemption reserve reflects the nominal value of shares cancelled in the Group's share buyback programme. The special reserve represents the cumulative effect of cancellation of the company's share premium account.

Included within retained earnings is an amount of £162m (2017: £162m) relating to profit on intra-Group disposals that is not distributable.

* Full details of the share-based payment plans are disclosed in note 26 to the consolidated financial statements.

Company cash flow statement

Year ended 31 December 2018

All figures in £ millions	Notes	2018	2017
Cash flows from operating activities			
Net loss		(160)	(163)
Adjustments for:			
Income tax		(26)	70
Net finance costs		107	26
Disposals, liquidations and impairment charges		57	790
Amounts due from/(to) subsidiaries		302	(748)
Net cash generated from/(used in) operations		280	(25)
Interest paid		(68)	(21)
Tax (paid)/received		(7)	9
Net cash generated from/(used in) operating activities		205	(37)
Cash flows from investing activities			
Loans repaid by/(advanced to) related parties		46	(13)
Interest received		4	7
Net cash received from/(used in) investing activities		50	(6)
Cash flows from financing activities			
Proceeds from issue of ordinary shares	7	6	5
Buyback of equity		(153)	(149)
Repayment of borrowings		(44)	(243)
Dividends paid to company's shareholders		(136)	(318)
Net cash used in financing activities		(327)	(705)
Effects of exchange rate changes on cash and cash equivalents		(5)	10
Net decrease in cash and cash equivalents		(77)	(738)
Cash and cash equivalents at beginning of year		116	854
Cash and cash equivalents at end of year	4	39	116

Overview

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Notes to the company financial statements

1. Accounting policies

The financial statements on p209-219 comprise the separate financial statements of Pearson plc.

As permitted by section 408 of the Companies Act 2006, only the consolidated income statement and statement of comprehensive income have been presented.

The company has no employees.

The accounting policies applied in the preparation of these company financial statements are the same as those set out in note 1 to the consolidated financial statements with the addition of the following:

Investments

Investments in subsidiaries are stated at cost less provision for impairment, with the exception of certain hedged investments that are held in a foreign currency and revalued at each balance sheet date.

Lending to/from subsidiaries is considered to be an operating activity and any movements are classified as cash flows from operating activities in the cash flow statement.

New accounting standards

The following standards were adopted in 2018:

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

Adoption of these standards has not had a material impact on the company financial statements.

2. Investments in subsidiaries

All figures in £ millions	2018	2017
At beginning of year	6,691	7,441
Subscription for share capital in subsidiaries	-	164
Disposals/liquidations	-	(430)
Impairments	(57)	(360)
Currency revaluations	76	(124)
At end of year	6,710	6,691

In 2018, impairments relate to the carrying value of intermediate holding company investments. In 2017, impairments, disposals and liquidations relate to restructuring of intermediate holding companies and were largely offset by dividends received.

The recoverability of investments is considered annually and significant estimation is required to determine the recoverable amount. Recoverability is based upon financial information related to the subsidiaries including cash flow projections in conjunction with the goodwill impairment analysis performed by the Group (see note 11 of the Group financial statements).

3. Financial risk management

The company's financial instruments comprise amounts due to/from subsidiary undertakings, cash and cash equivalents, derivative financial instruments, current borrowings and in 2017 a liability to purchase own shares (included within other liabilities). Derivative financial instruments are held at fair value, with all other financial instruments held at amortised cost, which approximates fair value. The company's approach to the management of financial risks is consistent with the Group's treasury policy, as discussed in note 19 to the consolidated financial statements. The company believes the value of its financial assets to be fully recoverable.

The carrying value of the company's financial instruments is exposed to movements in interest rates and foreign currency exchange rates (primarily US dollars). The company estimates that a 1% increase in interest rates would result in an £3m decrease in the carrying value of its financial instruments, with a 1% decrease in interest rates resulting in a £3m increase in their carrying value. The company also estimates that a 10% strengthening in sterling would decrease the carrying value of its financial instruments by £149m, while a 10% weakening in the value of sterling would increase the carrying value by £184m. These increases and decreases in carrying value would be recorded through the income statement. Sensitivities are calculated using estimation techniques such as discounted cash flow and option valuation models. Where modelling an interest rate decrease of 1% led to negative interest rates, these points on the yield curve were adjusted to 0%.

3. Financial risk management continued

The following table analyses the company's derivative assets and liabilities into relevant maturity groupings based on the remaining period at the balance sheet date to the contractual maturity date. The amounts disclosed in the table are the contractual undiscounted cash flows (including interest) and as such may differ from the amounts disclosed on the balance sheet.

All figures in £ millions	Analysed by maturity			Total	Analysed by currency			Total
	Greater than one month and less than one year	Later than one year but less than five years	Five years or more		USD	GBP	Other	
At 31 December 2018								
Rate derivatives – inflows	(20)	(288)	(343)	(651)	(40)	(167)	(444)	(651)
Rate derivatives – outflows	23	289	341	653	254	390	9	653
FX forwards – inflows	(251)	(35)	–	(286)	–	(286)	–	(286)
FX forwards – outflows	275	37	–	312	312	–	–	312
Total	27	3	(2)	28	526	(63)	(435)	28
At 31 December 2017								
Rate derivatives – inflows	(38)	(975)	(684)	(1,697)	(53)	(751)	(893)	(1,697)
Rate derivatives – outflows	48	1,060	667	1,775	1,003	751	21	1,775
FX forwards – inflows	–	–	–	–	–	–	–	–
FX forwards – outflows	–	–	–	–	–	–	–	–
Total	10	85	(17)	78	950	–	(872)	78

All cash flow projections shown above are on an undiscounted basis. Any cash flows based on a floating rate are calculated using interest rates as set at the date of the last rate reset. Where this is not possible, floating rates are based on interest rates prevailing at 31 December in the relevant year. All derivative amounts are shown gross, although the company net settles these amounts wherever possible.

Fair value hedge accounting

A foreign currency exposure arises from foreign exchange fluctuations on translation of the company's investments in subsidiaries denominated in USD into GBP. The hedged risk is the risk of changes in the GBPUSD spot rate that will result in changes in the value of the USD investments when translated into GBP. The hedged items are a portion of the company's equity investment in subsidiaries denominated in USD. The hedging instruments are a portion of the company's intercompany loans due from subsidiaries which are denominated in USD.

It is expected that the change in value of each of these items will mirror each other as there is a clear and direct economic relationship between the hedge and the hedged item in the hedge relationship. The hedge ratio is 100%. Hedge ineffectiveness would arise if the value of the hedged items fell below the value of the hedging instruments however this is unlikely as the value of the company's investments denominated in USD are significantly greater than the proposed fair value hedge programme.

The value of the hedged items and the hedging instruments are £1.4bn and the change in value during the year which was used to assess hedge ineffectiveness was £76m. There was no hedge ineffectiveness.

Credit risk management

The company's main exposure to credit risk relates to lending to subsidiaries. Amounts due from subsidiaries are stated net of provisions for bad and doubtful debts. The credit risk of each subsidiary is influenced by the industry and country in which they operate, however, the company considers the credit risk of subsidiaries to be low as it has visibility of, and the ability to influence, their cash flows.

4. Cash and cash equivalents (excluding overdrafts)

All figures in £ millions	2018	2017
Cash at bank and in hand	50	2
Short-term bank deposits	–	117
	50	119

Short-term bank deposits are invested with banks and earn interest at the prevailing short-term deposit rates. At the end of 2018 the currency split of cash and cash equivalents was US dollar 0% (2017: 82%), sterling 79% (2017: 17%) and other 21% (2017: 1%).

Notes to the company financial statements

4. Cash and cash equivalents (excluding overdrafts) continued

Cash and cash equivalents have fair values that approximate their carrying amounts due to their short-term nature. Cash and cash equivalents include the following for the purpose of the cash flow statement:

All figures in £ millions	2018	2017
Cash and cash equivalents	50	119
Bank overdrafts	(11)	(3)
	39	116

5. Financial liabilities – borrowings

All figures in £ millions	2018	2017
Current		
Due within one year or on demand:		
Bank loans and overdrafts	11	3
	11	3
Total borrowings	11	3

Current borrowings in both years are classified within cash and cash equivalents and do not give rise to financing cash flows. The carrying amounts of the company's borrowings is equal to, or approximately equal to, the market value.

The carrying amounts of the company's borrowings are denominated in the following currencies:

All figures in £ millions	2018	2017
US dollar	11	–
Sterling	–	3
	11	3

6. Derivative financial instruments

The company's outstanding derivative financial instruments are as follows:

All figures in £ millions	2018			2017		
	Gross notional amounts	Assets	Liabilities	Gross notional amounts	Assets	Liabilities
Interest rate derivatives	766	16		1,228	26	–
Cross-currency rate derivatives	577	51	(35)	1,389	114	(140)
FX forwards and collars	434	–	(24)	–	–	–
Other derivatives	473	1	–	–	–	–
Total	2,250	68	(59)	2,617	140	(140)
Analysed as expiring:						
In less than one year	771	1	(23)	–	–	–
Later than one year and not later than five years	795	22	(1)	1,545	64	(97)
Later than five years	684	45	(35)	1,072	76	(43)
Total	2,250	68	(59)	2,617	140	(140)

The carrying value of the above derivative financial instruments equals their fair value. Derivatives are categorised as Level 2 on the fair value hierarchy. Fair values are determined by using market data and the use of established estimation techniques such as discounted cash flow and option valuation models.

7. Share capital and share premium

	Number of shares 000s	Share capital £m	Share premium £m
At 1 January 2017	822,127	205	2,597
Issue of ordinary shares – share option schemes	923	–	5
Purchase of own shares	(20,996)	(5)	–
At 31 December 2017	802,054	200	2,602
Issue of ordinary shares – share option schemes	864	1	5
Purchase of own shares	(21,840)	(6)	–
At 31 December 2018	781,078	195	2,607

7. Share capital and share premium continued

The ordinary shares have a par value of 25p per share (2017: 25p per share). All issued shares are fully paid. All shares have the same rights.

The £300m share buyback programme announced in October 2017 was completed on 16 February 2018. In 2017, the Group's brokers purchased 21m shares at a value of £153m of which £149m had been cancelled at 31 December 2017. Cash payments of £149m had been made in respect of the purchases with the outstanding £4m settlement made at the beginning of January 2018. This £4m together with the remaining value of the buyback programme of £147m was recorded as a liability at 31 December 2017. A further 22m shares were purchased under the programme in 2018. The shares bought back have been cancelled and the nominal value of these shares transferred to a capital redemption reserve. The nominal value of shares cancelled at 31 December 2018 was £11m (2017: £5m).

8. Treasury shares

	Number of shares 000s	£m
At 1 January 2017	7,719	34
Release of treasury shares	(1,725)	(18)
At 31 December 2017	5,994	16
Release of treasury shares	(2,769)	(28)
At 31 December 2018	3,225	(12)

The company holds its own shares in trust to satisfy its obligations under its restricted share plans. These shares are treated as treasury shares for accounting purposes and have a par value of 25p per share. The nominal value of the company's treasury shares amounts to £0.8m (2017: £1.5m). At 31 December 2018, the market value of the company's treasury shares was £30m (2017: £44m). The gross book value of the shares at 31 December 2018 amounts to £33m. This value has been netted off with contributions received from operating companies of £45m, resulting in a net credit value of £12m.

9. Contingencies

There are contingent liabilities that arise in the normal course of business in respect of indemnities, warranties and guarantees in relation to former subsidiaries and in respect of guarantees in relation to subsidiaries. In addition, there are contingent liabilities in respect of legal claims. None of these claims are expected to result in a material gain or loss to the company.

10. Audit fees

Statutory audit fees relating to the company were £35,000 (2017: £35,000).

11. Related party transactions

Subsidiaries

The company transacts and has outstanding balances with its subsidiaries. Amounts due from subsidiaries and amounts due to subsidiaries are disclosed on the face of the company balance sheet.

These loans are generally unsecured and interest is calculated based on market rates. The company has interest payable to subsidiaries for the year of £105m (2017: £122m) and interest receivable from subsidiaries for the year of £105m (2017: £111m). Management fees payable to subsidiaries in respect of centrally provided services amounted to £59m (2017: £42m). Management fees receivable from subsidiaries in respect of centrally provided services amounted to £35m (2017: £69m). Dividends received from subsidiaries were £nil (2017: £701m).

Associates

Amounts due from related parties, disclosed on the face of the company balance sheet, relate to loans to Penguin Random House, an associate of the Group. These loans are unsecured and interest is calculated based on market rates. The amount outstanding at 31 December 2018 was £nil (2017: £46m). The loans are provided under a working capital facility and fluctuate during the year.

Key management personnel

Key management personnel are deemed to be the members of the Pearson executive.

It is this committee which had responsibility for planning, directing and controlling the activities of the company in 2018. Key management personnel compensation is disclosed in note 36 to the consolidated financial statements.

Notes to the company financial statements

12. Group companies

In accordance with section 409 of the Companies Act 2006 a full list of subsidiaries, partnerships, associates, joint ventures and joint arrangements, the country of incorporation, the registered address and the effective percentage of equity owned, as at 31 December 2018 is disclosed below. Unless otherwise stated, the shares are all indirectly held by Pearson plc. Unless otherwise stated, all wholly-owned and partly-owned subsidiaries are included in the consolidation and all associated undertakings are included in the Group's financial statements using the equity method of accounting. Principal Group companies are identified in **bold**.

Wholly-owned subsidiaries

Registered company name	Country of Incorp.	Reg office	Registered company name	Country of Incorp.	Reg office	Registered company name	Country of Incorp.	Reg office
Addison Wesley Longman, Inc.	US	3	English Language Learning and Instruction System, Inc.	US	57	Pearson (Beijing) Management Consulting Co., Ltd.	CN	83
Addison-Wesley Educational Publishers Inc.	US	4	Escape Studios Limited*	UK	6	Pearson (Guizhou) Education Technology Co., Ltd.	CN	84
AEL (S) PTE Limited	SG	5	Falstaff Holdco Inc.	US	4	Pearson Affordable Learning Fund Limited	UK	1
Aldwych Finance Limited	UK	1	Falstaff Inc.	US	58	Pearson America LLC	US	4
America's Choice, LLC	US	4	FBH, Inc.	US	4	Pearson Amsterdam B.V.	NL	85
ATI Professional Development LLC	US	4	George (Shanghai) Commercial Information Consulting Co., Ltd	CN	23	Pearson Australia Finance Unlimited	UK	1
Atkey Finance Limited	IE	7	Global George II Limited	KY	8	Pearson Australia Group Pty Ltd	AU	51
Axis Finance Inc.	US	4	Global George II limited	CN	56	Pearson Australia Holdings Pty Ltd	AU	51
Camsaw, Inc.	US	4	Globe Fearon Inc.	US	19	Pearson Australia Pty Ltd	AU	51
CAMSAWUSA, Inc.	US	11	Guangzhou Crescent Software Co., Ltd	CN	64	Pearson Benelux B.V.	NL	85
Casapsi Livraria e Editora Ltda	BR	12	Heinemann Education Botswana (Publishers) (Proprietary) Limited	BW	65	Pearson Books Limited†	UK	1
Centro Cultural Americano Franquias e Comércio Ltda.	BR	16	Icodeon Limited*	UK	6	Pearson Brazil Finance Limited	UK	1
Century Consultants Ltd.	US	14	IndiaCan Education Private Limited	IN	2	Pearson Business Services Inc.	US	4
Certiport China Holding, LLC	US	4	Integral 7, Inc.	US	4	Pearson Canada Assessment Inc	CA	86
Certiport, Inc.	US	4	INTELLIPRO, INC.	US	14	Pearson Canada Finance Unlimited	UK	1
Cogmed Systems AB	SE	15	J M Soluções Exportação e Importação Ltda	BR	67	Pearson Canada Holdings Inc	CA	86
Connections Academy of Arkansas, LLC	US	18	K12 Learning Services LLC	US	4	Pearson Canada Inc.	CA	86
Connections Academy of Florida, LLC	US	22	Kagiso Education Pty Ltd*	ZA	50	Pearson Central Europe Spółka z ograniczoną odpowiedzialnością	PL	42
Connections Academy of Iowa, LLC	US	26	Knowledge Analysis Technologies, LLC	US	20	Pearson College Limited	UK	1
Connections Academy of Maine, LLC	US	30	LCCI International Qualifications (Malaysia) Sdn. Bhd.*	MY	68	Pearson DBC Holdings Inc.	US	4
Connections Academy of Maryland, LLC	US	31	LCCIEB Training Consultancy., Ltd	CN	69	Pearson Desarrollo y Capacitación Profesional Chile Limitada	CL	87
Connections Academy of Minnesota, LLC	US	32	LessonLab, Inc.	US	19	Pearson Deutschland GmbH	DE	88
Connections Academy of Missouri, LLC	US	33	Lignum Oil Company	US	4	Pearson Digital Learning Puerto Rico, Inc.	PR	82
Connections Academy of Nevada, LLC	US	34	Linx Brasil Distribuidora Ltda.	BR	13	Pearson Dollar Finance plc†	UK	1
Connections Academy of New Jersey, LLC*	US	14	Longman (Malawi) Limited	MW	70	Pearson Dollar Finance Two Limited	UK	1
Connections Academy of New Mexico, LLC	US	35	Longman Australasia Pty Ltd	AU	71	Pearson Educacion de Chile Limitada	CL	87
Connections Academy of New York, LLC*	US	36	Longman Group (Overseas Holdings) Limited	UK	1	Pearson Educacion de Colombia S A S	CO	90
Connections Academy of Oregon, LLC	US	40	Longman Indochina Acquisition, L.L.C.	US	4	Pearson Educacion de Mexico, S.A. de C.V.	MX	91
Connections Academy of Pennsylvania LLC	US	41	Longman Kenya Limited	KE	72	Pearson Educacion de Panama SA	PA	92
Connections Academy of Tennessee, LLC	US	43	Longman Mocabique Ltda	MZ	45	Pearson Educacion de Peru S.A.	PE	93
Connections Academy of Texas LLC	US	44	Longman Romania S.R.L.	RO	25	Pearson Educacion SA	ES	94
Connections Education LLC	US	4	Longman Swaziland (Pty) Limited	SZ	73	Pearson Education (Singapore) Pte Ltd	SG	5
Connections Education of Florida, LLC	US	22	Longman Tanzania Limited*	TZ	74	Pearson Education Africa (Pty) Ltd	ZA	50
Connections Education, Inc.	US	4	Longman Zambia Educational Publishers Pty Ltd	ZM	75	Pearson Education Asia Limited	CN	56
CTI Education Group (Pty) Limited	ZA	50	Longman Zambia Limited	ZM	75	Pearson Education Botswana (Proprietary) Limited	BW	65
Dominie Press, Inc.	US	19	Longman Zimbabwe (Private) Ltd	ZW	76	Pearson Education do Brasil S.A	BR	63
Dorian Finance Limited	IE	7	Longmaned Ecuador S.A.	EC	77	Pearson Education Hellas SA	GR	28
Dorling Kindersley Australasia Pty Limited	AU	51	Major123 Limited	UK	1	Pearson Education Holdings Limited†	UK	1
EBNT Canada Holdings ULC	CA	61	MeasureUp, LLC	US	4	Pearson Education Indochina Limited	TH	95
EBNT Holdings Limited	CA	60	Modern Curriculum Inc.	US	19	Pearson Education Investments Limited	UK	1
EBNT USA Holdings Inc.	US	4	Multi Treinamento e Editora Ltda	BR	17	Pearson Education Korea Limited	KR	96
eCollege.com	US	4	National Computer Systems Japan Co. Ltd	JP	80	Pearson Education Limited	UK	1
Edexcel Limited†	UK	52	NCS Information Services Technology (Beijing) Co Ltd	CN	81	Pearson Education Namibia (Pty) Limited	NA	97
Edexcel South Africa Pty Ltd*	ZA	50	NCS Pearson Pty Ltd	AU	51	Pearson Education Publishing Limited	NG	98
Éditions Du Renouveau Pédagogique Inc.	CA	53	NCS Pearson Puerto Rico, Inc.	PR	82	Pearson Education S.A.	UY	99
Education Development International Plc†	UK	1	NCS Pearson, Inc.	US	32	Pearson Education SA	AR	100
Education Resources (Cyprus) Limited	CY	54	Ordinate Corporation	US	19	Pearson Education South Africa (Pty) Ltd	ZA	50
Educational Management Group, Inc.	US	55				Pearson Education South Asia Pte. Ltd.	SG	5
Embanet ULC	CA	47						
Embanet-Compass Knowledge Group Inc.	US	22						
Embankment Finance Limited*	UK	6						

Registered company name	Country of Incorp.	Reg office
Pearson Education Taiwan Ltd	TW	101
Pearson Education, Inc.	US	4
Pearson Educational Measurement Canada, Inc.	CA	39
Pearson Educational Publishers, LLC	US	4
Pearson Egitim Cozumleri Tikaret Limited Sirketi	TR	102
Pearson Falstaff (Holdings) Inc.	US	4
Pearson Falstaff Holdco LLC	US	4
Pearson France	FR	103
Pearson Funding Five plc†	UK	1
Pearson Funding Four plc†	UK	1
Pearson Funding Two Limited*†	UK	6
Pearson Holdings Inc.	US	4
Pearson Holdings Southern Africa (Pty) Limited	ZA	50
Pearson in Practice Holdings Limited*	UK	6
Pearson in Practice Skills Based Learning Limited*	UK	6
Pearson in Practice Technology Limited*	UK	6
Pearson India Education Services Private Limited	IN	2
Pearson India Support Services Private Limited	IN	2
Pearson Institute of Higher Education	ZA	50
Pearson International Finance Limited†	UK	1
Pearson Investment Holdings, Inc.	US	4
Pearson IOKI Spółka z ograniczoną odpowiedzialnością	PL	104
Pearson Italia S.p.A	IT	105
Pearson Japan KK	JP	106
Pearson Lanka (Private) Limited	LK	107
Pearson Learning China (HK) Limited	CN	56
Pearson Lesotho (Pty) Ltd	LS	66
Pearson Loan Finance No. 3 Limited	UK	1
Pearson Loan Finance No. 4 Limited	UK	1
Pearson Loan Finance No.2 Unlimited*	UK	6
Pearson Loan Finance Unlimited	UK	1
Pearson Longman Uganda Limited	UG	108
Pearson Malaysia Sdn. Bhd.	MY	62
Pearson Management Services Limited†	UK	1
Pearson Management Services Philippines Inc.	PH	109
Pearson Maryland Inc.	US	11
Pearson Netherlands B.V.	NL	85
Pearson Netherlands Holdings B.V.	NL	85
Pearson Nominees Limited†	UK	1
Pearson Online Tutoring LLC	US	4
Pearson Overseas Holdings Limited†	UK	1
Pearson PEM P.R., Inc.	PR	21
Pearson Pension Nominees Limited	UK	1
Pearson Pension Property Fund Limited	UK	1
Pearson Pension Trustee Limited	UK	1
Pearson Pension Trustee Services Limited†	UK	1
Pearson PRH Holdings Limited	UK	1
Pearson Professional Assessments Limited	UK	1
Pearson Real Estate Holdings Inc.	US	4
Pearson Real Estate Holdings Limited†	UK	1
Pearson Schweiz AG	CH	37
Pearson Services Limited†	UK	1
Pearson Shared Services Limited†	UK	1
Pearson Strand Finance Limited†	UK	1

Registered company name	Country of Incorp.	Reg office
Pearson Sweden AB	SE	15
Pearson VUE Philippines, Inc.	PH	111
Penguin Capital, LLC	US	4
Phumelela Publishers (Pty) Ltd*	ZA	50
PN Holdings Inc.	US	4
ProctorCam, Inc.	US	110
PT Efficient English Services	ID	89
Reading Property Holdings LLC	US	79
Rebus Planning Associates, Inc.	US	10
Reston Publishing Company, Inc.	US	4
Rycade Capital Corporation	US	4
Shanghai AWL Education Software Ltd	CN	78
Silver Burdett Ginn Inc.	US	4
Skylight Training and Publishing Inc.	US	55
Smarthinking, Inc.	US	4
Sound Holdings Inc.	US	4
Spear Insurance Company Limited†	BM	48
Stark Verlag GmbH	DE	88
Sunnykey International Holdings Limited (BVI)	VG	29
The Financial Times (I) Pvt Ltd	IN	24
The Learning Edge International Pty Ltd	AU	71
The Waite Group Inc	US	19
TQ Catalis Limited	UK	1
TQ Clapham Limited	UK	1
TQ Education and Training Limited	UK	1
TQ Education and Training Limited	SA	59
TQ Global Limited	UK	1
TQ Group Limited	UK	1
TQ Holdings Limited	UK	1
Trio Parent Holdings LLC	US	4
US Learning Services LLC	US	4
USLS Holdings LLC	US	4
Vue Testing Services Israel Ltd	IL	49
Vue Testing Services Korea Limited	KR	38
Wall Street Institute Kft.	HU	27
Williams Education GmbH	DE	88

* In liquidation

† Directly owned by Pearson plc

Subsidiary addresses

The following list includes all Pearson registered offices worldwide. Please see wholly-owned subsidiaries list opposite for each subsidiary's registered office code.

Registered office address

1	80 Strand, London, WC2R 0RL, England
2	4th Floor Software Block, Elnet Software City, TS 140 Block 2 & 9, Rajiv Gandhi Salai, Taramani, Chennai, TN, 600113, India
3	C T Corporation System, 155 Federal St., Suite 700, Boston, MA, 02110, United States
4	The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, New Castle, DE, 19801, United States
5	9, #13-05/06, North Buona Vista Drive, The Metropolis Tower One, 138588, Singapore
6	Acre House, 11-15 William Road, London, NW1 3ER, England
7	1st Floor Riverview House, 21/23 City Quay, Dublin, D02FP21, Ireland
8	Maples Corporate Services Limited P.O. Box 309, Uglund House, South Church Street, George Town, Grand Cayman, KY1-1104, Cayman Islands
9	3F, Building R2 China Merchants Tower, No.118 Jianguo Road, Chaoyang District, Beijing, China
10	The Corporation Company, 40600 Ann Arbor Rd E Suite 201, Plymouth, MI, 48170, United States
11	The Corporation Trust Company, 2405 York Road, Suite 201, Lutherville Timonium, MD, 21093, United States
12	No 15000, Francisco Matarazzo Avenue, Cj. 51 - Bloco 1 - Edifício New York, City of São Paulo, São Paulo, 05001-100, Brazil
13	Comendador Aladino Selmi Avenue, 4630, Galpão 1, Sala 1, Parque Cidade Campinas, City of Campinas, São Paulo 13069-036, Brazil
14	820, Bear Tavern Road, West Trenton, Mercer, NJ, 08628, United States
15	Gustavslundsvägen 137, 167 51 Bromma, Stockholm, Sweden
16	Comendador Aladino Selmi Avenue, 4630, Galpão 1, Sala 3, Parque Cidade Campinas, City of Campinas, São Paulo 13069-036, Brazil
17	Comendador Aladino Selmi Avenue, 4630, Galpão 1, e2, Sala 10, Parque Cidade Campinas, City of Campinas, São Paulo 13069-036, Brazil
18	The Corporation Company, 124 West Capitol Avenue, Suite 1900, Little Rock, AR, 72201, United States
19	C T Corporation System, 818 West Seventh Street, Suite 930, Los Angeles, CA, 90017, United States
20	The Corporation Company, 7700 E Arapahoe Rd Suite 220, Centennial, CO, 80112-1268, United States
21	Edificio Ochoa 500 Calle de la Tanoa, Suite 401, San Juan, Puerto Rico 00901-1969
22	1200, South Pine Island Road, Plantation, FL, 33324, United States
23	Room 1658, Suites 1604-06, 16/F, 588 Dalian Road, Yangpu District, Shanghai, China
24	Plot No. 3, Bharti Colony Vikas Marg, New Dehli, DL 110092, India
25	Sector de Bucarest 2, calle C.A., Rosett1, n.17, oficina 009RESCO-WORK03, Romania
26	C T Corporation System, 400 E Court Ave, Des Moines, IA, 50309, United States
27	Hermína út 17. 8th floor, Budapest, 1146, Hungary
28	21, Amfiteas Avenue, Paleo Faliro Athens, 17564, Greece
29	Commerce House, Wickhams Cay 1, P.O. Box 3140, Road Town, Tortola, British Virgin Islands
30	C T Corporation System, 128 State St #3, Augusta, ME, 04330, United States

Notes to the company financial statements

Registered office address

31	7 St. Paul Street, Suite 1660, Baltimore, MD, 21202, United States
32	CT Corporation System Inc., 1010 Dale Street North, St Paul, MN, 55117-5603, United States
33	120, South Central Avenue, Clayton, MO, 63105, United States
34	The Corporation Trust Company of Nevada, 701 S Carson St, Suite 200, Carson City, NV, 89701, United States
35	CT Corporation System, 206 S Coronado Ave, Espanola, NM, 87532-2792, United States
36	CT Corporation, 111 Eighth Avenue, New York, NY 10011, United States
37	Chollerstrasse 37, 6300 Zug, Switzerland
38	21, Mugyo-ro Jung-gu, Seoul, Republic of Korea
39	199 Bay Street, Commerce Court West, Suite 2800, Toronto, ON, M5L1A9, Canada
40	CT Corporation System, 780 Commercial St SE Ste 100, Salem, OR, 97301, United States
41	CT Corporation System, 116 Pine Street, Suite 320, Harrisburg, Dauphin, PA, 17101, United States
42	Ulica Szamocka 8 01-748, Warszawa, Poland
43	CT Corporation System, 800 S Gay St, Suite 2021, Knoxville, TN, 37929-9710, United States
44	CT Corporation System, 1999 Bryan Street, Suite 900, Dallas, TX, 75201, United States
45	Número 776, Avenida 24 de Julho, Maputo, Mozambique
46	CT Corporation System, 4701 Cox Road, Suite 285, Glen Allen, Henrico, VA, 23060-0000, United States
47	3500, 855 – 2nd Street, S.W., Calgary, AB, T2P 4K7, Canada
48	Thistle House, 4 Burnaby Street, Hamilton, HM11, Bermuda
49	Derech Ben Gurion 2, BSR Building 9th Floor, Ramat Gan, 52573, Israel
50	Auto Atlantic, 4th Floor, Corner Hertzog Boulevard and Heerengracht, Cape Town, 8001, South Africa
51	707 Collins Street, Docklands, Melbourne, VIC, 3008, Australia
52	190, High Holborn, London, WC1V 7BH, England
53	1611, Boul. Cremazie Est, 10th Floor, Montréal, PQ, H2M 2P2, Canada
54	195, Archbishop Makarios III Avenue, Neocleous House, Limassol, 3030, Cyprus
55	Illinois Corporation Service Company, 700 S 2nd Street, Springfield, IL, 62703, United States
56	28/F, 1063 King's Road, Quarry Bay, Hong Kong
57	C/o Corporation Service Company, 251 Little Falls Drive, Wilmington, Delaware, 19808, United States
58	111, 13th Floor, Eighth Avenue, New York, NY, 10011, United States
59	King Fahad Road, Olaya, Riyadh, 58774, 11515, Saudi Arabia

Registered office address

60	44 Chipman Hill, Suite 1000, Saint Jon, NB, E2L 4S6, Canada
61	Suite 2600, Three Bentall Centre, P.O. Box 49314, 595 Burrard Street, Vancouver, BC, V7X 1L3, Canada
62	Unit 30-01, Level 30, Tower A, Vertical Business Suite, Avenue 3, Bangsar South, No 8, Jalan Kerinchi, 59200 Kuala Lumpur, Malaysia
63	Comendador Aladino Selmi Avenue, 4630, Galpão 1, Mezanino, Sala 5, Parque Cidade Campinas, City of Campinas, São Paulo, 13069-036, Brazil
64	Suite 1201 (site: self-made No. 1219), No. 85 Huacheng Avenue, Tianhe District, Guangzhou, China
65	Plot 50371, Fairground Office Park, Gaborone, Botswana
66	C/o Du Preez, Liebetrau & Co, 252 Kingsway, Next to USA Embassy, Maseru, Lesotho
67	João Scarparo Netto Avenue, 84, Bloco B, Ground Floor, Sala 44, Ed Unique Village Offices, Loteamento Center Santa Genebra, City of Campinas, São Paulo, 13080-655, Brazil
68	Unit 621, 6th Floor, Block A, Kelana Centre Point, No 3, Jalan SS7/9, Kelana Jaya 47301 Petaling Jaya, Selangor Darul Ehsan, Malaysia
69	Room 305, Building 2, 6555 Shangchuan Road, Pudong District, Shanghai, China
70	Parkway House, Hannover Avenue, Blantyre, Malawi
71	707 Collins Street, Docklands, Melbourne, VIC, 3008, Australia
72	Queensway House, Kaunda Street, Nairobi, Kenya
73	Robinson Bertram, 3rd Floor, Sokhzmililio Bldg, Mbabane, Swaziland
74	P O Box 45, IPS Building, Maktaba Street, Dar es Salaam, Tanzania
75	Mlungushi Conference Centre, Centre Annex, Great East Road, Lusaka, Zambia
76	Stand 1515, Cnr Tourle Road/Harare Drive, Ardbennie, Harare, Zimbabwe
77	Andalucía y cordero E12-35, Edificio CYEDE piso 1, Oficina 11, Sector "La Floresta", Quito, Pichincha, Ecuador
78	Suite 302-9, Block 3, No. 333 Weining Road, Changning District, Shanghai, China
79	C/O Pearson Education, 501 Boylston St, Boston, MA, 02116, United States
80	Teikoku Hotel Tower 18F, 1-1-1 Uchi Saiwai-Cho, Chiyoda-ku, Tokyo, Japan
81	Suite 1201, Tower 2, No. 36 North Third Ring East Road, Dongcheng District, Beijing, China
82	268 Munoz Rivera Avenue, Suite 1400, San Juan, 00918, Puerto Rico
83	Suite 1208, 12/F, Tower 2, No. 36 North Third Ring East Road, Dongcheng District, Beijing, China
84	Suites 3-28 (2:3), Shi Guang Jun Yuan, No. 89 Hubin Road, Goden Sun Technology Industrial Park, High Technical & Industrial Development District, Guiyang City, Guizhou Province, China

Registered office address

85	Gatwickstraat 1, Amsterdam, 1043 GK, Netherlands
86	26 Prince Andrew Place, Don Mills, Toronto, ON, M3C 2T8, Canada
87	Oficina N°117, edificio Casa Colorada, calle Merced N°838-A Santiago Centro, Santiago, Chile
88	2, Lilienthalstrasse, Hallbergmoos, 85399, Germany
89	30th Floor, Ratu Plaza Office Tower, Jl. Jend. Sudirman Kav 9, Jakarta, 10270, Indonesia
90	Carrera 7 Nro 156 – 68, Piso 26, Bogota, Colombia
91	Calle Antonio Dovali Jaime #70, Torre B, Piso 6, Col. Zedec ed Plaza Santa Fe, del. Álvaro Obregon, Ciudad de Mexico, CP 01210, Mexico
92	Punta Pacifica, Torres de las Americas, Torre A Piso 15 Ofic. 1517, Panama, 0832-0588, Panama
93	Cal. Los Halcones, no. 275, Urb. Limatambo, Lima, Perú
94	28, Ribera del Loira, Madrid, 28042, Spain
95	87/1 Capital Tower Building, All Seasons Place unit 1604 – 6 16th floor, Wireless Road, Lumpini, Pathumwan, Bangkok, Thailand
96	6F Kwanjeong Building, 35, Cheonggyecheon-Ro, Jongno-gu, Seoul, 03188, Republic of Korea
97	Unit 7 Kingland Park, 98 Nickel Street, Prosperita, Windhoek, Namibia
98	8, Secretariat Road, Obafemi Awolowo Way, Alausa, Ikeja, Lagos State, Nigeria
99	Juan Benito Blanco 780 – Plaza Business Center Montevideo, Uruguay
100	Humboldt 1509 piso 6 (C1414CTM), Ciudad Autonoma de Buenos Aires, Argentina
101	No 219, Room D, 11F, Sec 3, Beixin Road, New Taipei City, Xindian District, 23143, Taiwan
102	Barbaros Bulvarı. No:149, Dr. Orhan Birman İş Merkezi Kat:3, Gayrettepe Beşiktaş, Istanbul, 34349, Turkey
103	3-15, Immeuble Terra Nova II, Rue Henri Rol Tanguy, Montreuil, 93100, France
104	Ulica Jana Henryka Dąbrowskiego 77A 60-529, Poznań, Poland
105	16, Corso Trapani, Turin, 10100, Italy
106	1-5-15, Kanda-Sarugakucho, Chiyoda-ku, Tokyo, Japan
107	Orion City, Irgel Building #752, Colombo, 09, Sri Lanka
108	Plot 8, Berkley Road, Old Kampala, Uganda
109	7/F North Tower, Rockwell Business Center COR. Sheridan & United Street, Brgy. Highway Hills, Mandaluyong, Philippines
110	National Registered Agents, inc., 160 Greentree Dr Ste 101, Dover, Kent, DE, 19904, United States
111	27/F Trident Tower, 312 Sen. Gil Puyat Avenue, Makati City, Metro Manila, Philippines

Partly-owned subsidiaries

Registered company Name	Country of Incorp.	% Owned	Reg office
Certiport China Co Ltd	CN	50.69	1
Educational Publishers LLP	UK	85	2
GED Domains LLC	US	70	3
GED Testing Service LLC	US	70	4
Heinemann Publishers (Pty) Ltd	SA	75	5
Maskew Miller Longman (Pty) Limited	SA	75	5
Pearson Education Achievement Solutions (RF) (Pty) Limited	SA	97.3	5
Pearson South Africa (Pty) Ltd	SA	75	5

Associated undertakings

Registered company Name	Country of Incorp.	% Owned	Reg office
ACT Aspire LLC	US	50	6
Avanti Learning Centres Private Limited‡	IN	23.27	7
eAdvance Proprietary Limited‡	ZA	35.11	8
Institute for Private Education & Training KSCC*	KU	49.02	9
Karadi Path learning Company Private Limited‡	IN	24.91	11
Learn Capital Special Opportunities Fund I, L.P.‡	US	99.59	16
Learn Capital Venture Partners II, L.P.‡	US	72.93	16
Learn Capital Venture Partners IIIA, L.P.‡	KY	99.00	10
Learn Capital Venture Partners, L.P.‡	US	99.15	16
Omega Schools Franchise Limited	GH	49.05	12
Peking University Pearson (Beijing) Cultural Development Co., Ltd	CN	45	13
Penguin Random House Limited	UK	25	2
Penguin Random House LLC	US	25	6
Tenyi Education Company Limited	CN	49	17
The Egyptian International Publishing Company-Longman	EG	49	14
Zaya Learning Labs Private Limited‡	IN	20	15

* In liquidation

‡ Accounted for as an 'Other financial asset' within non-current assets

Partly-owned subsidiaries & associated undertakings company addresses

Registered office address
1 Suite 1804, No.99 Huichuan Road, Changning District, Shanghai City, China
2 80 Strand, London, WC2R 0RL, England
3 CT Corporation System, 4701 Cox Road, Suite 285, Glen Allen, Henrico, VA, 23060-0000, United States
4 The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, New Castle, DE, 19801, United States
5 Auto Atlantic, 4th Floor, Corner Hertzog Boulevard and Heerengracht, Cape Town, 8001, South Africa
6 C/o Corporation Service Company, 251, Little Falls Drive, Wilmington, Delaware, 19808, United States
7 16 Paschimi Marg, Vasant Vihar, New Delhi, DL, India
8 Office 201, Parktown Quarter, Corner 3rd & 7th Avenue, Parktown North, Johannesburg, 2193. South Africa
9 P.O. Box No. 6320, 32038 Hawalli, Kuwait City, Kuwait
10 Campbells Corporate Services Limited, Floor 4, Willow House, Cricket Square, Grand Cayman, KY1-9010, Cayman Islands
11 3A Dev Regency II, First Main Road, Gandhinagar, Adyar, Chennai, TN, India
12 2nd Floor OTS Building, off Accra-Winneba Road, Kasoa second, Kasoa P.O. Box WJ973, Weija, Accra. Ghana
13 Suite 216, No. 127-1 Zhongguancun North Street, Haidian District, Beijing, China
14 10a Hussein Wassef St, Midan Missaha, Dokki Giza, 12311, Egypt
15 Unit No. 404, New Udyog Mandir 2, Mogul Lane, Mahim(West), Mumbai, MH, 400016, India
16 Incorporating Services, Ltd. 3500 S Dupont Way, Dover, Kent DE, 19901 United States
17 28/F, 1063 King's Road, Quarry Bay, Hong Kong

Five-year summary

All figures in £ millions	2014	2015	2016	2017	2018
Sales: By geography					
North America	2,906	2,940	2,981	2,929	2,784
Core	910	815	803	815	806
Growth	724	713	768	769	539
Continuing	4,540	4,468	4,552	4,513	4,129
Discontinued	343	312	-	-	-
Total sales	4,883	4,780	4,552	4,513	4,129
Adjusted operating profit: By geography					
North America	444	480	420	394	362
Core	122	105	57	50	57
Growth	32	(3)	29	38	59
Penguin Random House	69	90	129	94	68
Continuing	667	672	635	576	546
Discontinued	55	51	-	-	-
Total adjusted operating profit	722	723	635	576	546
All figures in £ millions	2014	2015	2016	2017	2018
Operating margin – continuing	14.7%	15.0%	13.9%	12.8%	13.2%
Adjusted earnings					
Total adjusted operating profit	722	723	635	576	546
Net finance costs	(64)	(46)	(59)	(79)	(24)
Income tax	(118)	(105)	(95)	(55)	27
Non-controlling interest	1	-	(2)	(2)	(2)
Adjusted earnings	541	572	479	440	547
Weighted average number of shares (millions)	810.9	813.3	814.8	813.4	778.1
Adjusted earnings per share	66.7p	70.3p	58.8p	54.1p	70.3p

Prior periods have not been restated to reflect the adoption of IFRS 15 and IFRS 9 in 2018.

All figures in £ millions	2014	2015	2016	2017	2018
Cash flow					
Operating cash flow	649	435	663	669	513
Operating cash conversion	90%	60%	104%	116%	94%
Operating free cash flow	413	255	549	525	448
Operating free cash flow per share	50.9p	31.4p	67.4p	64.5p	57.6p
Free cash flow	413	152	310	227	473
Free cash flow per share	50.9p	18.7p	38.0p	27.9p	60.8p
Net assets	5,985	6,418	4,348	4,021	4,525
Net debt	1,639	654	1,092	432	143
Return on invested capital					
Total adjusted operating profit	722	723	635	576	546
Operating tax paid	(163)	(129)	(63)	(75)	(43)
Return	559	594	572	501	503
Gross basis:					
Average invested capital	9,900	10,317	11,464	11,568	10,672
Return on invested capital	5.6%	5.8%	5.0%	4.3%	4.7%
Net basis:					
Average invested capital	9,835	9,422	7,906	8,126	7,544
Return on invested capital	5.7%	6.3%	7.2%	6.2%	6.7%
Dividend per share	51.0p	52.0p	52.0p	17.0p	18.5p

Overview

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Financial key performance indicators

The following tables and narrative provide further analysis of the financial key performance indicators which are described in the financial review of the annual report on p44-50, are shown within the key performance indicators on p2 of the annual report and shown in notes 2 and 8 of the notes to the consolidated financial statements.

Adjusted performance measures

The annual report and accounts reports results and performance on a headline basis which compares the reported results both on a statutory and on a non-GAAP (non-statutory) basis. The Group's adjusted performance measures are non-GAAP (non-statutory) financial measures and are also included in the annual report as they are key financial measures used by management to evaluate performance and allocate resources to business segments. The measures also enable investors to more easily, and consistently, track the underlying operational performance of the Group and its business segments by separating out those items of income and expenditure relating to acquisition and disposal transactions, major restructuring programmes and certain other items that are also not representative of underlying performance.

The Group's definition of adjusted performance measures may not be comparable to other similarly titled measures reported by other companies. A reconciliation of the adjusted measures to their corresponding statutory measures is shown below.

Sales

Underlying sales movements exclude the effect of exchange, the impact of portfolio changes arising from acquisitions and disposals and the impact of adopting new accounting standards that are not retrospectively applied. Portfolio changes are calculated by taking account of the additional contribution (at constant exchange rates) from acquisitions made in both the current year and the prior year. For acquisitions made in the prior year the additional contribution is calculated as the sales made in the period of the current year that corresponds to the pre-acquisition period in the prior year. Sales made by businesses disposed in either the current year or the prior year are also excluded. Constant exchange rates are calculated by assuming the average exchange rates in the prior year prevailed throughout the current year. These non-GAAP measures enable management and investors to track more easily, and consistently, the underlying sales performance of the Group.

All figures in £ millions	North America	Core	Growth	Total
Statutory sales 2018	2,784	806	539	4,129
Statutory sales 2017	2,929	815	769	4,513
Statutory sales decrease	(145)	(9)	(230)	(384)
Comprising:				
Underlying (decrease)/increase	(43)	3	6	(34)
Portfolio changes including the impact of adopting new accounting standards (IFRS 15 see note 1b)	(11)	(7)	(198)	(216)
Exchange differences	(91)	(5)	(38)	(134)
Statutory sales decrease	(145)	(9)	(230)	(384)
Statutory decrease	(5)%	(1)%	(30)%	(9)%
Constant exchange rate decrease	(2)%	-	(25)%	(6)%
Underlying (decrease)/increase	(1)%	-	1%	(1)%

Adjusted operating profit

Adjusted operating profit excludes the cost of major restructuring; other net gains and losses on the sale of subsidiaries, joint ventures, associates and other financial assets; intangible charges, including impairment, relating only to goodwill and intangible assets acquired through business combinations and the direct costs of acquiring those businesses; the impact of UK pension GMP equalisation in 2018; and the impact of US tax reform in 2017. Further details are given below under 'Adjusted earnings per share'. Underlying adjusted operating profit movements exclude the effect of exchange, the impact of portfolio changes arising from acquisitions and disposals and the impact of adopting new accounting standards that are not retrospectively applied. Portfolio changes are calculated by taking account of the additional contribution (at constant exchange rates) from acquisitions made in both the current year and the prior year.

For acquisitions made in the prior year the additional contribution is calculated as the operating profit made in the period of the current year that corresponds to the pre-acquisition period in the prior year. Operating profit made by businesses disposed in either the current year or the prior year is also excluded. Constant exchange rates are calculated by assuming the average exchange rates in the prior year prevailed throughout the current year. This non-GAAP measure enables management and investors to track more easily, and consistently, the underlying operating profit performance of the Group.

All figures in £ millions	2018	2017
Operating profit	553	451
Cost of major restructuring	102	79
Other net gains and losses	(230)	(128)
Intangible charges	113	166
UK pension GMP equalisation	8	-
Impact of US tax reform	-	8
Adjusted operating profit	546	576

All figures in £ millions	North America	Core	Growth	PRH	Total
Adjusted operating profit (decrease)/increase	(32)	7	21	(26)	(30)
Comprising:					
Underlying increase	2	5	30	6	43
Portfolio changes including the impact of adopting new accounting standards (IFRS 15 see note 1b)	(16)	(1)	(2)	(33)	(52)
Exchange differences	(18)	3	(7)	1	(21)
Adjusted operating profit (decrease)/increase	(32)	7	21	(26)	(30)
Constant exchange rate (decrease)/increase	(4)%	8%	74%	(29)%	(2)%
Underlying increase	1%	10%	97%	10%	8%

Adjusted earnings per share

Adjusted earnings includes adjusted operating profit and adjusted finance and tax charges. Adjusted earnings is included as a non-GAAP measure as it is used by management to evaluate performance and allocate resources to business segments and by investors to more easily, and consistently, track the underlying operational performance of the Group over time. Adjusted earnings per share is calculated as adjusted earnings divided by the weighted average number of shares in issue on an undiluted basis.

The following items are excluded from adjusted earnings:

Cost of major restructuring In May 2017, the Group announced a restructuring programme to run between 2017 and 2019 to drive significant cost savings. The costs of this restructuring programme are significant enough to exclude from the adjusted operating profit measure so as to better highlight the underlying performance (see note 4).

Other net gains and losses These represent profits and losses on the sale of subsidiaries, joint ventures, associates and other financial assets and are excluded from adjusted earnings as they distort the performance of the Group as reported on a statutory basis.

Intangible charges These represent charges in respect of intangible assets acquired through business combinations and the direct costs of acquiring those businesses. These charges are excluded as they reflect past acquisition activity and do not necessarily reflect the current year performance of the Group.

Financial key performance indicators

Other net finance income/costs These include finance costs in respect of retirement benefits, finance costs of deferred consideration and foreign exchange and other gains and losses. Finance income relating to retirement benefits are excluded as management does not believe that the consolidated income statement presentation under IAS 19 reflects the economic substance of the underlying assets and liabilities. Finance costs relating to acquisition transactions are excluded as these relate to future earn outs or acquisition expenses and are not part of the underlying financing. Foreign exchange and other gains and losses are excluded as they represent short-term fluctuations in market value and are subject to significant volatility. Other gains and losses may not be realised in due course as it is normally the intention to hold the related instruments to maturity.

UK pension GMP equalisation In 2018 the impact of adjustments arising from clarification of guaranteed minimum pension (GMP) equalisation legislation in the UK, as outlined in note 25 of the notes to the consolidated financial statements, has also been excluded as this relates to historical circumstances.

Impact of US tax reform In 2017, as a result of US tax reform, the Group's share of profit from associates was adversely impacted by £8m. This amount has been excluded from adjusted earnings as it is considered to be a transition adjustment that is not expected to recur in the near future.

Tax Tax on the above items is excluded from adjusted earnings. Where relevant the Group also excludes the benefit from recognising previously unrecognised pre-acquisition and capital losses. The tax benefit from tax deductible goodwill and intangibles is added to the adjusted income tax charge as this benefit more accurately aligns the adjusted tax charge with the expected rate of cash tax payments.

All figures in £ millions	2018	2017
Profit for the year	590	408
Non-controlling interest	(2)	(2)
Cost of major restructuring	102	79
Other net gains and losses	(230)	(128)
Intangible charges	113	166
Other net finance income/(costs)	31	(49)
UK pension GMP equalisation	8	-
Impact of US tax reform	-	8
Tax	(65)	(42)
Adjusted earnings	547	440
Weighted average number of shares (millions)	778.1	813.4
Adjusted earnings per share	70.3p	54.1p

Return on invested capital

Return on invested capital (ROIC) is included as a non-GAAP measure as it is used by management and investors to track investment returns and by management to help inform capital allocation decisions within the business. ROIC is calculated as adjusted operating profit less operating cash tax paid expressed as a percentage of average invested capital. Invested capital includes the original unamortised goodwill and intangibles. Average values for total invested capital are calculated as the average monthly balance for the year. ROIC is also presented on a net basis after removing impaired goodwill from the invested capital balance. The net approach assumes that goodwill which has been impaired is treated consistently to goodwill disposed as it is no longer being used to generate returns.

All figures in £ millions	2018 Gross	2017 Gross	2018 Net	2017 Net
Adjusted operating profit	546	576	546	576
Operating tax paid	(43)	(75)	(43)	(75)
Return	503	501	503	501
Average goodwill	6,675	7,236	3,547	3,794
Average other non-current intangibles	2,438	2,606	2,438	2,606
Average intangible assets – pre-publication	999	995	999	995
Average tangible fixed assets and working capital	560	731	560	731
Average invested capital	10,672	11,568	7,544	8,126
Return on invested capital	4.7%	4.3%	6.7%	6.2%

Operating cash flow

Operating cash flow is calculated as net cash generated from operations before the impact of items excluded from the adjusted income statement plus dividends from joint ventures and associates (less the re-capitalisation dividends from Penguin Random House); less capital expenditure on property, plant and equipment and intangible software assets; plus proceeds from the sale of property, plant and equipment and intangible software assets; less finance lease principal payments; plus special pension contributions paid; and plus cost of major restructuring paid. Operating cash flow is included as a non-GAAP measure in order to align the cash flows with the corresponding adjusted operating profit measures.

All figures in £ millions	2018	2017
Net cash generated from operations	547	462
Dividends from joint ventures and associates	117	458
Re-capitalisation dividends from Penguin Random House	(50)	(312)
Purchase of property, plant and equipment	(70)	(82)
Purchase of intangible software assets	(130)	(150)
Proceeds from sale of property, plant and equipment and intangible software assets	128	-
Finance lease principal payments	(4)	(5)
Special pension contribution	-	227
Net (proceeds from)/ cost paid re major restructuring	(25)	71
Operating cash flow	513	669

For information, cash conversion, calculated as operating cash flow as a percentage of adjusted operating profit, is also shown as a non-GAAP measure as this is used by management and investors to measure underlying cash generation by the Group.

All figures in £ millions	2018	2017
Adjusted operating profit	546	576
Operating cash flow	513	669
Cash conversion	94%	116%

For information, operating cash flow, operating free cash flow and total free cash flow, which are non-GAAP measures, are disclosed and reconciled in note 33 of the notes to the consolidated financial statements as they are commonly used by investors to measure the cash performance of the Group.

Net debt and earnings before interest, tax, depreciation and amortisation (EBITDA)

For information, the net debt/EBITDA ratio is shown as a non-GAAP measure as it is commonly used by investors to measure balance sheet strength. EBITDA is calculated as adjusted operating profit less depreciation on property, plant and equipment and less amortisation on intangible software assets.

All figures in £ millions	2018	2017
Adjusted operating profit	546	576
Depreciation (excluding items included in 'cost of major restructuring')	66	80
Amortisation on intangible software assets (excluding items included in 'cost of major restructuring')	87	82
EBITDA	699	738
Cash and cash equivalents	568	518
Marketable securities	-	8
Derivative financial instruments	9	-
Bank loans and overdrafts	(43)	(15)
Bonds	(672)	(1,062)
Finance lease liabilities	(5)	(8)
Total	(143)	(559)
Cash and cash equivalents classified as held for sale	-	127
Net debt	(143)	(432)
Net debt/EBITDA ratio	0.2x	0.6x

Glossary of major products and services



AcceleratED pathways: a corporate education benefit, where Pearson partners with companies to improve employee development by focusing on the educational needs of a specific business and its people, helping to strategically align educational assistance spending to the talent objectives of the organisation.

ACCUPLACER®/MyFoundationsLab®: this all-in-one diagnostics and intervention programme combines The College Board's assessment programme with Pearson's proven online intervention solution. It identifies the areas where a student needs work and then takes a personalised learning path that helps them work on their individual skills deficit. Last year alone, Pearson delivered 9.2M tests on the ACCUPLACER® platform.

Artificial intelligence (AI): describes machines that can sense and interact with environments in a perception-planning-action cycle, or with other machines, without explicit programming. This is typically accomplished through Machine Learning (ML) which is the development, and application of algorithms that improve their performance (inference) at some task based on experience (training). Pearson takes a human-centric perspective of AI that considers the entire learning ecosystem when developing AI capabilities including ethics, privacy, appropriate uses and user needs.

Bug Club: a core reading programme for 4-11 year olds, which has everything needed to deliver the 2014 UK primary curriculum and includes over 590 finely levelled titles, available in print and eBook format and a unique online learning platform with in-built assessment.

BTEC: taught in colleges, schools and university throughout the world, a BTEC gives learners of all levels and ages the knowledge and skills they need for career success, now and into the future. The unique experience BTEC learners get of having to apply the knowledge and skills they've learned to real-life scenarios means more employers and learners are choosing BTEC.

› **BTEC Level 1/Level 2 Firsts:** BTEC Firsts allow level 2 learners to develop knowledge and understanding by applying their learning and skills in real-life scenarios. Combined with other qualifications, they enable learners to progress to further study, an apprenticeship, or into employment.

› **BTEC Level 1/Level 2 Tech Awards:** studied alongside GCSE, BTEC Tech Awards provide a great introduction to a professional sector where students learn transferable skills they'll use if they progress to further study, and in their future career.

› **BTEC Level 2 Technicals:** designed in collaboration with employers and industry professionals, BTEC Level 2 Technicals provide career-focused, applied courses for post-16 level 2 learners in a specialist occupational area. They support progression to an apprenticeship, to further technical study, or into the workplace.

› **BTEC Level 3 Nationals:** allow level 3 learners to apply their learning in real-life scenarios to develop the specialist knowledge and skills they need to progress towards their chosen career path, whether that is through further or higher education, an apprenticeship or directly into the workplace.

› **BTEC Higher Nationals:** available at levels 4 and 5, BTEC Higher Nationals are internationally recognised, career-focused higher education courses which are the same level as the first and second years of a degree course. Co-designed with employers and representing the most up-to-date professional standards, they support learners to develop the real-world knowledge, skills and behaviours needed to succeed, allowing them to move on to complete degree and progress in their chosen career path.

Clinical Assessment: our Clinical Assessment business provides assessments to help professionals improve lives by providing valuable information that can identify and manage an individual learner's strengths and weaknesses and learning barriers. For example, AimsWeb Plus provides universal screening, benchmarking, and progress monitoring assessments to give educators the reliable data they need to improve students' maths and reading skills.

The Clinical Assessment portfolio also offers a range of assessments serving a diverse audience of professionals including Psychologists, Speech Language Pathologists, Occupational Therapists and more. These professionals rely on leading measures like the Wechsler Scales of Intelligence, which assess an individual's cognitive strengths and weaknesses or the Minnesota Multiphasic Personality Inventory (MMPI), a world renowned measure of psychopathology and personality.

Other examples of our Clinical products include:

› **Behaviour Assessment System for Children:** a comprehensive set of rating scales and forms to help children thrive in their school and home environments through effective behaviour assessment. BASC provides a complete picture of child and adolescent behaviour. School and clinical psychologists have depended on BASC for more than 20 years.

› **Goldman-Fristoe Test of Articulation-Third Edition (GFTA-3):** a systematic means of assessing an individual's ability to pronounce different speech sounds of Standard American English in order to diagnose different disorders which can inhibit an individual's articulation. It provides information about an individual's speech sound ability by sampling both spontaneous and imitative sound production in single words and connected speech.

Connections Academy: The Connections Academy online school programme for grades K12 is a comprehensive collection of online learning products and school support services for online public schools across the US, most of which carry the Connections Academy name. In addition, International Connections Academy is a private online school for grades K12 and serves students worldwide.

Digitally-enabled learning: learning that is enabled through digital media, tools or technology.

Edexcel GCSE/A level: AS and A levels – sometimes called General Certificates of Education (GCE) or Advanced levels – are normally studied after level 2 in a BTEC or GCSEs. They mainly involve studying the theory of a subject, combined with some investigative work, and are usually studied full time over two years at school or college. AS and A levels are at level 3 on the National Qualifications Framework.

English Benchmark: a motivating English test for young learners aged 6-13, which proves students' English abilities to parents, monitors learning progress, and ensures teaching targets the right skills. English Benchmark measures students' speaking, listening, reading, and writing skills, through fun and interactive tablet-based activities, and uses AI-based automated scoring to provide immediate detailed reports for teachers and parents that include students' strengths, suggestions for improvement, and recommended activities to improve their skills.

ePen: an assessment scoring tool with various features designed for use by a variety of education stakeholders, including Education Agency officials, educators, independent contractors, and Pearson employees.

GED: GED Testing Service is a joint venture between Pearson and the American Council on Education, and is part of a programme which measures proficiency in language arts, maths, science and social studies. It allows learners to obtain their high school equivalency credential, be placed in college courses, and even earn college credit. In addition to the actual GED test, Pearson VUE also offers a suite of products and services to help people prepare for this assessment, including GED Ready, a predictive practice test that provides learners with a detailed score report, which outlines areas of strength and those that need more attention and gives learners the tools they need to be successful.

Global Learning Platform (GLP): ultimately Pearson's single product platform that will leverage best-in-class technology to deliver the future generation of global digital learning experiences. The GLP is not a product, but it will change the way we design and deliver products, providing a modern, reliable consumer grade experience across all devices in all geographies. Products built on GLP will deliver improved outcomes and provide a user-centered, globally consistent, locally optimised, learning experience for our customers.

Inclusive Access: provides all US college students with equal and affordable access to course materials by their first day of class eliminating key hurdles to their academic success. Inclusive Access can also provide institutions a valuable tool to help increase retention by lowering the withdraw and fail rates caused by the lack of students preparedness. By utilising Inclusive Access institutions can drive down the overall cost of attendance for students by realising savings in using digital course materials rather than new print materials.

Intelligent Essay Assessor (IEA): a suite of capabilities for evaluating written responses for both content and quality of writing. IEA can score and provide immediate feedback on different types of written responses, both essay length and short answer, across a variety of content subject areas including English Language Arts, science, social studies, and text-based maths.

Learning Catalytics: a web-based and interactive student response tool, accessible via smartphones, tablets, and laptops, which encourages team-based learning and allows students to take part in a variety of interactive tasks and thinking.

Longman English+: an app that provides personalised English language learning for learners in China.

MyLab/Mastering: reaching over 10 million learners globally, MyLab/Mastering is a collection of online homework, tutorial, and assessment products designed for personalised learning experiences that engage students and improve their academic performance. These teaching and learning platforms empower instructors to reach every student. For example, in a study conducted at five higher education institutions in the US, it was found an increase of 18 attempts on MyLab Math homework was associated with a fivefold increase in the probability of passing a Developmental Math course.

MePro: a complete, blended service solution for English language learning, which provides a personalised learning experience through courseware & assessment linked to the Global Scale of English (GSE), remediation and stretch content for personalised learning, professional development for teachers and a parent app.

MyPedia: an integrated learning programme which aims to transform how education is delivered in schools by bringing together all learning and teaching tools – including publishing resources, digital content and assessments – to help improve foundational skills in literacy and numeracy in pre-primary to grade 8 children.

Online Program Management (OPM): a market in which Pearson is a provider by partnering with colleges and universities around the world to bring their degrees and short courses online, helping students gain skills for the changing world of work. Pearson provides the upfront capital and infrastructure that institutions need, as well as providing services such as student enrolment and retention, course design and development, and market research and insights.

Partner Print Rental: a partnership with campus bookstores and other online retailers that offer a "rent only" option of high-demand print products at a lower cost to students.

Pearson Affordable Learning Fund (PALF): invests 'patient capital' in independently run, for-profit, education start-ups using innovative approaches to improving learner outcomes and increasing access at scale. By investing in new educational ventures, Pearson helps to increase the quality of education for millions of learners, identify what's next in the world's largest growth markets, and generate attractive financial returns.

Pearson College London: a not-for-profit, alternative degree provider, offering a university education that's powered by industry experience.

Pearson Institute of Higher Education: Pearson Institute of Higher Education (Pty) Ltd. (formerly Midrand Graduate Institute and CTI Education Group) is registered with the Department of Higher Education and Training as a private higher education institution under the Higher Education Act, 101, of 1997. We have 12 campuses across South Africa. Our campuses engage in a range of employability initiatives in order to enhance students success in the workplace. We have over 8000 students and over 35 different nationalities on our campuses. We have over 25 qualifications and programmes across a range of faculties, all equipping students with the skills they need in the workplace. We use an optimal combination of technology-enhanced and traditional learning methods, as well as practical application, to prepare students for the technology-driven and fast-changing work environment of the 21st century. Producing employable graduates is a priority for Pearson Institute.

Pearson Test of English Academic (PTE Academic): is an English language test that enables people to prove their English skills when applying to study in English or to migrate to Australia or New Zealand. The test is completed on a computer in a secure test centre and measures the candidate's speaking, listening, reading, and writing skills. Unlike competitor tests, PTE Academic uses AI-based automated scoring to provide a more accurate and reliable result with most test takers receiving scores within two days during 2018.

Glossary of major products and services

Pearson VUE: Pearson VUE is a comprehensive computer-based testing company that develops and delivers millions of certification and licensure exams each year for the most highly regarded exam owners in every industry from academia and admissions to IT and healthcare. Pearson VUE is the global leader in exam development and psychometric services, programme management tools and services, and diverse delivery options, including online proctoring and anywhere proctoring, as well as a network of 20,000 highly secure global test centres.

Q-Interactive: a digital system for administering and scoring tests in a one-on-one setting between an examiner and examinee. Testing takes place on two iPads with an app called Assess. The simplicity of the system improves accuracy and speed in providing real-time scoring and allows for greater flexibility.

Remote proctoring: in our Pearson VUE business, remote proctoring is when a proctor and a test-taker are not physically located in the same room. In most cases, the person takes their entire exam on a computer while the proctor watches through an online video camera.

Revel: replaces traditional texts with an engaging learning experience that prepares students for class. It presents an affordable, seamless blend of author-created digital text, media, and assessment based on learning science. Students can read, practice, and study anywhere, anytime, and on any device. With assignment and tracking tools, Revel also allows instructors to gauge student understanding and engagement with the material inside and outside the classroom, empowering them to spend class time on meaningful instruction. For example, each additional five hours a student spent on Revel Psychology readings was associated with an increase of 2.19 (± 1.10) percentage points on unit exams.

Sistemas: a complete package of products and services for private and public K12 schools in Brazil. With a single price per student, we provide courseware, educational assistance, professional development, management consulting, and marketing support, as well as digital content.

Smarthinking: expert online tutoring and writing review that gives students 24x7 access to academic help from live professional educators and uses a proven, problem-solving approach to help students learn, gain confidence, and handle future assignments on their own. Complementing Pearson content and technology solutions, Smarthinking's human delivered services have 30 years of experience improving student performance, course persistence, and

overall retention. Karen Reilly, Campus Dean of Learning Support at Valencia College, said that "The results of our analysis show that Smarthinking is an important component in our overall academic support programme; it is essential that students have access to tutoring assistance after hours and on weekends – whenever a learning moment is happening."

Speak Out: part of our English Language Teaching product portfolio, Speak Out is an English language course that includes video content from the BBC to engage students and make teaching easier by exposing students to a wide array of words and accents, familiarising students with English as it is spoken. By watching many such videos, students learn proper pronunciation, expand their vocabulary bank and reinforce their English-language confidence.

TestNav: an innovative online test delivery platform that is part of Pearson's comprehensive assessment solution. TestNav delivers millions of secure, high-stakes state and national tests in K12 schools every year. Secure, scalable, and reliable, TestNav provides engaging and interactive testing to students who learn and play in a digital environment.

The Enabling Programme (TEP): one of Pearson's largest business transformation projects. Its aim is to make us a simpler organisation, with globally consistent ways of working across HR, finance, procurement, supply chain, and rights and royalties.

Top Notch: part of our English Language Teaching product portfolio, Top Notch is a communicative English course that prepares students to communicate in English with an emphasis on cultural fluency that enables students to navigate the social, travel and business situations that they will encounter in their lives. Top Notch makes English unforgettable through the right input of language, intensive practice, and systematic recycling using a diverse array of speakers around the world who have a wide range of native and non-native accents.

Wiz.me: an English language learning app within Wizard schools that gives students the opportunity to continue to learn and practice their skills outside the classroom.

Wizard: a franchise of language-learning schools that offers eight different language courses and uses the international certification, TOEIC, as a teaching mode. TOEIC is the Test of English for International Communication (TOEIC®), an examination for international communication, which measures the English proficiency of a foreigner in everyday situations, and especially in situations related to the job market.

In the **US Higher Education landscape**, we partner and provide products and services to a diverse array of educational institutions including:

- › **Community College:** sometimes called junior colleges, are two-year schools that provide affordable postsecondary education as a pathway to a four-year degree.
- › **Private Not For Profit:** a private foundation that is engaged in social or public benefit activities and is registered as such with the IRS. It derives its revenue from a small group of donors without any intention of earning income for its owners. All the profits and donations of a not-for-profit organisation are used in operating the organisation as per its objectives (i.e., charity or public service).
- › **4 Year Public Universities:** a university offering a Bachelor's degree that is predominantly funded by public means through a national or subnational government, as opposed to private universities.
- › **For-Profit Universities:** a university that is owned and run by a private organisation or corporation.

US School Assessment Business: helps young children and students reach their educational aspirations through meaningful feedback. Testing plays an integral role in determining educator and student success, and we are the largest provider of educational assessment services in the US. We partner with departments of education and educators to develop new and personalised ways of learning through effective, scalable assessments that measure 21st century skills and inform instruction throughout the school year. Examples of the tests we support include:

- › **SAT:** an entrance exam used by most colleges and universities to make admissions decisions. It is a multiple-choice, pencil-and-paper test with the purpose to measure a high school student's readiness for college, and provide colleges with one common data point that can be used to compare all applicants.
- › **National Assessment of Educational Progress (NAEP):** The National Assessment of Educational Progress (NAEP) is the largest nationally representative and continuing assessment of what America's students know and can do in various subject areas.
- › **ACT:** The ACT® test is the nation's most popular college entrance exam accepted and valued by all universities and colleges in the United States.

Shareholder information

Pearson ordinary shares are listed on the London Stock Exchange and on the New York Stock Exchange in the form of American Depositary Receipts.

Corporate website

The investors' section of our corporate website www.pearson.com/corporate/investors.html provides a wealth of information for shareholders. It is also possible to sign up to receive e-mail alerts for reports and press releases relating to Pearson at www.pearson.com/corporate/news/media/email-alert-signup.html

Shareholder information online

Shareholder information can be found on our website www.pearson.com/corporate/investors.html

Our registrar, Equiniti, also provides a range of shareholder information online. You can check your holding and find practical help on transferring shares or updating your details at www.shareview.co.uk. For more information, please contact our registrar, Equiniti, Aspect House, Spencer Road, Lancing, West Sussex, BN99 6DA. Telephone 0371 384 2233* or, for those shareholders with hearing difficulties, textphone number 0371 384 2255*.

Information about the Pearson share price

The company's share price can be found on our website at www.pearson.com/corporate/. It also appears in the financial columns of the national press.

2018 dividends

	Payment date	Amount per share
Interim	14 September 2018	5.5 pence
Final ¹	10 May 2019	13 pence

¹ Subject to approval by shareholders at the Annual General Meeting.

2019 financial calendar

Ex-dividend date	4 April
Record date	5 April
Last date for dividend reinvestment election	16 April
Annual General Meeting	26 April
Payment date for dividend and share purchase date for dividend reinvestment	10 May

Payment of dividends to mandated accounts

Should you elect to have your dividends paid through BACS, this can be done directly into a bank or building society account, with the tax voucher sent to the shareholder's registered address. Equiniti can be contacted for information on 0371 384 2043*.

Dividend reinvestment plan (DRIP)

The DRIP gives shareholders the right to buy the company's shares on the London stock market with their cash dividend. For further information, please contact Equiniti on 0371 384 2268*.

Individual Savings Accounts (ISAs)

Equiniti offers ISAs in Pearson shares. For more information, please go to www.shareview.co.uk/dealing or call customer services on 0345 300 0430*.

Share dealing facilities

Equiniti offers telephone and internet services for dealing in Pearson shares. For further information, please contact their telephone dealing helpline on 03456 037 037* or, for online dealing, log on to www.shareview.co.uk/dealing. You will need your shareholder reference number as shown on your share certificate.

A postal dealing service is also available through Equiniti. Please telephone 0371 384 2248* for details or log on to www.shareview.co.uk to download a form.

* Lines open 8.30 am to 5.30 pm Monday to Friday (excluding UK public holidays).

ShareGift

Shareholders with small holdings of shares, whose value makes them uneconomic to sell, may wish to donate them to ShareGift, the share donation charity (registered charity number 1052686). Further information about ShareGift and the charities it has supported may be obtained from their website, www.ShareGift.org, or by contacting them at ShareGift, PO Box 72253, London, SW1P 9LQ.

American Depositary Receipts (ADRs)

Pearson's ADRs are listed on the New York Stock Exchange and traded under the symbol PSO. Each ADR represents one ordinary share. For enquiries regarding registered ADR holder accounts and dividends, please contact Bank of New York Mellon, Shareholder Correspondence (ADR), PO Box 505000, Louisville, KY 40233-5000, telephone 1 (866) 259 2289 (toll free within the US) or 001 201 680 6825 (outside the US). Alternatively, you may e-mail shrrelations@cpushareownerservices.com

Voting rights for registered ADR holders can be exercised through Bank of New York Mellon, and for beneficial ADR holders (and/or nominee accounts) through your US brokerage institution. Pearson will file with the Securities and Exchange Commission a Form 20-F.

Shareholder information

Share register fraud: protecting your investment

Pearson does not contact its shareholders directly to provide recommendations or investment advice and neither does it appoint third parties to do so. As required by law, our shareholder register is available for public inspection but we cannot control the use of information obtained by persons inspecting the register. Please treat any approaches purporting to originate from Pearson with caution.

For more information, please log on to our website at www.pearson.com/corporate/investors/managing-your-shares/share-register-fraud.html

Tips on protecting your shares

- › Keep any documentation that contains your shareholder reference number in a safe place and shred any unwanted documentation
- › Inform our registrar, Equiniti, promptly when you change address
- › Be aware of dividend payment dates and contact the registrar if you do not receive your dividend cheque or, better still, make arrangements to have the dividend paid directly into your bank account
- › Consider holding your shares electronically in a CREST account via a nominee.