

Financial statements

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Independent auditor's report to the members of Pearson plc

Report on the audit of the financial statements

Our 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 as at 31 December 2017 and of the Group's profit and the Group's and the parent company's cash flows for the year then ended;
- › have been properly prepared in accordance with 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 Group and parent company balance sheets as at 31 December 2017; the Group's income statement and statement of comprehensive income, the Group and parent company statements of cash flows, and the Group and parent company statements of changes in equity for the year then ended; and the notes to the 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 the parent company.

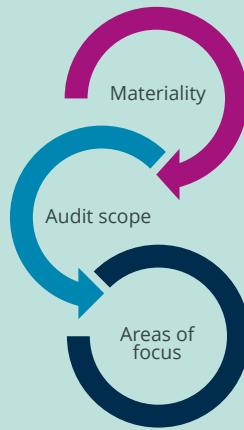
Other than those disclosed in note 4 to the financial statements, we have provided no non-audit services to the Group or the parent company in the period from 1 January 2017 to 31 December 2017.

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.

We gained an understanding of the legal and regulatory framework applicable to the Group and the industry in which it operates, and considered the risk of acts by the Group which were contrary to applicable laws and regulations, including fraud. We designed audit procedures to respond to the risk, recognising that 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 designed audit procedures that focused on the risk of non-compliance related to the Companies Act 2006, the Listing Rules, and applicable tax legislation in the countries in which Pearson operates. Our tests included, but were not limited to, review of the financial statement

Our audit approach



Overview

- › Overall Group materiality: £22m (2016: £23m), based on 4% of adjusted operating profit, adjusted for net finance costs.
- › Overall parent company materiality: £20m (2016: £21m), 1% of net assets capped below Group materiality
- › We conducted work in four key territories: US, UK, Brazil and China. In addition, we obtained an audit opinion on the financial information reported by the associate Penguin Random House.
- › The territories where we conducted audit procedures, together with work performed at corporate functions and at the consolidated Group level, accounted for approximately: 67% of the Group's revenue; 62% of the Group's profit before tax; and 60% of the Group's adjusted profit before tax.
- › Revenue recognition including risk of fraud (Group).
- › Carrying values of goodwill and intangible assets (Group).
- › Returns provisions (Group).
- › Nature and presentation of non-trading items (Group).
- › Provisions for uncertain tax liabilities (Group).
- › Recoverability of pre-publication assets (Group).
- › Major transactions (Group and parent).
- › Retirement benefits and other post-retirement obligations (Group).

Independent auditor's report to the members of Pearson plc

disclosures to underlying supporting documentation, review of correspondence with legal advisors and tax authorities, enquiries of management, review of significant component auditors' work and review of internal audit reports in so far as they related to the financial statements. We did not identify any key audit matters relating to irregularities, including fraud. As in all of our audits we also 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.

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
Revenue recognition including risk of fraud	<p>There are two types of complex contracts that require significant judgements and estimates, which could be subject to either accidental errors 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.</p> <p>In addition, there are material shipments towards the period end from major distribution locations giving rise to the potential risk of a cut-off error.</p>
Carrying values of goodwill and intangible assets	<p>The Group recorded goodwill of £2,030m and intangible assets of £934m at 31 December 2017, 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 at 31 December 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. This risk increases in periods when the Group's trading performance and projections do not meet prior expectations, such as in 2016.</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>

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Key audit matter	How our audit addressed the key audit matter
Returns provisions	<p>The Group has provided £170m for sales returns at 31 December 2017. The most significant exposure to potential returns within Pearson arises in the US higher education courseware business. Trends in this business, such as the growth of textbook rentals and the availability of free on-line content continue to affect this market and have the potential to impact returns levels if shipping practices and arrangements with retailers are not managed by Pearson in response to these trends: for example, returns in the first half of 2016 were higher and more volatile than had been anticipated. Management provides for returns based on past experience by customer and channel, using a three year average method.</p> <p>We assessed management's evaluation of the trends in the market and their responses (including changed incentive arrangements and shipping practices) and considered whether management's methodology and three year averaging remained appropriate. We were satisfied that this was the case. We tested the returns provision calculations at 31 December 2017 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>
Nature and presentation of non-trading items	<p>In May 2017, management announced a further three year restructuring plan to the one announced in 2016, to continue to simplify the business and focus further on their global education strategy. As a result, management recorded a restructuring charge of £79m during 2017. Given the significance of this programme, management has excluded these costs from their adjusted profit measure in addition to certain other items which have been excluded on a consistent basis with prior years.</p> <p>There is a risk that inappropriate costs might be excluded from the underlying operating cost base in such a restructuring programme, and that the disclosures around the items excluded from adjusted performance measures might not be clear and transparent.</p> <p>We identified no material adjustments in relation to the recording of the restructuring costs. We noted that for the majority of these items there was clear evidence to support the fact that they have arisen as a direct consequence of the Group's restructuring plans. There are certain costs where the classification as restructuring is subjective due to the circumstances in which they have arisen. Based on the audit evidence obtained, we have been able to conclude that, although subjective, there are valid arguments for associating these costs with the restructuring activities undertaken and therefore the classification is reasonable.</p> <p>We also considered the extent and clarity of the Group's reconciliations between the statutory and adjusted measures and the related explanations. We were satisfied that these were appropriate and consistent with the nature of the underlying items.</p>
Provisions for uncertain tax liabilities	<p>The Group is subject to several tax regimes due to the geographical diversity of its businesses. At 31 December 2017 the Group had provisions for uncertain tax positions of £280m (see note 7).</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 provisions. The most significant of these relate to US tax.</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 experts 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 doing this, 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 also 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.</p> <p>We are satisfied that management's provision 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 note 7 in relation to uncertain tax provisions, and were satisfied that the disclosures were consistent with the underlying positions and with the requirements of IAS 1.</p>
Recoverability of pre-publication assets	<p>The Group has £988m of pre-publication assets at 31 December 2017 including £247m recorded in businesses classified as held for sale (see below). 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 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 appropriateness 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 also considered the evidence supporting the expected disposal proceeds exceeding the carrying value of those assets.</p> <p>We found the Group's policies to be appropriate and consistently applied. Whilst the carrying value of some assets depends on future sales growth, overall we considered the year end carrying values to be supported and in line with the Group's policy.</p>

Independent auditor's report to the members of Pearson plc

Key audit matter	How our audit addressed the key audit matter
Major transactions	<p>The Group has disposed of both a 22% share in its investment in the Penguin Random House associate and Global Education during 2017. Pre-tax gains on disposal of £96m and £44m have been recorded respectively on these disposals. Pearson continues to hold a 25% share in Penguin Random House.</p> <p>Additionally, at 31 December 2017 the K-12 and Wall Street English businesses have been classified as held for sale. Therefore assets of £760m and liabilities of £588m have been classified as held for sale on the face of the balance sheet. Management have recorded the 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 businesses as held for sale.</p>
Retirement benefits and other post-retirement obligations	<p>The Group operates a number of defined benefit and defined contribution retirement plans throughout the world. The total fair value of plan assets is £3,492m and the total present value of defined benefit obligations is £2,973m. The largest plan is the Pearson Group Pension Plan in the UK (UK Group plan) which has a net surplus of £545m.</p> <p>There have been a number of changes to the UK Group plan in the period including increased contributions; an update to certain actuarial assumptions; and the purchase of two insurance buy-in policies covering approximately £1.2bn of its total liabilities. Given the size of the UK Group plan, changes of this nature have a material impact on the net surplus.</p> <p>We assessed the appropriateness of key assumptions supporting the Group's valuation of retirement benefit obligations with the support of our own actuarial specialists and undertook work to validate the valuation of assets.</p> <p>We considered the consistency of management's methodology with prior periods. Where changes to the basis of assumptions were made we obtained evidence in support of the revised basis, and where relevant to the changes in circumstances. Our assessment included benchmarking assumptions against our independent expected range and with other FTSE 100 companies with plans of similar duration. We consider the changes to be supportable and appropriate.</p> <p>We have circularised fund managers and custodians to confirm existence of pension assets and have performed independent valuation procedures. We have not identified any significant adjustments in relation to this work.</p> <p>We have reviewed contractual information and advice received from external advisers in relation to the insurance buy-in policies. We have confirmed that the accounting for these transactions is consistent with agreements entered into.</p> <p>We also evaluated the disclosures in note 25 and were satisfied that they appropriately addressed key changes in the period.</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.

Overall Group materiality: £22m, which represents 4% of adjusted operating profit, adjusted for net finance costs as disclosed in note 8 to the consolidated financial statements. Refer to p116 for further details.

We conducted work in four key territories: US, UK, Brazil and China. In addition, we obtained an audit opinion on the financial information reported by the associate Penguin Random House.

The territories where we conducted audit procedures, together with work performed at corporate functions and at the consolidated Group level, accounted for approximately: 67% of the Group's revenue; 62% of the Group's profit before tax; and 60% of the Group's adjusted profit before tax.

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.

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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	£22m (2016: £23m).	£20m (2016: £21m).
How we determined it	4% of adjusted operating profit, adjusted for net finance costs	1% of net assets capped below Group materiality
Rationale for benchmark applied	Note 8 of the financial statements explains that the Group's principal measure of performance is adjusted operating profit (£576m), which excludes the cost of major restructuring, other net gains and losses 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 of £30m (see note 8) because these mainly reflect recurring finance charges. To the resulting number we then applied 4% (rather than the usual 5%) as our materiality calculation was based on an adjusted measure.	We consider net assets to be an appropriate benchmark for a Group holding company. However we have capped this below overall Group 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 £18m.

We agreed with the Audit Committee that we would report to them misstatements identified during our audit above £2m (Group audit) (2016: £2m) and £2m (Parent company audit) (2016: £2m) as well as misstatements below those amounts that, in our view, warranted reporting for qualitative reasons.

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.
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 2017 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 pages 60 and 106 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.
- › The directors' explanation on pages 60 and 106 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

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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 page 110, 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 page 76 describing the work of the Audit Committee does not appropriately address matters communicated by us to the Audit Committee.
- › 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, 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 22 years, covering the years ended 1 January 1996 to 31 December 2017.

Stuart Newman

(Senior Statutory Auditor)

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

Consolidated income statement

Year ended 31 December 2017

All figures in £ millions	Notes	2017	2016
Continuing operations			
Sales	2	4,513	4,552
Cost of goods sold	4	(2,066)	(2,093)
Gross profit		2,447	2,459
Operating expenses	4	(2,202)	(2,480)
Other net gains and losses	4	128	(25)
Impairment of intangible assets	11	–	(2,548)
Share of results of joint ventures and associates	12	78	97
Operating profit/(loss)	2	451	(2,497)
Finance costs	6	(110)	(97)
Finance income	6	80	37
Profit/(loss) before tax		421	(2,557)
Income tax	7	(13)	222
Profit/(loss) for the year		408	(2,335)
Attributable to:			
Equity holders of the company		406	(2,337)
Non-controlling interest	2	2	2
Earnings per share/(loss) attributable to equity holders of the company during the year			
(expressed in pence per share)			
– basic	8	49.9p	(286.8)p
– diluted	8	49.9p	(286.8)p

Consolidated statement of comprehensive income

Year ended 31 December 2017

All figures in £ millions	Notes	2017	2016
Profit/(loss) for the year		408	(2,335)
Items that may be reclassified to the income statement			
Net exchange differences on translation of foreign operations – Group		(158)	910
Net exchange differences on translation of foreign operations – associates		(104)	3
Currency translation adjustment disposed		(51)	–
Attributable tax	7	9	(5)
Fair value gain on other financial assets		13	–
Attributable tax	7	(4)	–
Items that are not reclassified to the income statement			
Remeasurement of retirement benefit obligations – Group	25	175	(268)
Remeasurement of retirement benefit obligations – associates		7	(8)
Attributable tax	7	(42)	58
Other comprehensive (expense)/income for the year	29	(155)	690
Total comprehensive income/(expense) for the year		253	(1,645)
Attributable to:			
Equity holders of the company		251	(1,648)
Non-controlling interest		2	3

Consolidated balance sheet

As at 31 December 2017

All figures in £ millions	Notes	2017	2016
Assets			
Non-current assets			
Property, plant and equipment	10	281	343
Intangible assets	11	2,964	3,442
Investments in joint ventures and associates	12	398	1,247
Deferred income tax assets	13	95	451
Financial assets – derivative financial instruments	16	140	171
Retirement benefit assets	25	545	158
Other financial assets	15	77	65
Trade and other receivables	22	103	104
		4,603	5,981
Current assets			
Intangible assets – pre-publication	20	741	1,024
Inventories	21	148	235
Trade and other receivables	22	1,110	1,357
Financial assets – marketable securities	14	8	10
Cash and cash equivalents (excluding overdrafts)	17	518	1,459
		2,525	4,085
Assets classified as held for sale	32	760	-
Total assets		7,888	10,066
Liabilities			
Non-current liabilities			
Financial liabilities – borrowings	18	(1,066)	(2,424)
Financial liabilities – derivative financial instruments	16	(140)	(264)
Deferred income tax liabilities	13	(164)	(466)
Retirement benefit obligations	25	(104)	(139)
Provisions for other liabilities and charges	23	(55)	(79)
Other liabilities	24	(133)	(422)
		(1,662)	(3,794)

Consolidated balance sheet continued

As at 31 December 2017

All figures in £ millions	Notes	2017	2016
Current liabilities			
Trade and other liabilities	24	(1,342)	(1,629)
Financial liabilities – borrowings	18	(19)	(44)
Current income tax liabilities		(231)	(224)
Provisions for other liabilities and charges	23	(25)	(27)
		(1,617)	(1,924)
Liabilities classified as held for sale	32	(588)	–
Total liabilities		(3,867)	(5,718)
Net assets		4,021	4,348
Equity			
Share capital	27	200	205
Share premium	27	2,602	2,597
Treasury shares	28	(61)	(79)
Capital redemption reserve		5	–
Fair value reserve		13	–
Translation reserve		592	905
Retained earnings		662	716
Total equity attributable to equity holders of the company		4,013	4,344
Non-controlling interest		8	4
Total equity		4,021	4,348

These financial statements have been approved for issue by the Board of Directors on 14 March 2018 and signed on its behalf by



Coram Williams
Chief Financial Officer

Consolidated statement of changes in equity

Year ended 31 December 2017

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	
Issue of ordinary shares under share option schemes	–	5	–	–	–	–	–	5	–	5	
Buyback of equity	(5)	–	–	5	–	–	(300)	(300)	–	(300)	
Purchase of treasury shares	–	–	–	–	–	–	–	–	–	–	
Release of treasury shares	–	–	18	–	–	–	(18)	–	–	–	
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	

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 2016	205	2,590	(72)	–	–	(7)	3,698	6,414	4	6,418	
Loss for the year	–	–	–	–	–	–	(2,337)	(2,337)	2	(2,335)	
Other comprehensive income/(expense)	–	–	–	–	–	912	(223)	689	1	690	
Total comprehensive income/(expense)	–	–	–	–	–	912	(2,560)	(1,648)	3	(1,645)	
Equity-settled transactions	–	–	–	–	–	–	22	22	–	22	
Issue of ordinary shares under share option schemes	–	7	–	–	–	–	–	7	–	7	
Buyback of equity	–	–	–	–	–	–	–	–	–	–	
Purchase of treasury shares	–	–	(27)	–	–	–	–	(27)	–	(27)	
Release of treasury shares	–	–	20	–	–	–	(20)	–	–	–	
Changes in non-controlling interest	–	–	–	–	–	–	–	–	(3)	(3)	
Dividends	–	–	–	–	–	–	(424)	(424)	–	(424)	
At 31 December 2016	205	2,597	(79)	–	–	905	716	4,344	4	4,348	

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 2017

All figures in £ millions	Notes	2017	2016
Cash flows from operating activities			
Net cash generated from operations	33	462	522
Interest paid		(89)	(67)
Tax paid		(75)	(45)
Net cash generated from operating activities		298	410
Cash flows from investing activities			
Acquisition of subsidiaries, net of cash acquired	30	(11)	(15)
Purchase of investments		(3)	(6)
Purchase of property, plant and equipment		(82)	(88)
Purchase of intangible assets		(150)	(157)
Disposal of subsidiaries, net of cash disposed	31	19	(54)
Proceeds from sale of associates	31	411	4
Proceeds from sale of investments		–	92
Proceeds from sale of property, plant and equipment	33	–	4
Proceeds from sale of liquid resources		20	42
Loans (advanced)/repaid by related parties		(13)	14
Investment in liquid resources		(18)	(24)
Interest received		20	16
Dividends received from joint ventures and associates		458	131
Net cash generated from/(used in) investing activities		651	(41)
Cash flows from financing activities			
Proceeds from issue of ordinary shares	27	5	7
Buyback of equity	27	(149)	–
Purchase of treasury shares	28	–	(27)
Proceeds from borrowings		2	4
Repayment of borrowings		(1,294)	(249)
Finance lease principal payments		(5)	(6)
Transactions with non-controlling interest		–	(2)
Dividends paid to company's shareholders	9	(318)	(424)
Net cash used in financing activities		(1,759)	(697)
Effects of exchange rate changes on cash and cash equivalents		16	81
Net decrease in cash and cash equivalents		(794)	(247)
Cash and cash equivalents at beginning of year		1,424	1,671
Cash and cash equivalents at end of year	17	630	1,424

Notes to the consolidated financial statements

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 14 March 2018.

1. Accounting policies

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

a. 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 through profit or loss.

1. Interpretations and amendments to published standards effective 2017

The following amendments and interpretations were adopted in 2017:

- › Amendments to IFRS 12 Disclosure of Interests in Other Entities – Annual Improvements 2014-2016 cycle
- › Amendments to IAS 7 Statement of Cash Flows – Disclosure Initiative
- › Amendments to IAS 12 Income Taxes – Recognition of Deferred Tax Assets for Unrealised Losses

The adoption of these new pronouncements from 1 January 2017 does 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 2017. 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 9 'Financial Instruments', effective for annual reporting periods beginning on or after 1 January 2018. The standard, which replaces IAS 39 'Financial Instruments: Recognition and Measurement', addresses the classification, measurement and derecognition of financial assets and financial liabilities, introduces new hedge

accounting rules and a new impairment model for financial assets. The Group will adopt IFRS 9 as at 1 January 2018 and apply the new rules retrospectively, with the practical expedients permitted in the standard. Comparatives for 2017 will not be restated. The Group has assessed the impact of adopting IFRS 9 and is expecting the following impact:

Classification and measurement The Group has reviewed its financial assets and liabilities and does not expect any changes in classification or measurement as a result of adopting IFRS 9. Trade receivables will continue to be measured at amortised cost as they are held to collect contractual cash flows which represent solely payments of principal and interest, in accordance with the business model. There will be no impact on classification and measurement of financial liabilities as the new requirements only affect the accounting for financial liabilities which are designated at fair value through the profit and loss account, and the Group does not have any such liabilities. Derivative assets and liabilities will continue to be recognised at fair value with movements recognised in finance income or costs, unless the hedging strategy determines otherwise. The Group's equity financial investments will continue to be recognised at fair value and the Group has elected 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 will no longer be recycled through the profit and loss account, but instead reclassified from the FVOCI reserve to retained earnings. During 2017, £nil of such gains/losses were recycled to the profit and loss account in relation to the disposal of available-for-sale assets.

Impairment IFRS 9 introduces a new impairment model which requires the recognition of impairment provisions based on expected credit losses rather than only incurred credit losses, as is the case under IAS 39. The Group expects this new impairment model will lead to a small increase in its provision for losses against trade debtors, representing anticipated losses (evidenced by both historical recovery rates and forward-looking indicators) where there has been no triggering event to suggest any impairment incurred to date. The Group expects its provision for losses against trade debtors as at 1 January 2018 to increase by an amount approximating 1% of gross trade debtors as a result of adopting the expected credit loss model for impairments. The Group does not anticipate the expected credit loss model having a material impact on profit before tax for 2018 unless market conditions or other factors change the outlook for credit losses.

Hedge accounting IFRS 9 introduces a new, simpler hedge accounting model with a principles-based approach designed to align the accounting result with the economic hedging strategy. The group currently uses fair value hedge relationships to hedge interest rate risk and currency risk on its bond borrowings and also uses net investment hedging relationships to hedge currency re-translation risk on its overseas assets. The Group has confirmed that its current hedge relationships will continue to qualify as hedges upon the adoption of IFRS 9. The Group does not currently undertake any cash flow hedging, but is reviewing its strategy with regard to currency risk. Should the Group decide to expand its hedging strategy in this area, changes in fair value relating to forward points or currency basis may, subject to hedge designation, be deferred in a cost of hedging reserve and recognised against the related hedge transaction when it occurs.

Notes to the consolidated financial statements

1. Accounting policies continued

a. Basis of preparation continued

IFRS 9 also requires additional disclosure which will be incorporated in the 2018 annual report.

IFRS 15 'Revenue from Contracts with Customers', effective for annual reporting periods beginning on or after 1 January 2018. The standard, which replaces IAS 18 covering contracts for goods and services, and IAS 11 covering construction contracts, addresses the recognition of revenue. The new standard is based on the principle that revenue is recognised to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the Group expects to be entitled in exchange for those goods or services. The Group will adopt the new standard as at 1 January 2018 and apply the modified retrospective approach. Comparatives for 2017 will not be restated and the cumulative impact of adoption will be recognised in retained earnings as at 1 January 2018.

The Group has reviewed the impact of adopting IFRS 15 across its various geographies and lines of business, with reference to underlying contractual terms and business practices, and has identified four areas of impact, as follows:

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 currently recognises this breakage element on subscriptions, revenue instead will be recognised evenly over the period of use. Where breakage relates to sales of tests or vouchers, revenue will be recognised when the underlying tests are delivered. This revised treatment in respect of breakage primarily affects the school and higher education businesses in North America and will result in higher deferred revenue upon adoption on 1 January 2018.

Online Program Management (OPM) marketing Historically the OPM (Embanet) 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 will be 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 will result in a lower trade receivable balance upon adoption on 1 January 2018.

Administration fees This relates to non-refundable upfront 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 must be 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 will result in higher deferred revenue upon 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 will be capitalised and amortised over that accounting period, using practical expedients permissible under the new standard. This revised treatment affects the US Assessments business and will result in a higher contract asset upon adoption on 1 January 2018.

IFRS 15 also requires increased disclosure, in particular analysis of disaggregated revenues, contract balances and transaction price allocated to remaining performance obligations. This disclosure will be incorporated in the 2018 annual report.

Had the Group been applying IFRS 15 during 2017, both sales and profit before tax would have been around £2m higher, with the balance sheet impact at the beginning and end of the year being similar. The impact on sales and profit before tax for 2018 is not expected to be materially different to 2017, assuming a like-for-like business portfolio. The cumulative pre-tax impact of adopting IFRS 15 on 1 January 2018 is expected to reduce retained earnings by around £143m, with deferred revenue increasing by £106m, trade receivables reducing by £38m and contract assets increasing by £1m.

IFRS 16 'Leases', effective for annual reporting periods beginning on or after 1 January 2019. Early adoption is permitted. The new standard replaces IAS 17 'Leases' and related interpretations and details the requirements for the classification, measurement and recognition of lease arrangements. Adoption of the new standard is likely to have a material impact on the Group. Management continues to assess this impact but cannot reasonably estimate this impact due to judgements which are required to be made for each lease and the adoption methods available. The actual impact of applying IFRS 16 will depend on the composition of the Group's lease portfolio at the adoption date and the extent to which the Group chooses to use practical expedients and recognition exemptions. The Group plans to apply IFRS 16 on 1 January 2019, and anticipates 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.

Notes to the consolidated financial statements

1. Accounting policies continued

a. Basis of preparation continued

Although the Group has not completed its detailed assessment, the following changes to lessee accounting are likely to have a material impact:

- › Currently no lease assets are included on the Group's consolidated balance sheet for operating leases. Under IFRS 16 right-of-use assets will be recorded on the balance sheet for assets that are leased by the Group
- › Currently no lease liabilities are included on the Group's consolidated balance sheet for future operating lease payments; these are disclosed as commitments. Under IFRS 16 liabilities will be recorded for future lease payments. As at 31 December 2017, the Group's future aggregate minimum lease payments under non-cancellable operating leases amounted to £1,201m, on an undiscounted basis (see note 35)
- › Currently operating lease rentals, net of any incentives received, are expensed to the income statement on a straight-line basis over the period of the lease. Under IFRS 16 the lease expense will represent the depreciation of the right-of-use asset together with interest charged on lease liabilities
- › Currently operating lease cash flows are included within operating cash flows in the Group's consolidated cash flow statement. Under IFRS 16 these cash flows will be recorded as cash flows from financing activities being the repayment of lease liabilities and related interest

Lessor accounting under IFRS 16 is similar to IAS 17 accounting and is not expected to have a material impact on the Group.

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, have now been withdrawn.

A number of other new standards and amendments to standards and interpretations are effective for annual periods beginning after 1 January 2017, 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:

Consolidation: Business combinations – classification of investments (see note 1b(1))

Intangible assets: Goodwill (see note 1e(1))

Intangible assets: Pre-publication assets (see note 1e(5))

Taxation (see note 1m)

Revenue recognition including provisions for returns (see note 1p)

Employee benefits: Pensions (see note 1n(1))

Consolidation: Business combinations – determination of fair values (where relevant) (see note 1b(1))

b. 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 note 1e(1) 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.

Notes to the consolidated financial statements

1. Accounting policies continued

b. Consolidation continued

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.

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.

c. 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 \$1.30 (2016: \$1.33) and the year-end rate was \$1.35 (2016: \$1.23).

d. 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.

e. 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.

Notes to the consolidated financial statements

1. Accounting policies continued

e. Intangible assets continued

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.

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

The assessment of the recoverability of pre-publication assets involve 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.

f. Other financial assets

Other financial assets, designated as available for sale investments, are non-derivative financial assets measured at estimated fair value. Changes in the fair value are recorded in equity in the fair value reserve. On the subsequent disposal of the asset, the net fair value gains or losses are taken to the income statement.

g. Inventories

Inventories are stated at the lower of cost and net realisable value. Cost is determined using 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.

h. 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 judgement 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.

Notes to the consolidated financial statements

1. Accounting policies continued

i. 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.

j. 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.

k. 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.

l. 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.

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 ('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.	

m. 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.

Notes to the consolidated financial statements

1. Accounting policies continued

m. 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 in determining the amounts to be recognised. In particular, significant judgement is used when assessing the extent to which deferred tax assets should be recognised with consideration given to the timing and level of future taxable income together with any future tax planning strategies (see note 13).

n. 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.

o. 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 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.

p. 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 and English language teaching centres around the world as well as the provision of online learning services in partnership with universities and other academic institutions.

Revenue comprises the fair value of the consideration received or receivable for the sale of goods and services net of sales taxes, rebates and discounts, and after eliminating sales within the Group.

Notes to the consolidated financial statements

1. Accounting policies continued

p. Revenue recognition continued

Revenue from the sale of books is recognised when title passes. 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.

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. Where software is provided under a term licence, revenue is recognised on a straight-line basis over the period of the licence.

Revenue from the provision of services to academic institutions, such as programme development, student acquisition, education technology and student support services, is recognised as performance occurs. Revenue from multi-year contractual arrangements, such as contracts to process qualifying tests for individual professions and government departments, is recognised as performance occurs. The assumptions, risks and uncertainties inherent to long-term contract accounting can affect the amounts and timing of revenue and related expenses reported. Certain of these arrangements, either as a result of a single service spanning more than one reporting period or where the contract requires the provision of a number of services that together constitute a single project, are treated as long-term contracts with revenue recognised on a percentage of completion basis. Percentage of completion is calculated on a cost basis using the proportion of the total estimated costs incurred to date. 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.

Where a contractual arrangement consists of two or more separate elements that can be provided to customers either on a stand-alone basis or as an optional extra, such as the provision of supplementary materials or online access with textbooks and multiple deliverables within testing or service contracts, revenue is recognised for each element as if it were an individual contractual arrangement. This requires judgement regarding the identification of the individual elements as well as the estimation of its relative fair value.

On certain contracts, where the Group acts as 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.

q. 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.

r. 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.

s. 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.

t. 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.

u. Trade receivables

Trade receivables are stated at fair value after provision for bad and doubtful debts and anticipated future sales returns (see also note 1p).

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, Australia and Italy.

Growth Courseware, Assessments and Services businesses in emerging markets including Brazil, China, India and South Africa.

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

		2017						
All figures in £ millions		Notes	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
Impairment	11		–	–	–	–	–	–

Notes to the consolidated financial statements

2. Segment information continued

							2016
All figures in £ millions	Notes	North America	Core	Growth	Penguin Random House	Corporate	Group
Sales		2,981	803	768	-	-	4,552
Adjusted operating profit		420	57	29	129	-	635
Cost of major restructuring		(172)	(62)	(95)	(9)	-	(338)
Intangible charges		(2,684)	(16)	(33)	(36)	-	(2,769)
Other net gains and losses		(12)	(12)	(1)	-	-	(25)
Operating (loss)/profit		(2,448)	(33)	(100)	84	-	(2,497)
Finance costs	6						(97)
Finance income	6						37
Loss before tax							(2,557)
Income tax	7						222
Loss for the year							(2,335)
Segment assets		4,859	1,461	859	-	1,640	8,819
Joint ventures	12	-	-	2	-	-	2
Associates	12	1	4	-	1,240	-	1,245
Total assets		4,860	1,465	861	1,240	1,640	10,066

Other segment items

Share of results of joint ventures and associates	12	(1)	1	(1)	98	-	97
Capital expenditure	10, 11	153	42	51	-	-	246
Pre-publication investment	20	235	92	68	-	-	395
Depreciation	10	56	12	27	-	-	95
Amortisation	11, 20	394	109	116	-	-	619
Impairment	11	2,548	-	-	-	-	2,548

There were no material inter-segment sales in either 2017 or 2016.

For additional detailed information on the calculation of adjusted operating profit as shown in the above tables, see p192-195 (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 by separating out those items of income and expenditure relating to acquisition and disposal transactions and major restructuring programmes.

Cost of major restructuring In January 2016, the Group announced that it was embarking on a restructuring programme to simplify the business, reduce costs and position the Group for growth in its major markets. The costs of this programme of £338m in 2016 were significant enough to exclude from the adjusted operating profit measure so as to better highlight the underlying performance. These costs included costs associated with headcount reductions, property rationalisation and closure or exit from certain systems, platforms, products and supplier and customer relationships. A new programme of restructuring, announced in May 2017, to run between 2017 and 2019, began in the second half of 2017 and is expected to drive further significant cost savings. Costs incurred to

date relating to this new programme were £79m at the end of 2017 and related to cost efficiencies in higher education and enabling functions together with further rationalisation of the property portfolio. The costs of this new programme have also been excluded from adjusted operating profit (see note 3).

Intangible charges These represent charges in respect of goodwill, including impairment, and 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. In 2016, intangible charges included an impairment of goodwill in the Group's North America business of £2,548m (see note 11). There was no impairment 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 £128m in 2017 largely 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 (see note 31). In 2016, the net losses in the Core segment mainly relate to the closure of the Group's English language schools in Germany and in the North America segment relate to the sale of the Pearson English Business Solutions business.

Notes to the consolidated financial statements

2. Segment information continued

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 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 combination were £nil (2016: £10m) (see note 30).

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 and English language teaching centres around the world as well as the provision of online learning services in partnership with universities and other academic institutions.

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

2. Segment information continued

All figures in £ millions	2016			
	North America	Core	Growth	Group
Sales:				
Courseware				
School Courseware	418	173	127	718
Higher Education Courseware	1,147	92	60	1,299
English Courseware	21	65	97	183
	1,586	330	284	2,200
Assessments				
School and Higher Education Assessments	378	268	21	667
Clinical Assessments	143	40	-	183
Professional and English Certification	333	112	49	494
	854	420	70	1,344
Services				
School Services	259	6	54	319
Higher Education Services	269	29	46	344
English Services	13	18	314	345
	541	53	414	1,008
Total	2,981	803	768	4,552

The Group operates in the following main geographic areas:

All figures in £ millions	Sales		Non-current assets	
	2017	2016	2017	2016
UK	384	393	796	946
Other European countries	262	255	128	134
US	2,770	2,829	2,247	3,351
Canada	126	118	240	268
Asia Pacific	643	632	151	205
Other countries	328	325	184	232
Total	4,513	4,552	3,746	5,136

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.

Notes to the consolidated financial statements

3. Restructuring costs

An analysis of restructuring costs is as follows:

All figures in £ millions	2017	2016
By nature:		
Product costs	15	32
Employee costs	11	139
Depreciation and amortisation	13	29
Property and facilities	24	43
Technology and communications	2	7
Professional and outsourced services	12	31
General and administrative costs	2	48
Total restructuring – operating expenses	79	329
Share of associate restructuring	–	9
Total	79	338

In January 2016, the Group announced that it was embarking on a restructuring programme to simplify the business, reduce costs and position the Group for growth in its major markets. The costs of this programme in 2016 were significant enough to exclude from the adjusted operating profit measure so as to better highlight the underlying performance (see note 8). A new programme of restructuring, the 2017-2019 restructuring programme announced in May 2017, began in the second half of 2017 and is expected to drive further significant cost savings. The costs of this new programme have also been excluded from adjusted operating profit.

4. Operating expenses

All figures in £ millions	Notes	2017	2016
By function:			
Cost of goods sold		2,066	2,093
Operating expenses			
Distribution costs		84	88
Selling, marketing and product development costs		896	908
Administrative and other expenses		1,207	1,240
Restructuring costs	3	79	329
Other income		(64)	(85)
Total net operating expenses		2,202	2,480
Other net gains and losses		(128)	25
Impairment of intangible assets	11	–	2,548
Total		4,140	7,146

Included in other income is service fee income from Penguin Random House of £3m (2016: £4m). Included in administrative and other expenses are research and efficacy costs of £14m (2016: £23m). In addition to the restructuring costs shown above, there were restructuring costs in Penguin Random House of £nil (2016: £9m).

Notes to the consolidated financial statements

4. Operating expenses continued

All figures in £ millions	Notes	2017	2016
By nature:			
Royalties expensed		246	264
Other product costs		564	616
Employee benefit expense	5	1,805	1,888
Contract labour		152	206
Employee-related expense		127	122
Promotional costs		229	217
Depreciation of property, plant and equipment	10	90	95
Amortisation of intangible assets – pre-publication	20	338	350
Amortisation of intangible assets – software	11	85	84
Amortisation of intangible assets – other	11	138	185
Impairment of intangible assets	11	–	2,548
Property and facilities		202	243
Technology and communications		218	188
Professional and outsourced services		322	378
Other general and administrative costs		140	140
Costs capitalised to intangible assets		(324)	(318)
Other net gains and losses		(128)	25
Other income		(64)	(85)
Total		4,140	7,146

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

All figures in £ millions	2017	2016
The audit of parent company and consolidated financial statements	4	5
The audit of the company's subsidiaries	2	2
Total audit fees	6	7
Other assurance services	1	1
Other non-audit services	1	1
Total other services	2	2
Total non-audit services	2	2
Total	8	9

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

All figures in £ millions	2017	2016
Group audit fees including fees for attestation under section 404 of the Sarbanes-Oxley Act	6	7
Non-audit fees	2	2
Total	8	9

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 are amounts related to carve-out audits for disposals of £1m (2016: £1m).

Notes to the consolidated financial statements

5. Employee information

All figures in £ millions	Notes	2017	2016
Employee benefit expense			
Wages and salaries (including termination costs)		1,567	1,661
Social security costs		130	124
Share-based payment costs	26	33	22
Retirement benefits – defined contribution plans	25	57	67
Retirement benefits – defined benefit plans	25	19	16
Other post-retirement medical benefits	25	(1)	(2)
Total		1,805	1,888

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

Average number employed	Notes	2017	2016
Employee numbers			
North America		16,295	16,841
Core		5,291	5,664
Growth		8,268	9,868
Other		485	346
Total		30,339	32,719

6. Net finance costs

All figures in £ millions	Notes	2017	2016
Interest payable		(99)	(74)
Net foreign exchange losses		-	(21)
Finance costs associated with transactions		(6)	-
Derivatives not in a hedge relationship		(5)	(2)
Finance costs		(110)	(97)
Interest receivable		20	15
Net finance income in respect of retirement benefits	25	3	11
Net foreign exchange gains		44	1
Derivatives not in a hedge relationship		12	10
Derivatives in a hedge relationship		1	-
Finance income		80	37
Net finance costs		(30)	(60)
Analysed as:			
Net interest payable reflected in adjusted earnings		(79)	(59)
Other net finance income/(costs)		49	(1)
Total net finance costs		(30)	(60)

Included in interest receivable is £1m (2016: £1m) of interest receivable from related parties. There was a net movement of £1m on fair value hedges in 2017 (2016: £nil), comprising a gain of £37m (2016: loss of £4m) on the underlying bonds, offset by a loss of £36m (2016: gain of £4m) on the related derivative financial instruments.

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

Notes to the consolidated financial statements

7. Income tax

All figures in £ millions	Notes	2017	2016
Current tax			
Charge in respect of current year		(121)	(66)
Adjustments in respect of prior years		(2)	27
Total current tax charge		(123)	(39)
Deferred tax			
In respect of temporary differences		96	277
Other adjustments in respect of prior years		14	(16)
Total deferred tax credit	13	110	261
Total tax (charge)/credit		(13)	222

The adjustments in respect of prior years in both 2017 and 2016 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.

The tax on the Group's profit/(loss) before tax differs from the theoretical amount that would arise using the UK tax rate as follows. Information for 2016 has been re-presented to give additional disclosure.

All figures in £ millions	2017	2016
Profit/(loss) before tax	421	(2,557)
Tax calculated at UK rate (2017: 19.25%, 2016: 20%)	(81)	511
Effect of overseas tax rates	15	424
Joint venture and associate income reported net of tax	15	19
Intangible impairment not subject to tax	–	(722)
Intra-group financing benefit	26	34
Movement in provisions for tax uncertainties	49	(37)
Impact of US tax reform	(1)	–
Net expense not subject to tax	(39)	(8)
Gains and losses on sale of businesses not subject to tax	8	15
Utilisation of previously unrecognised tax losses and credits	(1)	–
Unrecognised tax losses	(16)	(25)
Adjustments in respect of prior years	12	11
Total tax (charge)/credit	(13)	222
UK	(36)	46
Overseas	23	176
Total tax (charge)/credit	(13)	222
Tax rate reflected in earnings	3.1%	8.7%

The impact of US tax reform includes a benefit from revaluation of deferred tax balances to the reduced federal rate of £5m and a repatriation tax charge of £6m. The Group continues to analyse the detail of new legislation and this may result in revisions to these impacts.

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. The current tax liability of £231m (2016: £224m) includes £280m (2016: £322m) 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 historic business disposals, and the potential disallowance of intra-group recharges and interest expense. 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 £280m, £38m relates to 2013 and earlier and is mostly under audit. In most countries tax years up to and including 2013 are now statute barred from examination by tax authorities. Of the remaining balance, £70m relates to 2014, £86m to 2015, £57m to 2016 and £29m to 2017. If relevant enquiry windows pass with no audit, management believes it is reasonably possible that provision levels will reduce by an estimated £60m within the next 12 months.

Notes to the consolidated financial statements

7. Income tax continued

In 2016 the Group impaired US goodwill (see note 11). The majority of this impairment charge is not deductible for tax purposes.

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

All figures in £ millions	2017	2016
Profit/(loss) before tax	421	(2,557)
Adjustments:		
Cost of major restructuring	79	338
Other net gains and losses	(128)	25
Intangible charges	166	2,769
Other net finance (income)/costs	(49)	1
Impact of US tax reform	8	–
Adjusted profit before tax	497	576
Total tax (charge)/credit	(13)	222
Adjustments:		
Tax benefit on cost of major restructuring	(26)	(84)
Tax charge/(benefit) on other net gains and losses	20	(14)
Tax benefit on intangible charges	(85)	(255)
Tax charge on other net finance (income)/costs	9	–
Impact of US tax reform	1	–
Tax amortisation benefit on goodwill and intangibles	39	36
Adjusted income tax charge	(55)	(95)
Tax rate reflected in adjusted earnings	11.1%	16.5%

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

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

All figures in £ millions	2017	2016
Net exchange differences on translation of foreign operations	9	(5)
Fair value gain on other financial assets	(4)	–
Remeasurement of retirement benefit obligations	(42)	58
	(37)	53

Notes to the consolidated financial statements

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	2017	2016
Earnings/(loss) for the year	408	(2,335)
Non-controlling interest	(2)	(2)
Earnings/(loss) attributable to equity holders of the company	406	(2,337)
Weighted average number of shares (millions)	813.4	814.8
Effect of dilutive share options (millions)	0.3	-
Weighted average number of shares (millions) for diluted earnings	813.7	814.8
Earnings/(loss) per share		
Basic	49.9p	(286.8)p
Diluted	49.9p	(286.8)p

Adjusted

For additional detailed information on the calculation of adjusted measures, see p192-195 (Financial key performance indicators). See note 2 for details of specific items excluded from or included in adjusted operating profit in 2017 and 2016.

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 by separating out those items of income and expenditure relating to acquisition and disposal transactions, and major restructuring programmes.

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 January 2016, the Group announced that it was embarking on a restructuring programme to simplify the business, reduce costs and position the Group for growth in its major markets. The costs of this programme in 2016 were significant enough to exclude from the adjusted operating profit measure so as to better highlight the underlying performance. A new programme of restructuring, announced in May 2017, began in the second half of 2017 and is expected to drive further significant cost savings. The costs of this new programme have also been excluded from adjusted operating profit. See note 3 for an analysis of these costs.

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 goodwill, including impairment, and 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.

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 2017 and 2016, the foreign exchange gains and losses largely relate to foreign exchange differences on unhedged US dollar and euro loans, cash and cash equivalents.

Notes to the consolidated financial statements

8. Earnings per share continued

Adjusted continued

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. As a result of US tax reform in 2017, the reported tax charge on a statutory basis includes a benefit from the revaluation of deferred tax balances to the reduced federal rate of £5m and a repatriation tax charge of £6m. 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. 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.

Non-controlling interest Non-controlling interest for the above items is excluded from adjusted earnings.

The following tables reconcile the statutory income statement to the adjusted income statement.

Notes to the consolidated financial statements

9. Dividends

All figures in £ millions	2017	2016
Final paid in respect of prior year 34.0p (2016: 34.0p)	277	277
Interim paid in respect of current year 5.0p (2016: 18.0p)	41	147
	318	424

The Directors are proposing a final dividend in respect of the financial year ended 31 December 2017 of 12.0p per share which will absorb an estimated £93m of shareholders' funds. It will be paid on 11 May 2018 to shareholders who are on the register of members on 6 April 2018. 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 2016	359	508	22	889
Exchange differences	44	83	2	129
Additions	26	59	4	89
Disposals	(26)	(100)	–	(126)
Disposal through business disposal	(1)	(2)	–	(3)
Reclassifications	(4)	12	(8)	–
At 31 December 2016	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

All figures in £ millions	Land and buildings	Plant and equipment	Assets in course of construction	Total
Depreciation				
At 1 January 2016	(192)	(377)	–	(569)
Exchange differences	(26)	(62)	–	(88)
Charge for the year	(34)	(61)	–	(95)
Disposals	22	95	–	117
Reclassifications	1	(1)	–	–
At 31 December 2016	(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)
Carrying amounts				
At 1 January 2016	167	131	22	320
At 31 December 2016	169	154	20	343
At 31 December 2017	133	119	29	281

Notes to the consolidated financial statements

10. Property, plant and equipment continued

Depreciation expense of £23m (2016: £21m) has been included in the income statement in cost of goods sold and £67m (2016: £74m) 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 £9m (2016: £10m).

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 2016	4,134	619	860	281	180	509	6,583
Exchange differences	752	85	157	65	31	135	1,225
Impairment	(2,548)	–	–	–	–	–	(2,548)
Additions – internal development	–	132	–	–	–	–	132
Additions – purchased	–	25	–	–	–	–	25
Disposals	–	(49)	(37)	–	–	–	(86)
Acquisition through business combination	3	–	–	7	–	3	13
Disposal through business disposal	–	–	(6)	–	–	(47)	(53)
Transfer to intangible assets – pre-publication	–	(14)	–	–	–	–	(14)
At 31 December 2016	2,341	798	974	353	211	600	5,277
Exchange differences	(148)	(46)	(74)	(26)	(6)	(50)	(350)
Impairment	–	–	–	–	–	–	–
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

Notes to the consolidated financial statements

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 2016	–	(357)	(430)	(155)	(163)	(314)	(1,419)
Exchange differences	–	(60)	(83)	(32)	(27)	(75)	(277)
Charge for the year	–	(84)	(85)	(22)	(8)	(70)	(269)
Disposals	–	38	37	–	–	–	75
Disposal through business disposal	–	–	6	–	–	47	53
Transfer to intangible assets – pre-publication	–	2	–	–	–	–	2
At 31 December 2016	–	(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)
Carrying amounts							
At 1 January 2016	4,134	262	430	126	17	195	5,164
At 31 December 2016	2,341	337	419	144	13	188	3,442
At 31 December 2017	2,030	389	309	101	6	129	2,964

Goodwill

The goodwill carrying value of £2,030m 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 £17m (2016: £17m) is included in the income statement in cost of goods sold and £206m (2016: £252m) 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	2017			Useful economic life
	One to five years	Six to ten years	More than ten years	
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	2017			Total
	One to five years	Six to ten years	More than ten years	
Class of intangible asset				
Acquired customer lists, contracts and relationships	215	75	19	309
Acquired trademarks and brands	56	31	14	101
Acquired publishing rights	5	1	–	6
Other intangibles acquired	97	32	–	129

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. The recoverable amount for each unit exceeds its carrying value therefore there is no impairment in 2017. The carrying value of the goodwill in each of the CGUs is summarised below:

All figures in £ millions	2017	2016
North America	1,013	1,295
Core	641	633
Growth (includes Brazil, China, India and South Africa)	–	–
Pearson VUE	376	413
Total	2,030	2,341

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.

Notes to the consolidated financial statements

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 8.4% to 14.3%. 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 6.9% 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.

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, Online Blended Learning 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 3% and 6% for mature markets and between 5% and 14% 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.

Sensitivities

The Group's impairment review is sensitive to a change in assumptions used, most notably the discount rates and the perpetuity growth rates.

The carrying value of goodwill in the Growth market CGUs was written down to £nil in 2015.

A 0.1% increase in discount rates would cause the fair value less costs of disposal of the North America CGU to reduce by £50m, the Core GGU by £17m and the VUE CGU by £21m.

A 0.1% reduction in perpetuity growth rates would cause the fair value less costs of disposal of the North America CGU to reduce by £39m, the Core CGU by £14m and the VUE CGU by £17m.

The Core CGU is highly sensitive to any reductions in short-term cash flows, whether driven by lower sales growth, lower operating profits or lower cash conversion. A 5% reduction in total annual operating profits, spread evenly across all CGUs, would give rise to an impairment of £66m in the Core CGU. An increase in discount rates or a reduction in perpetuity growth rates would also give rise to an impairment in the Core CGU. The North America CGU is no longer considered to be highly sensitive to changes in impairment assumptions, with increased headroom when compared to 2016.

2016 impairment tests

At the end of 2016, following trading in the final quarter of the year, it became clear that the underlying issues in the US higher education courseware business market were more severe than anticipated. These issues related to declining student enrolments, changes in buying patterns of students and correction of inventory levels by distributors and bookshops. As a result, in January 2017, strategic plans and estimates for future cash flows were revised and we determined during the goodwill impairment review that the fair value less costs of disposal of the North America CGU no longer supported the carrying value of this goodwill and as a consequence impaired goodwill by £2,548m.

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	2017	2016
Associates	395	1,245
Joint ventures	3	2
Total	398	1,247

The amounts recognised in the income statement are as follows:

All figures in £ millions	2017	2016
Associates	77	98
Joint ventures	1	(1)
Total	78	97

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 (see note 31 for more information on disposal of associates). 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.

Notes to the consolidated financial statements

12. Investments in joint ventures and associates continued

Investment in associates continued

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

	2017	2016
All figures in £ millions	Penguin Random House	Penguin Random House
Assets		
Non-current assets	1,048	1,267
Current assets	1,758	1,587
Liabilities		
Non-current liabilities	(859)	(394)
Current liabilities	(1,579)	(1,074)
Net assets	368	1,386
 Sales	 2,693	 2,620
 Profit for the year	 171	 209
Other comprehensive expense	(60)	(14)
Total comprehensive income	111	195
 Dividends received from associate in relation to profits	 146	 131
Re-capitalisation dividends received from associate	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:

	2017	2016
All figures in £ millions	Penguin Random House	Penguin Random House
Opening net assets	1,386	1,206
Exchange differences	(18)	179
Profit for the year	171	209
Other comprehensive expense	(60)	(14)
Dividends, net of tax paid	(1,167)	(194)
Tax adjustments in relation to disposals	56	-
Closing net assets	368	1,386
Share of net assets	92	651
Goodwill	296	589
Carrying value of associate	388	1,240

Notes to the consolidated financial statements

12. Investments in joint ventures and associates continued

Investment in associates continued

Information on other individually immaterial associates is detailed below:

All figures in £ millions	2017	2016
Profit for the year	7	-
Total comprehensive income	7	-

Transactions with material associates

The Group has loans to Penguin Random House which are unsecured and interest is calculated based on market rates. The amount outstanding at 31 December 2017 was £46m (2016: £33m). 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 £19m (2016: £21m) from Penguin Random House and a current liability payable of £3m (2016: £nil) arising from the provision of services. Included in other income (note 4) is £3m (2016: £4m) of service fees. In addition, the Group will receive a further re-capitalisation dividend of £49m 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	2017	2016
Profit/(loss) for the year	1	(1)
Total comprehensive income/(expense)	1	(1)

13. Deferred income tax

All figures in £ millions	2017	2016
Deferred income tax assets	95	451
Deferred income tax liabilities	(164)	(466)
Net deferred income tax	(69)	(15)

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 2017, the Group has unrecognised deferred income tax assets of £32m (2016: £32m) in respect of UK losses, £18m (2016: £18m) in respect of US losses and approximately £86m (2016: £95m) 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 (2016: £9m) have not been recognised.

Deferred tax assets of £75m (2016: £95m) have been recognised in countries that reported a 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.

Notes to the consolidated financial statements

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 2016	19	43	(9)	55	(348)	(44)	(284)
Exchange differences	3	7	10	15	(84)	27	(22)
Income statement (charge)/benefit	–	(15)	(4)	50	144	86	261
Disposal through business disposal	–	–	–	(3)	(7)	–	(10)
Tax benefit in other comprehensive income	–	–	40	–	–	–	40
At 31 December 2016	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 charge 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)

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

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	2017					2016				
		Fair value			Amortised cost	Total carrying value	Fair value			Amortised cost	Total carrying value
		Available for sale	Derivatives held for trading	Derivatives in hedge relationship			Available for sale	Derivatives held for trading	Derivatives in hedge relationship		
Investments in unlisted securities	15	77	–	–	–	77	65	–	–	–	65
Cash and cash equivalents	17	–	–	–	518	518	–	–	–	1,459	1,459
Cash and cash equivalents – within assets classified as held for sale	32	–	–	–	127	127	–	–	–	–	–
Marketable securities		8	–	–	–	8	10	–	–	–	10
Derivative financial instruments	16	–	3	137	–	140	–	3	168	–	171
Trade receivables	22	–	–	–	760	760	–	–	–	982	982
Trade receivables – within assets classified as held for sale		–	–	–	22	22	–	–	–	–	–
Total financial assets		85	3	137	1,427	1,652	75	3	168	2,441	2,687

The carrying value of the Group's financial assets is equal to, or approximately equal to, the market value.

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	2017					2016				
		Fair value			Amortised cost		Fair value			Amortised cost	
		Derivatives held for trading	Derivatives in hedge relationship	Other liabilities	Total carrying value	Total market value	Derivatives held for trading	Derivatives in hedge relationship	Other liabilities	Total carrying value	Total market value
Derivative financial liabilities	16	–	(140)	–	(140)	(140)	(7)	(257)	–	(264)	(264)
Trade payables	24	–	–	(265)	(265)	(265)	–	–	(333)	(333)	(333)
Trade payables – within liabilities classified as held for sale		–	–	(20)	(20)	(20)	–	–	–	–	–
Liability to purchase own shares	24	–	–	(151)	(151)	(151)	–	–	–	–	–
Bank loans and overdrafts	18	–	–	(15)	(15)	(15)	–	–	(39)	(39)	(39)
Other borrowings due within one year	18	–	–	(4)	(4)	(4)	–	–	(5)	(5)	(5)
Borrowings due after more than one year	18	–	–	(1,066)	(1,066)	(1,070)	–	–	(2,424)	(2,424)	(2,385)
Total financial liabilities		–	(140)	(1,521)	(1,661)	(1,665)	(7)	(257)	(2,801)	(3,065)	(3,026)

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 £140m (2016: £171m) and derivative liabilities valued at £140m (2016: £264m) are classified as level 2. The Group's marketable securities valued at £8m (2016: £10m) are classified as level 2. The Group's investments in unlisted securities are valued at £77m (2016: £65m) and are classified as level 3.

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

All figures in £ millions	2017		2016	
	Investments in unlisted securities			
At beginning of year		65	143	
Exchange differences	(4)	(4)	8	
Acquisition of investments	3	3	6	
Fair value movements	13	13	–	
Disposal of investments	–	–	(92)	
At end of year	77	65		

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.

Notes to the consolidated financial statements

15. Other financial assets

All figures in £ millions	2017	2016
At beginning of year	65	143
Exchange differences	(4)	8
Acquisition of investments	3	6
Fair value movements	13	–
Disposal of investments	–	(92)
At end of year	77	65

Other financial assets comprise unlisted securities of £77m (2016: £65m).

16. Derivative financial instruments

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	2017			2016		
	Gross notional amounts	Assets	Liabilities	Gross notional amounts	Assets	Liabilities
Interest rate derivatives – in a fair value hedge relationship	799	23	–	2,157	68	(4)
Interest rate derivatives – not in a hedge relationship	429	3	–	1,187	3	(7)
Cross-currency rate derivatives – in a hedge relationship	1,522	114	(140)	1,622	100	(253)
Total	2,750	140	(140)	4,966	171	(264)

Analysed as expiring:						
In less than one year	–	–	–	162	–	–
Later than one year and not later than five years	1,638	65	(95)	2,776	86	(157)
Later than five years	1,112	75	(45)	2,028	85	(107)
Total	2,750	140	(140)	4,966	171	(264)

The Group has issued both euro and US dollar fixed rate debt. The fixed rate euro debt is converted to either a fixed or floating rate US dollar exposure using interest rate and cross-currency swaps. The Group's remaining fixed rate US dollar debt is held as fixed rate instruments.

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 US dollar interest at rates ranging between US Libor + 0.84% to US Libor + 1.35%.

Interest rate swaps are then used to fix an element of the interest charge, in line with the Group's interest rate hedging policy, which requires a proportion of the Group's gross debt to be fixed in line with the Group's hedging policy. During 2017 Pearson executed a number of floating interest rate swaps to match the maturity of the 2021 and 2025 euro bonds mitigating the exposure to interest rate increases. The all-in rates (including the Libor spread) that the Group pays are between 2.78% and 3.58%. At 31 December 2017, the Group had contracts to fix \$579m of debt over the next 12 months and \$331m of outstanding fixed rate bonds bringing the total fixed rate debt to \$910m.

At the end of 2017, 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 £(869)m, sterling £12m and euro £857m (2016: US dollar £(1,051)m, sterling £19m and euro £939m).

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 continued

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

All figures in £ millions	2017			2016		
	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	103	(78)	25	30	(11)	19
Counterparties in a liability position	37	(62)	(25)	141	(253)	(112)
Total as presented in the balance sheet	140	(140)	-	171	(264)	(93)

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.

In accordance with IAS 39 'Financial Instruments: Recognition and Measurement', the Group has reviewed all of its material contracts for embedded derivatives that are required to be separately accounted for if they do not meet certain requirements, and has concluded that there are no material embedded derivatives.

17. Cash and cash equivalents (excluding overdrafts)

All figures in £ millions	2017	2016
Cash at bank and in hand	361	570
Short-term bank deposits	157	889
	518	1,459
Cash at bank and in hand – within assets classified as held for sale	127	-
	645	1,459

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

At the end of 2017, the currency split of cash and cash equivalents was US dollar 36% (2016: 34%), sterling 8% (2016: 40%), euro 7% (2016: 3%), renminbi 20% (2016: 10%) and other 29% (2016: 13%). At the end of 2017, a significant proportion of the renminbi cash relates 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	2017	2016
Cash and cash equivalents	518	1,459
Cash and cash equivalents – within assets classified as held for sale	127	-
Bank overdrafts	(15)	(35)
	630	1,424

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. At 31 December 2017, the 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	2017	2016
Non-current		
6.25% Global dollar bonds 2018 (nominal amount \$550m)	–	469
4.625% US dollar notes 2018 (nominal amount \$300m)	–	254
1.875% euro notes 2021 (nominal amount €500m)	463	453
3.75% US dollar notes 2022 (nominal amount \$117m; 2016: nominal amount \$500m)	85	407
3.25% US dollar notes 2023 (nominal amount \$94m; 2016: nominal amount \$500m)	69	402
1.375% euro notes 2025 (nominal amount €500m)	445	435
Finance lease liabilities	4	4
	1,066	2,424
Current		
Due within one year or on-demand:		
Bank loans and overdrafts	15	39
Finance lease liabilities	4	5
	19	44
Total borrowings	1,085	2,468

Included in the non-current borrowings above is £10m of accrued interest (2016: £18m). Included in the current borrowings above is £nil of accrued interest (2016: £nil).

The maturity of the Group's non-current borrowing is as follows:

All figures in £ millions	2017	2016
Between one and two years	3	726
Between two and five years	549	454
Over five years	514	1,244
	1,066	2,424

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

All figures in £ millions	Effective interest rate	Carrying value	Market value	2017	2016	
				Effective interest rate	Carrying value	Market value
Bank loans and overdrafts	n/a	15	15	n/a	39	39
6.25% Global dollar bonds 2018	n/a	–	–	6.46%	469	468
4.625% US dollar notes 2018	n/a	–	–	4.69%	254	250
1.875% euro notes 2021	2.04%	463	467	2.04%	453	454
3.75% US dollar notes 2022	3.94%	85	87	3.94%	407	396
3.25% US dollar notes 2023	3.36%	69	67	3.36%	402	381
1.375% euro notes 2025	1.44%	445	445	1.44%	435	432
Finance lease liabilities	n/a	8	8	n/a	9	9
		1,085	1,089		2,468	2,429

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.

Notes to the consolidated financial statements

18. Financial liabilities – borrowings continued

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	2017	2016
US dollar	172	1,559
Sterling	1	13
Euro	911	892
Other	1	4
	1,085	2,468

The Group has \$1.75bn (£1.3bn) of undrawn capacity on its committed borrowing facilities as at 31 December 2017 (2016: \$1.75bn (£1.4bn) 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	2017	2016
Finance lease liabilities – minimum lease payments		
Not later than one year	4	5
Later than one year and not later than two years	3	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	8	9

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

All figures in £ millions	2017	2016
Not later than one year	4	5
Later than one year and not later than five years	4	4
Later than five years	–	–

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 function has primary responsibility for managing certain financial risks to which the Group is exposed. The Group's treasury policies are approved by the Board of Directors annually and the Audit Committee receives regular reports on the Group's treasury activities, policies and procedures. The Group's treasury function is not run as a profit centre and does not enter into any transactions for speculative purposes.

The treasury function is permitted to use derivatives for risk management purposes which may include interest rate swaps, rate caps and collars, currency rate swaps and forward foreign exchange contracts, of which interest rate swaps and forward foreign exchange swaps are the most commonly used.

Notes to the consolidated financial statements

19. Financial risk management continued

Capital risk

The Group's primary objective when managing capital is to safeguard its ability to continue as a going concern and retain financial flexibility by maintaining a strong balance sheet. The Group aims to maintain net debt at a level less than 1.5 times EBITDA, which is consistent with a solid investment grade rating (assuming no material deterioration in trading performance) and provides comfortable headroom against covenants. This should permit the business to invest in organic growth. Shareholder returns are made through a sustainable and progressive dividend policy. Any surplus cash is returned to shareholders via share buybacks or special dividends.

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

Net debt

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

All figures in £ millions	2017	2016
Cash and cash equivalents	645	1,459
Marketable securities	8	10
Derivative financial instruments	–	(93)
Bank loans and overdrafts	(15)	(39)
Bonds	(1,062)	(2,420)
Finance lease liabilities	(8)	(9)
Net debt	(432)	(1,092)

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 by converting euro debt to US dollars using cross-currency swaps.

As at 31 December 2017, £674m of the Group's debt is held at fixed rates (2016: £650m), with £411m held at floating rates (2016: £1,818m), partially offset by US dollar cash balances which attract floating rate interest. As at 31 December 2017, a 1% movement in US dollar interest rates for one year would result in a £2m movement in the interest charge (2016: £13m).

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 2017, 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	77	–	–	(6)	7
Cash and cash equivalents	645	–	–	(54)	66
Marketable securities	8	–	–	–	–
Derivative financial instruments	–	(26)	26	1	(1)
Bonds	(1,062)	45	(48)	97	(118)
Other borrowings	(23)	–	–	2	(2)
Liability to purchase own shares	(151)	–	–	–	–
Other net financial assets	497	–	–	(41)	50
Total financial instruments	(9)	19	(22)	(1)	2

The table shows the sensitivities of the fair values of each class of financial instruments 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.

Notes to the consolidated financial statements

19. Financial risk management continued

Interest and foreign exchange rate management continued

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 £22m lower than the reported figure of £576m at £554m (2016: £55m higher if translated at the year-end 2016 rate instead of the 2016 average rate at £690m compared with a reported figure of £635m). EBITDA translated at year-end closing rates would be £25m lower than the reported figure of £738m at £713m (2016: £63m higher if translated at the year-end 2016 rate instead of the 2016 average rate, at £848m, compared with a reported figure of £785m).

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 2017, the Group had cash of £0.6bn and an undrawn US dollar denominated revolving credit facility due 2021 of \$1.75bn (£1.3bn). At 31 December 2016, the Group had cash of £1.5bn and an undrawn US dollar denominated revolving credit facility due 2021 of \$1.75bn (£1.4bn).

The \$1.75bn facility contains interest cover and leverage covenants which the Group has complied with for the year ended 31 December 2017.

At the end of 2017, the currency split of the Group's trade payables was US dollar £137m, sterling £58m and other currencies £90m (2016: US dollar £164m, sterling £67m and other currencies £102m). Trade payables are all due within one year (2016: 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. 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			Analysed by currency				Total
	Less than one year	Later than one year but less than five years	Five years or more	Total	USD	GBP	Other	
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
Total	30	686	516	1,232	1,134	–	98	1,232
At 31 December 2016								
Bonds	82	1,308	1,292	2,682	1,732	–	950	2,682
Rate derivatives – inflows	(103)	(1,086)	(867)	(2,056)	(239)	(838)	(979)	(2,056)
Rate derivatives – outflows	82	1,202	891	2,175	1,308	838	29	2,175
Total	61	1,424	1,316	2,801	2,801	–	–	2,801

Financial counterparty risk management

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 2017, 58% of cash and cash equivalents was held with investment grade bank counterparties, 38% with AAA money market funds and 4% held with non-investment grade bank counterparties. As at 31 December 2017, the Group had a net exposure of £24m with investment grade counterparties for derivative transactions.

Notes to the consolidated financial statements

20. Intangible assets – pre-publication

All figures in £ millions	2017	2016
Cost		
At beginning of year	2,417	2,201
Exchange differences	(168)	380
Additions	362	395
Disposal through business disposal	(1)	(8)
Disposals	(248)	(565)
Transfer from intangible assets	–	14
Transfer to assets classified as held for sale	(508)	–
At end of year	1,854	2,417
Amortisation		
At beginning of year	(1,393)	(1,360)
Exchange differences	109	(250)
Charge for the year	(338)	(350)
Disposal through business disposal	–	4
Disposals	248	565
Transfer from intangible assets	–	(2)
Transfer to assets classified as held for sale	261	–
At end of year	(1,113)	(1,393)
Carrying amounts		
At end of year	741	1,024

Included in the above are pre-publication assets amounting to £504m (2016: £694m) which will be realised in more than one year.

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

21. Inventories

All figures in £ millions	2017	2016
Raw materials	4	5
Work in progress	2	6
Finished goods	142	224
	148	235

The cost of inventories recognised as an expense and included in the income statement in cost of goods sold amounted to £324m (2016: £340m). In 2017, £38m (2016: £48m) of inventory provisions was charged in the income statement. None of the inventory is pledged as security.

Notes to the consolidated financial statements

22. Trade and other receivables

All figures in £ millions	2017	2016
Current		
Trade receivables	739	961
Royalty advances	8	22
Prepayments	82	124
Accrued income	1	15
Other receivables	280	235
	1,110	1,357
Non-current		
Trade receivables	21	21
Royalty advances	20	10
Prepayments	15	13
Accrued income	10	31
Other receivables	37	29
	103	104

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 and anticipated future sales returns. The movements in the provision for bad and doubtful debts are as follows:

All figures in £ millions	2017	2016
At beginning of year	(112)	(64)
Exchange differences	7	(17)
Income statement movements	(38)	(53)
Utilised	21	22
Disposal through business disposal	1	–
Transfer to assets classified as held for sale	5	–
At end of year	(116)	(112)

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	2017	2016
Within due date	661	812
Up to three months past due date	187	232
Three to six months past due date	48	55
Six to nine months past due date	18	21
Nine to 12 months past due date	13	14
More than 12 months past due date	3	7
Total trade receivables	930	1,141
Less: provision for sales returns	(170)	(159)
Net trade receivables	760	982

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 2017	56	4	10	36	106
Exchange differences	(5)	-	-	(2)	(7)
Charged to income statement	-	-	-	4	4
Released to income statement	-	-	-	(7)	(7)
Utilised	(6)	-	(2)	(8)	(16)
Disposal through business disposal	-	(1)	3	(2)	-
At 31 December 2017	45	3	11	21	80

Analysis of provisions:

All figures in £ millions	Deferred consideration	Property	Disposals and closures	Legal and other	2017
Current	5	1	11	8	25
Non-current	40	2	-	13	55
	45	3	11	21	80
					2016
Current	6	1	8	12	27
Non-current	50	3	2	24	79
	56	4	10	36	106

Deferred consideration primarily relates to the formation of a venture in a North America business in 2011. The provision will be utilised over a number of years as payments are based on a royalty rate. Disposals and closures include liabilities related to the disposal of Penguin with the provisions utilised as the disposals and closures are completed. Legal and other includes legal claims, contract disputes and potential contract losses with the provisions utilised as the cases are settled. Restructuring provisions were not material in either 2017 or 2016.

24. Trade and other liabilities

All figures in £ millions	2017	2016
Trade payables	265	333
Social security and other taxes	21	25
Accruals	447	507
Deferred income	322	883
Interest payable	45	31
Liability to purchase own shares	151	-
Other liabilities	224	272
	1,475	2,051
Less: non-current portion		
Accruals	26	17
Deferred income	35	319
Other liabilities	72	86
	133	422
Current portion	1,342	1,629

The carrying value of the Group's trade and other liabilities approximates its fair value.

The deferred income balance comprises advance payments in assessment, testing and training businesses; subscription income in school and college businesses; and obligations to deliver digital content in future periods.

The liability to purchase own shares relates to a liability arising under a buyback agreement for the purchase of the company's own shares (see note 27).

Notes to the consolidated financial statements

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 2017, the UK Group plan had approximately 24,000 members, analysed in the following table:

All figures in %	Active	Deferred	Pensioners	Total
Defined benefit	1	26	35	62
Defined contribution	8	30	-	38
Total	9	56	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.

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.

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. During the year, 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 £32m (2016: £181m) 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 has driven 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 will be 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 £442m at 31 December 2017.

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 %	2017			2016		
	UK Group plan	Other plans	PRMB	UK Group plan	Other plans	PRMB
Inflation	3.2	1.6	1.5	3.3	1.6	1.5
Rate used to discount plan liabilities	2.5	3.0	3.0	2.5	3.8	3.9
Expected rate of increase in salaries	3.7	3.0	3.0	3.8	3.0	3.0
Expected rate of increase for pensions in payment and deferred pensions	2.1 to 5.1	-	-	2.2 to 5.1	-	-
Initial rate of increase in healthcare rate	-	-	6.5	-	-	6.8
Ultimate rate of increase in healthcare rate	-	-	5.0	-	-	5.0

The UK discount rate is based on corporate bond yields adjusted to reflect the duration of liabilities. In 2017, the Group revised the portfolio of corporate bonds used to exclude bonds with an implicit government guarantee. Under the previous methodology, the 2017 UK discount rate would have been lower by around 0.1%.

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

The inflation rate for the UK Group plan of 3.2% 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 2.2% has been used.

The expected rate of increase in salaries has been set at 3.7% for 2017 with a short-term assumption of 2.0% for three years.

For the UK 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 – 2017) and 2017 improvement scale (MP – 2017) 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	
	2017	2016	2017	2016
Male	23.6	23.5	20.8	21.2
Female	25.7	25.6	22.8	23.2

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	
	2017	2016	2017	2016
Male	25.7	25.5	22.5	22.9
Female	27.9	27.8	24.4	24.9

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.

Notes to the consolidated financial statements

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	UK Group plan	Defined benefit other	Sub-total	Defined contribution	2017	
					PRMB	Total
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

All figures in £ millions	UK Group plan	Defined benefit other	Sub-total	Defined contribution	2016	
					PRMB	Total
Current service cost	8	2	10	67	–	77
Curtailments	–	–	–	–	(2)	(2)
Administration expenses	6	–	6	–	–	6
Total operating expense	14	2	16	67	(2)	81
Interest on plan assets	(104)	(6)	(110)	–	–	(110)
Interest on plan liabilities	89	7	96	–	3	99
Net finance (income)/expense	(15)	1	(14)	–	3	(11)
Net income statement charge	(1)	3	2	67	1	70

The amounts recognised in the balance sheet are as follows:

All figures in £ millions	2017				2016			
	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	3,337	155	–	3,492	3,339	158	–	3,497
Present value of defined benefit obligation	(2,792)	(161)	(20)	(2,973)	(3,181)	(183)	(22)	(3,386)
Net pension asset/(liability)	545	(6)	(20)	519	158	(25)	(22)	111
Other post-retirement medical benefit obligation				(67)				(77)
Other pension accruals				(11)				(15)
Net retirement benefit asset				441				19
Analysed as:								
Retirement benefit assets				545				158
Retirement benefit obligations				(104)				(139)

Notes to the consolidated financial statements

25. Retirement benefit and other post-retirement obligations continued

Financial statement information continued

The following gains/(losses) have been recognised in other comprehensive income:

All figures in £ millions	2017	2016
Amounts recognised for defined benefit plans	175	(277)
Amounts recognised for post-retirement medical benefit plans	–	9
Total recognised in year	175	(268)

The fair value of plan assets comprises the following:

All figures in %	2017			2016		
	UK Group plan	Other funded plans	Total	UK Group plan	Other funded plans	Total
Insurance	29	–	29	–	–	–
Equities	1	1	2	2	1	3
Bonds	–	3	3	9	1	10
Property	8	–	8	8	–	8
Pooled asset investment funds	44	–	44	67	–	67
Other	14	–	14	12	–	12

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 UK Group 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 %	2017		2016	
	Quoted market price	No quoted market price	Quoted market price	No quoted market price
Insurance	29	–	–	–
Non-UK equities	–	2	–	3
Fixed-interest securities	3	–	10	–
Property	–	8	–	8
Pooled asset investment funds	44	–	67	–
Other	–	14	–	12
Total	76	24	77	23

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

All figures in %	2017	2016
Liquid – call <1 month	50	75
Less liquid – call 1–3 months	–	–
Illiquid – call >3 months	50	25

Notes to the consolidated financial statements

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	2017			2016		
	UK Group plan	Other plans	Total	UK Group plan	Other plans	Total
Fair value of plan assets						
Opening fair value of plan assets	3,339	158	3,497	2,803	135	2,938
Exchange differences	–	(8)	(8)	–	24	24
Interest on plan assets	84	5	89	104	6	110
Return on plan assets excluding interest	(140)	10	(130)	445	8	453
Contributions by employer	234	8	242	99	2	101
Benefits paid	(188)	(18)	(206)	(112)	(17)	(129)
Other	8	–	8	–	–	–
Closing fair value of plan assets	3,337	155	3,492	3,339	158	3,497
Present value of defined benefit obligation						
Opening defined benefit obligation	(3,181)	(205)	(3,386)	(2,466)	(175)	(2,641)
Exchange differences	–	13	13	–	(32)	(32)
Current service cost	(8)	(1)	(9)	(8)	(2)	(10)
Administration expenses	(9)	(1)	(10)	(6)	–	(6)
Interest on plan liabilities	(77)	(7)	(84)	(89)	(7)	(96)
Actuarial gains/(losses) – experience	126	6	132	12	–	12
Actuarial gains/(losses) – demographic	133	1	134	(47)	2	(45)
Actuarial gains/(losses) – financial	44	(5)	39	(689)	(8)	(697)
Contributions by employee	–	–	–	–	–	–
Other	(8)	–	(8)	–	–	–
Benefits paid	188	18	206	112	17	129
Closing defined benefit obligation	(2,792)	(181)	(2,973)	(3,181)	(205)	(3,386)

The weighted average duration of the defined benefit obligation is 16.9 years for the UK and 8.1 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	2017	2016
Opening defined benefit obligation	(77)	(76)
Exchange differences	5	(14)
Current service cost	1	–
Curtailments	–	2
Interest on plan liabilities	(2)	(3)
Actuarial gains/(losses) – experience	1	8
Actuarial gains/(losses) – demographic	1	2
Actuarial gains/(losses) – financial	(2)	(1)
Benefits paid	6	5
Closing defined benefit obligation	(67)	(77)

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 2015 and this valuation revealed a technical provisions funding shortfall of £27m which was eliminated by contributions paid during 2015.

As a consequence of the disposal of the FT Group, an agreement has been made between Pearson and the plan trustee to accelerate the funding of the plan. As a result, the plan is expected to be fully funded on a 'self-sufficiency' basis by 2019, inclusive of £202m paid in 2017 in relation to the Penguin Random House merger in 2013. This is a much higher level of funding than technical provisions. As a result, 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 Pearson. A commitment has also been made to maintain that level of funding in future years.

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), 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 October 2017, the UK Group plan purchased pensioner buy-in policies with both Aviva and Legal & General totalling £1.2bn. The buy-ins cover around a third of its total liabilities and are split equally between the two insurers. The buy-ins 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 £6m for 2018.

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	2017	1% increase	1% decrease
Effect:			
(Decrease)/increase in defined benefit obligation – UK Group plan		(423)	575
(Decrease)/increase in defined benefit obligation – US plan		(14)	16

Notes to the consolidated financial statements

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	2017	
	One year increase	One year decrease
Effect:		
Increase/(decrease) in defined benefit obligation – UK Group plan	145	(152)
Increase/(decrease) in defined benefit obligation – US plan	8	(9)

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

All figures in £ millions	2017	
	0.5% increase	0.5% decrease
Effect:		
Increase/(decrease) in defined benefit obligation – UK Group plan	144	(132)
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	2017	2016
Pearson plans	33	22

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 and 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 September 2017, and to Executive Directors and senior management in May 2016, vest dependent on relative total shareholder return, return on invested capital and earnings per share growth. Restricted shares awarded to senior management in March 2016 and March 2017 vest dependent on earnings per share growth. Other restricted shares awarded in 2016 and 2017 vest depending on continuing service over a three-year period.

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 will be granted in April 2018.

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:

	2017		2016	
	Number of share options 000s	Weighted average exercise price £	Number of share options 000s	Weighted average exercise price £
Outstanding at beginning of year	2,978	8.14	3,250	9.24
Granted during the year	1,619	5.50	1,544	6.94
Exercised during the year	(9)	7.00	(49)	7.07
Forfeited during the year	(1,451)	8.04	(1,695)	9.14
Expired during the year	(156)	9.09	(72)	8.95
Outstanding at end of year	2,981	6.84	2,978	8.14
Options exercisable at end of year	350	8.18	247	9.06

Options were exercised regularly throughout the year. The weighted average share price during the year was £6.71 (2016: £8.23).

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 £	2017		2016	
	Number of share options 000s	Weighted average contractual life Years	Number of share options 000s	Weighted average contractual life Years
0-5	-	-	-	-
5-10	2,697	2.52	2,548	2.31
>10	284	1.24	430	2.25
	2,981	2.40	2,978	2.31

In 2017 and 2016, 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:

	2017	2016
	Weighted average	Weighted average
Fair value	£1.24	£1.01
Weighted average share price	£6.83	£7.85
Weighted average exercise price	£5.50	£6.94
Expected volatility	34.75%	27.38%
Expected life	3.7 years	3.7 years
Risk-free rate	0.20%	0.58%
Expected dividend yield	7.61%	7.49%
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:

	2017		2016	
	Number of shares 000s	Weighted average fair value £	Number of shares 000s	Weighted average fair value £
Long-Term Incentive Plan	6,453	6.61	6,833	8.24

Notes to the consolidated financial statements

26. Share-based payments continued

The fair value of shares granted under the Long-Term 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 2016	821,068	205	2,590
Issue of ordinary shares – share option schemes	1,059	–	7
At 31 December 2016	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

The ordinary shares have a par value of 25p per share (2016: 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 are being cancelled and the nominal value of these shares is transferred to a capital redemption reserve. The nominal value of shares cancelled at 31 December 2017 was £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 2016	6,705	72
Purchase of treasury shares	3,000	27
Release of treasury shares	(1,986)	(20)
At 31 December 2016	7,719	79
Purchase of treasury shares	–	–
Release of treasury shares	(1,725)	(18)
At 31 December 2017	5,994	61

The Group holds Pearson plc shares in trust to satisfy its obligations under its restricted share plans (see note 26). These shares, representing 0.8% (2016: 0.9%) 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 £1.5m (2016: £1.9m). Dividends on treasury shares are waived.

At 31 December 2017, the market value of Pearson plc treasury shares was £44m (2016: £63m).

Notes to the consolidated financial statements

29. Other comprehensive income

All figures in £ millions	2017					
	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
Fair value gain on other financial assets	13	–	–	13	–	13
Attributable tax	–	–	(4)	(4)	–	(4)
Items that are not reclassified to the income statement						
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)
All figures in £ millions	2016					
	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	–	909	–	909	1	910
Net exchange differences on translation of foreign operations – associates	–	3	–	3	–	3
Currency translation adjustment disposed	–	–	–	–	–	–
Attributable tax	–	–	(5)	(5)	–	(5)
Items that are not reclassified to the income statement						
Remeasurement of retirement benefit obligations – Group	–	–	(268)	(268)	–	(268)
Remeasurement of retirement benefit obligations – associates	–	–	(8)	(8)	–	(8)
Attributable tax	–	–	58	58	–	58
Other comprehensive income/(expense) for the year	–	912	(223)	689	1	690

Notes to the consolidated financial statements

30. Business combinations

There were no significant acquisitions in 2017 or 2016.

Fair values for the assets and liabilities arising from acquisitions completed in the year are as follows:

All figures in £ millions	Notes	2017	2016
		Total fair value	Total fair value
Intangible assets	11	–	10
Net assets acquired at fair value		–	10
Goodwill	11	–	3
Total		–	13
Satisfied by:			
Cash		–	(7)
Other liabilities		–	(6)
Total consideration		–	(13)

Goodwill of £3m arising on 2016 acquisitions is expected to be deductible for tax purposes.

Intangible assets acquired in 2016 have the following useful economic lives: trademarks and brands 15 years, and other acquired intangibles six years.

All figures in £ millions	Notes	2017	2016
		Cash flow on acquisitions	
Cash – current year acquisitions		–	(7)
Deferred payments for prior year acquisitions and other items		(11)	(7)
Acquisition costs and other acquisition liabilities paid		–	(1)
Net cash outflow		(11)	(15)

31. Disposals including business closures

In August 2017, the Group completed the sale of the test preparation business in China (GEDU) and in October 2017 the sale of a 22% share in Penguin Random House, retaining a 25% share (see note 12).

All figures in £ millions	Notes	GEDU	Penguin	2017	2016		
			Random	House	Other	Total	Total
Disposal of subsidiaries and associates							
Property, plant and equipment	10	(7)	–	–	(7)	(3)	
Intangible assets	11	(2)	–	(7)	(9)	–	
Investments in joint ventures and associates		–	(352)	–	(352)	–	
Net deferred income tax assets	13	(1)	(2)	–	(3)	(10)	
Intangible assets – pre-publication	20	–	–	(1)	(1)	(4)	
Inventories		(1)	–	(1)	(2)	–	
Trade and other receivables		(16)	–	–	(16)	(6)	
Current income tax receivable		–	(5)	–	(5)	–	
Cash and cash equivalents (excluding overdrafts)		(13)	–	–	(13)	(9)	
Trade and other liabilities		33	–	1	34	21	
Cumulative currency translation adjustment	29	3	48	–	51	–	
Net assets disposed		(4)	(311)	(8)	(323)	(11)	
Cash received		54	413	1	468	7	
Costs		(6)	(6)	(5)	(17)	(16)	
Gain/(loss) on disposal		44	96	(12)	128	(20)	

Notes to the consolidated financial statements

31. Disposals including business closures continued

All figures in £ millions	2017	2016
Cash flow from disposals		
Cash – current year disposals	468	11
Cash and cash equivalents disposed	(13)	(9)
Costs and other disposal liabilities paid	(25)	(52)
Net cash inflow/(outflow)	430	(50)
Analysed as:		
Cash inflow/(outflow) from sale of subsidiaries	19	(54)
Cash inflow from sale of associates	411	4

32. Held for sale

The assets and liabilities related to Wall Street English language teaching businesses (WSE), part of the Core and Growth segments, and the K-12 school courseware business (K-12), part of the North America segment, have been presented as held for sale following the approval by the Group's management to sell both businesses.

	2017				
	Notes	WSE	K-12	Total	Total
Non-current assets					
Property, plant and equipment	10	16	–	16	–
Intangible assets	11	15	166	181	–
Deferred income tax assets		–	68	68	–
Trade and other receivables		4	23	27	–
		35	257	292	–
Current assets					
Intangible assets – pre-publication	20	8	239	247	–
Inventories		–	46	46	–
Trade and other receivables		12	36	48	–
Cash and cash equivalents (excluding overdrafts)	17	127	–	127	–
		147	321	468	–
Assets classified as held for sale		182	578	760	–
Non-current liabilities					
Deferred income tax liabilities		(2)	–	(2)	–
Other liabilities		(10)	(274)	(284)	–
		(12)	(274)	(286)	–
Current liabilities					
Trade and other liabilities		(152)	(150)	(302)	–
		(152)	(150)	(302)	–
Liabilities classified as held for sale		(164)	(424)	(588)	–
Net assets classified as held for sale	18	154	172	–	–

Notes to the consolidated financial statements

33. Cash generated from operations

All figures in £ millions	Notes	2017	2016
Profit/(loss)		408	(2,335)
Adjustments for:			
Income tax		13	(222)
Depreciation	10	90	95
Amortisation and impairment of acquired intangibles and goodwill	11	138	2,733
Amortisation of software	11	85	84
Net finance costs	6	30	60
Share of results of joint ventures and associates	12	(78)	(97)
Profit on disposal of subsidiaries, associates, investments and fixed assets		(116)	40
Net foreign exchange adjustment from transactions		(26)	43
Share-based payment costs	26	33	22
Pre-publication		(35)	(19)
Inventories		24	17
Trade and other receivables		133	156
Trade and other liabilities		6	61
Retirement benefit obligations		(232)	(106)
Provisions for other liabilities and charges		(11)	(10)
Net cash generated from operations		462	522
Dividends from joint ventures and associates		458	131
Re-capitalisation dividends from Penguin Random House		(312)	–
Purchase of property, plant and equipment		(82)	(88)
Purchase of intangible software assets		(150)	(157)
Proceeds from sale of property, plant and equipment and intangible software assets		–	4
Finance lease principal payments		(5)	(6)
Special pension contribution		227	90
Cost of major restructuring paid		71	167
Operating cash flow		669	663
Operating tax paid		(75)	(63)
Net operating finance costs paid		(69)	(51)
Operating free cash flow		525	549
Special pension contribution		(227)	(90)
Cost of major restructuring paid		(71)	(167)
Non-operating tax received		–	18
Free cash flow		227	310
Dividends paid (including to non-controlling interests)		(318)	(424)
Net movement of funds from operations		(91)	(114)
Acquisitions and disposals		416	19
Re-capitalisation dividends from Penguin Random House		312	–
Loans (advanced)/repaid (including to related parties)		(13)	14
Purchase of treasury shares	28	–	(27)
New equity		5	7
Buyback of equity	27	(149)	–
Other movements on financial instruments		14	4
Net movement of funds		494	(97)
Exchange movements on net debt		166	(341)
Total movement in net debt		660	(438)

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	2017	2016
Net book amount	12	9
Loss on sale of property, plant and equipment	(12)	(5)
Proceeds from sale of property, plant and equipment	-	4

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

	2016	Financing cash flows	Foreign exchange movements	Fair value and other movements	2017
Financial liabilities					
Non-current borrowings	2,517	(1,292)	(149)	(10)	1,066
Current borrowings	9	(7)	(1)	3	4
Total	2,526	(1,299)	(150)	(7)	1,070

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 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.

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 it may be challenged by the UK tax authorities. The Group has benefited from FCPE in 2017 and prior periods in total by approximately £90m. At present the Group believes no provision is required in respect of this issue.

Notes to the consolidated financial statements

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 £178m (2016: £186m).

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

All figures in £ millions	2017	2016
Not later than one year	156	174
Later than one year and not later than two years	139	147
Later than two years and not later than three years	121	129
Later than three years and not later than four years	100	115
Later than four years and not later than five years	86	96
Later than five years	599	661
	1,201	1,322

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	2017	2016
Not later than one year	45	44
Later than one year and not later than two years	45	46
Later than two years and not later than three years	40	44
Later than three years and not later than four years	35	39
Later than four years and not later than five years	33	34
Later than five years	138	155
	336	362

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 p11). It is this Committee which had responsibility for planning, directing and controlling the activities of the Group in 2017. Key management personnel compensation is disclosed below:

All figures in £ millions	2017	2016
Short-term employee benefits	12	6
Retirement benefits	1	1
Share-based payment costs	2	1
Total	15	8

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

Notes to the consolidated financial statements

37. Events after the balance sheet date

During January 2018, the Group successfully executed market tenders to repurchase €250m of its €500m euro 1.875% notes due May 2021 and €200m of its €500m euro 1.375% notes due May 2025.

On 16 February, the Group completed its £300m share buyback programme. In aggregate between 18 October 2017 and 16 February 2018, the Group repurchased 42,835,577 shares, including 21,839,676 repurchased since 31 December 2017 at a cost of £151m.

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
Aldwyche Finance Limited	04720439
Edexcel Limited	04496750
Education Development International plc	03914767
Longman Group (Overseas Holdings) Limited	00690236
Major123 Limited	05333023
Pearson Affordable Learning Fund Limited	08038068
Pearson Australia Finance Unlimited	05578463
Pearson Books Limited	02512075
Pearson Brazil Finance Limited	08848874
Pearson Canada Finance Unlimited	05578491
Pearson Dollar Finance plc	05111013
Pearson Dollar Finance Two plc	06507766
Pearson Education Holdings Limited	00210859
Pearson Education Investments Limited	08444933
Pearson Education Limited	00872828
Pearson Funding Four plc	07970304
Pearson International Finance Limited	02496206
Pearson Loan Finance No. 3 Limited	05052661
Pearson Loan Finance No. 4 Limited	02635107
Pearson Loan Finance Unlimited	05144467
Pearson Management Services Limited	00096263
Pearson Overseas Holdings Limited	00145205
Pearson Pension Nominees Limited	10809680
Pearson Pension Trustee Services Limited	10803853
Pearson PRH Holdings Limited	08561316
Pearson Real Estate Holdings Limited	09768242
Pearson Services Limited	01341060
Pearson Shared Services Limited	04623186
TQ Catalis Limited	07307943
TQ Clapham Limited	07307925
TQ Global Limited	07802458

Company balance sheet

As at 31 December 2017

All figures in £ millions	Notes	2017	2016
Assets			
Non-current assets			
Investments in subsidiaries	2	6,691	7,441
Amounts due from subsidiaries		3,118	133
Financial assets – derivative financial instruments	6	140	171
		9,949	7,745
Current assets			
Amounts due from subsidiaries		209	4,190
Amounts due from related parties		46	33
Cash and cash equivalents (excluding overdrafts)	4	119	867
		374	5,090
Total assets		10,323	12,835
Liabilities			
Non-current liabilities			
Amounts due to subsidiaries		(3,530)	(3,253)
Financial liabilities – borrowings	5	–	(254)
Financial liabilities – derivative financial instruments	6	(140)	(264)
		(3,670)	(3,771)
Current liabilities			
Amounts due to subsidiaries		(1,739)	(3,470)
Financial liabilities – borrowings	5	(3)	(13)
Current income tax liabilities		(4)	(52)
Other liabilities		(158)	(4)
		(1,904)	(3,539)
Total liabilities		(5,574)	(7,310)
Net assets		4,749	5,525
Equity			
Share capital	7	200	205
Share premium	7	2,602	2,597
Treasury shares	8	(16)	(34)
Capital redemption reserve		5	–
Special reserve		447	447
Retained earnings – including loss for the year of £163m (2016: loss of £1,288m)		1,511	2,310
Total equity attributable to equity holders of the company		4,749	5,525

These financial statements have been approved for issue by the Board of Directors on 14 March 2018 and signed on its behalf by



Coram Williams
Chief Financial Officer

Company statement of changes in equity

Year ended 31 December 2017

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

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 2016	205	2,590	(27)	–	447	4,042	7,257
Loss for the year	–	–	–	–	–	(1,288)	(1,288)
Issue of ordinary shares under share option schemes*	–	7	–	–	–	–	7
Purchase of treasury shares	–	–	(27)	–	–	–	(27)
Release of treasury shares	–	–	20	–	–	(20)	–
Dividends	–	–	–	–	–	(424)	(424)
At 31 December 2016	205	2,597	(34)	–	447	2,310	5,525

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 (2016: £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

As at 31 December 2017

All figures in £ millions	Notes	2017	2016
Cash flows from operating activities			
Net loss		(163)	(1,288)
Adjustments for:			
Income tax	70	(80)	
Net finance costs	26	7	
Disposals, liquidations and impairment charges	790	1,337	
Amounts due (to)/from subsidiaries	(748)	748	
Net cash (used in)/generated from operations		(25)	724
Interest paid	(21)	(15)	
Tax received	9	24	
Net cash (used in)/generated from operating activities		(37)	733
Cash flows from investing activities			
Loans (advanced to)/repaid by related parties		(13)	14
Interest received	7	11	
Net cash (used in)/received from investing activities		(6)	25
Cash flows from financing activities			
Proceeds from issue of ordinary shares	7	5	7
Buyback of equity		(149)	–
Net purchase of treasury shares		–	(27)
Repayment of borrowings		(243)	(30)
Dividends paid to company's shareholders		(318)	(424)
Net cash used in financing activities		(705)	(474)
Effects of exchange rate changes on cash and cash equivalents		10	(18)
Net (decrease)/increase in cash and cash equivalents		(738)	266
Cash and cash equivalents at beginning of year		854	588
Cash and cash equivalents at end of year	4	116	854

Notes to the company financial statements

1. Accounting policies

The financial statements on p178-189 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.

2. Investments in subsidiaries

All figures in £ millions	2017	2016
At beginning of year	7,441	7,744
Subscription for share capital in subsidiaries	164	800
Disposals/liquidations	(430)	-
Impairments	(360)	(1,337)
Currency revaluations	(124)	234
At end of year	6,691	7,441

In 2017, impairments, disposals and liquidations relate to restructuring of intermediate holding companies. Impairments are largely offset by dividends received. In 2016, impairments relate to the carrying value of intermediate holding company investments following impairment reviews and the subsequent impairment of assets in the Pearson plc Group (see note 11 in the Group consolidated financial statements for further details).

3. Financial risk management

The company's financial instruments comprise amounts due to/from subsidiary undertakings, cash and cash equivalents, derivative financial instruments, a liability to purchase own shares (included within other liabilities) and current and non-current borrowings. 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 company designates certain qualifying derivative financial instruments as hedges of the fair value of its bonds (fair value hedges). Changes in the fair value of these derivative financial instruments are recorded in the income statement, together with any change in the fair value of the hedged liability attributable to the hedged risk.

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 £26m decrease in the carrying value of its financial instruments, with a 1% decrease in interest rates resulting in a £26m 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 £140m, while a 10% weakening in the value of sterling would increase the carrying value by £183m. 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%.

Notes to the company financial statements

3. Financial risk management continued

The following table analyses the company'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. 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			Analysed by currency				Total
	Less than one year	Later than one year but less than five years	Five years or more	Total	USD	GBP	Other	
At 31 December 2017								
Bonds	-	-	-	-	-	-	-	-
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
Total	10	85	(17)	78	950	-	(872)	78
At 31 December 2016								
Bonds	12	249	-	261	261	-	-	261
Rate derivatives – inflows	(103)	(1,086)	(867)	(2,056)	(239)	(838)	(979)	(2,056)
Rate derivatives – outflows	82	1,202	891	2,175	1,308	838	29	2,175
Total	(9)	365	24	380	1,330	-	(950)	380

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.

Any amounts drawn under revolving credit facilities and commercial paper are assumed to mature at the maturity date of the relevant facility, with interest calculated as payable in each calendar year up to and including the date of maturity of the facility.

4. Cash and cash equivalents (excluding overdrafts)

All figures in £ millions	2017	2016
Cash at bank and in hand	2	4
Short-term bank deposits	117	863
	119	867

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

At the end of 2017, the currency split of cash and cash equivalents was US dollar 82% (2016: 38%), sterling 17% (2016: 62%) and other 1% (2016: 0%).

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	2017	2016
Cash and cash equivalents	119	867
Bank overdrafts	(3)	(13)
	116	854

Notes to the company financial statements

5. Financial liabilities – borrowings

All figures in £ millions	2017	2016
Non-current		
4.625% US dollar notes 2018 (nominal amount \$300m)	–	254
	–	254
Current		
Due within one year or on demand:		
Bank loans and overdrafts	3	13
	3	13
Total borrowings	3	267

Movements in non-current borrowings during the year (including derivative financial instruments) comprise financing cash outflows of £243m, exchange gains of £124m and fair value and other movements of £(20)m. Current borrowings in both years are classified within cash and cash equivalents and do not give rise to financing cash flows.

The maturity of the company's non-current borrowings is as follows:

All figures in £ millions	2017	2016
Between one and two years	–	254
Between two and five years	–	–
Over five years	–	–
	–	254

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

All figures in £ millions	Effective interest rate	Carrying amount	Market value	2017	2016	
				Effective interest rate	Carrying amount	Market value
Bank loans and overdrafts	n/a	3	3	n/a	13	13
4.625% US dollar notes 2018	n/a	–	–	4.69%	254	250
		3	3		267	263

The market values 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 company's borrowings are denominated in the following currencies:

All figures in £ millions	2017	2016
US dollar	–	254
Sterling	3	8
Euro	–	5
	3	267

Notes to the company financial statements

6. Derivative financial instruments

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

All figures in £ millions	2017			2016		
	Gross notional amounts	Assets	Liabilities	Gross notional amounts	Assets	Liabilities
Interest rate derivatives – in a fair value hedge relationship	–	–	–	244	10	–
Interest rate derivatives – not in a hedge relationship	1,228	26	–	3,100	61	(11)
Cross-currency derivatives	1,389	114	(140)	1,622	100	(253)
Total	2,617	140	(140)	4,966	171	(264)
Analysed as expiring:						
In less than one year	–	–	–	162	–	–
Later than one year and not later than five years	1,545	64	(97)	2,776	86	(157)
Later than five years	1,072	76	(43)	2,028	85	(107)
Total	2,617	140	(140)	4,966	171	(264)

The carrying value of the above derivative financial instruments equals their fair value. 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 2016	821,068	205	2,590
Issue of ordinary shares – share option schemes	1,059	–	7
At 31 December 2016	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

The ordinary shares have a par value of 25p per share (2016: 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 are being cancelled and the nominal value of these shares is transferred to a capital redemption reserve. The nominal value of shares cancelled at 31 December 2017 was £5m.

Notes to the company financial statements

8. Treasury shares

	Number of shares 000s	£m
At 1 January 2016	6,705	27
Purchase of treasury shares	3,000	27
Release of treasury shares	(1,986)	(20)
At 31 December 2016	7,719	34
Purchase of treasury shares	-	-
Release of treasury shares	(1,725)	(18)
At 31 December 2017	5,994	16

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 £1.5m (2016: £1.9m). At 31 December 2017, the market value of the company's treasury shares was £44m (2016: £63m). The gross book value of the shares at 31 December 2017 amounts to £61m. This value has been netted off with contributions received from operating companies of £45m, resulting in a net debit value of £16m.

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 (2016: £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 £122m (2016: £138m) and interest receivable from subsidiaries for the year of £111m (2016: £109m). Management fees payable to subsidiaries in respect of centrally provided services amounted to £42m (2016: £118m). Management fees receivable from subsidiaries in respect of centrally provided services amounted to £69m (2016: £76m). Dividends received from subsidiaries were £701m (2016: £87m).

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 2017 was £46m (2016: £33m). 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 2017. Key management personnel compensation is disclosed in note 36 to the consolidated financial statements.

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

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 2017 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
A Plus Education Solutions Private Limited*	IN	2	EBNT Canada Holdings ULC	CA	127	Longman Zimbabwe (Private) Ltd	ZW	76
Addison Wesley Longman, Inc.	US	3	EBNT Holdings Limited	CA	128	Longmaned Ecuador S.A.	EC	77
Addison-Wesley Educational Publishers Inc.	US	4	EBNT USA Holdings Inc.	US	4	Major123 Limited	UK	78
AEL (S) PTE Limited	SG	5	eCollege.com	US	4	MeasureUp, LLC	US	4
Aldwych Finance Limited	UK	1	Edexcel Limited†	UK	52	Modern Curriculum Inc.	US	19
America's Choice, Inc.	US	4	Edexcel South Africa Pty Ltd*	ZA	50	Multi Treinamento e Editora Ltda	BR	79
ATI Professional Development LLC	US	4	Éditions Du Renouveau Pédagogique Inc.	CA	53	National Computer Systems Japan Co. Ltd	JP	80
Atkey Finance Limited	IE	7	Education Development International Plc†	UK	1	NCS Information Services Technology (Beijing) Co Ltd	CN	81
Axis Finance Inc.	US	4	Education Resources (Cyprus) Limited	CY	54	NCS Pearson Pty Ltd	AU	51
Beijing Wall Street English Training Centre Company Limited	CN	9	Educational Management Group, Inc.	US	55	NCS Pearson Puerto Rico, Inc.	PR	82
Blue Wharf Limited*	UK	6	Educational Resources (HK) Limited*	CN	56	NCS Pearson, Inc.	US	32
Camsaw, Inc.	US	4	Embanet ULC	CA	47	Ordinate Corporation	US	19
CAMSAWUSA, Inc.	US	11	Embanet-Compass Knowledge Group Inc.	US	22	Pearson (Beijing) Management Consulting Co., Ltd.	CN	83
Casapsi Livraria e Editora Ltda	BR	12	Embarkment Finance Limited*	UK	6	Pearson (Guizhou) Education Technology Co., Ltd.	CN	84
Centro Cultural Americano Franquias e Comércio Ltda.	BR	13	English Language Learning and Instruction System, Inc.	US	57	Pearson Affordable Learning Fund Limited	UK	1
Century Consultants Ltd.	US	14	Escape Studios Limited*	UK	6	Pearson America LLC	US	4
Certiport China Holding, LLC	US	4	Falstaff Holdco Inc.	US	4	Pearson Amsterdam B.V.	NL	85
Certiport, Inc.	US	4	Falstaff Inc.	US	58	Pearson Australia Finance Unlimited	UK	1
Cogmed Systems AB	SE	15	FBH, Inc.	US	4	Pearson Australia Group Pty Ltd	AU	51
Connections Academy of Alaska, LLC	US	16	Franchise Support & Services, SL	ES	60	Pearson Australia Holdings Pty Ltd	AU	51
Connections Academy of Arizona, LLC	US	17	Gamma Master China, Limited	CN	61	Pearson Australia Pty Ltd	AU	51
Connections Academy of Arkansas, LLC	US	18	Global Elite Education & Technology (Shanghai) Co. Limited	CN	63	Pearson Benelux B.V.	NL	85
Connections Academy of DC, LLC	US	21	Global George I Limited	KY	8	Pearson Books Limited†	UK	1
Connections Academy of Florida, LLC	US	22	Global George II Limited	CN	56	Pearson Brazil Finance Limited	UK	1
Connections Academy of Georgia, LLC	US	23	Global English India Private Limited	IN	2	Pearson Business (Asia Pacific) Pte. Ltd.	SG	5
Connections Academy of Indiana, LLC	US	25	Globe Fearon Inc.	US	19	Pearson Business Services Inc.	US	4
Connections Academy of Iowa, LLC	US	26	Green Wharf Limited*	UK	6	Pearson Canada Assessment Inc	CA	86
Connections Academy of Kansas, LLC	US	27	Guangzhou Crescent Software Co., Ltd	CN	64	Pearson Canada Finance Unlimited	UK	1
Connections Academy of Kentucky, LLC	US	28	Heinemann Education Botswana (Publishers) (Proprietary) Limited	BW	65	Pearson Canada Holdings Inc	CA	86
Connections Academy of Louisiana, LLC	US	29	Icodeon Limited*	UK	6	Pearson Canada Inc.	CA	86
Connections Academy of Maine, LLC	US	30	IndiaCan Education Private Limited	IN	2	Pearson Central Europe Spółka z ograniczoną odpowiedzialnością	PL	126
Connections Academy of Maryland, LLC	US	31	Integral 7, Inc.	US	4	Pearson Charitable Foundation	US	57
Connections Academy of Massachusetts LLC	US	3	INTELLIPRO, INC.	US	14	Pearson College Limited	UK	1
Connections Academy of Minnesota, LLC	US	32	J M Soluções Exportação e Importação Ltda	BR	67	Pearson DBC Holdings Inc.	US	4
Connections Academy of Missouri, LLC	US	33	Kagiso Education Pty Ltd*	ZA	50	Pearson Desarrollo y Capacitación Profesional Chile Limitada	CL	87
Connections Academy of Nevada, LLC	US	34	Knowledge Analysis Technologies, LLC	US	20	Pearson Deutschland GmbH	DE	88
Connections Academy of New Jersey, LLC	US	14	LCCI International Qualifications (Malaysia) Sdn. Bhd.*	MY	68	Pearson Digital Learning Puerto Rico, Inc.	PR	82
Connections Academy of New Mexico, LLC	US	35	LCCIEB Training Consultancy, Ltd	CN	69	Pearson Dollar Finance plc†	UK	1
Connections Academy of New York, LLC	US	36	LessonLab, Inc.	US	19	Pearson Dollar Finance Two Limited	UK	1
Connections Academy of North Carolina, LLC	US	37	Lignum Oil Company	US	4	Pearson Educación de Chile Limitada	CL	89
Connections Academy of Oregon, LLC	US	40	Linx Brasil Distribuidora Ltda.	BR	13	Pearson Educación de Colombia S A S	CO	90
Connections Academy of Pennsylvania LLC	US	41	Longman (Malawi) Limited	MW	70	Pearson Educación de Mexico, S.A. de C.V.	MX	91
Connections Academy of South Carolina, LLC	US	42	Longman Australasia Pty Ltd	AU	71	Pearson Educación de Panama SA	PA	92
Connections Academy of Tennessee, LLC	US	43	Longman Group(Overseas Holdings) Limited	UK	1	Pearson Educación de Peru S.A.	PE	93
Connections Academy of Texas, LLC	US	44	Longman Indochina Acquisition, L.L.C.	US	4	Pearson Educación SA	ES	94
Connections Academy of Virginia, LLC	US	46	Longman Kenya Limited	KE	72	Pearson Education (Singapore) Pte Ltd	SG	5
Connections Education LLC	US	4	Longman Mocambique Ltda	MZ	45	Pearson Education Africa (Pty) Ltd	ZA	50
Connections Education of Florida, LLC	US	22	Longman Swaziland (Pty) Limited	SZ	73	Pearson Education and Assessment, Inc.	US	4
Connections Education, Inc.	US	4	Longman Tanzania Limited*	TZ	74	Pearson Education Asia Limited	CN	56
CTI Education Group (Pty) Limited	ZA	50	Longman Zambia Educational Publishers Pty Ltd	ZM	75	Pearson Education Botswana (Proprietary) Limited	BW	65
Dominie Press, Inc.	US	19	Longman Zambia Limited	ZM	75			
Dorian Finance Limited	IE	7						
Dorling Kindersley Australasia Pty Limited	AU	51						

Notes to the company financial statements

Registered company name	Country	Reg of Incorp.	Reg office
Pearson Education do Brasil S.A	BR	129	
Pearson Education Hellas SA	GR	122	
Pearson Education Holdings Inc.	US	4	
Pearson Education Holdings Limited†	UK	1	
Pearson Education Indochina Limited	TH	95	
Pearson Education Investments Limited	UK	1	
Pearson Education Korea Limited	KR	96	
Pearson Education Limited	UK	1	
Pearson Education Namibia (Pty) Limited	NA	97	
Pearson Education Publishing Limited	NG	98	
Pearson Education S.A.	UY	99	
Pearson Education SA	AR	100	
Pearson Education South Africa (Pty) Ltd	ZA	50	
Pearson Education South Asia Pte. Ltd.	SG	5	
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 Inc.	US	4	
Pearson India Education 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 LLC	US	4	
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 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	82	
Pearson Pension Nominees Limited	UK	1	
Pearson Pension Property Fund Limited	UK	1	

Registered company name	Country	Reg of Incorp.	Reg office
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	110	
Pearson Services Limited†	UK	1	
Pearson Shared Services Limited†	UK	1	
Pearson Strand Finance Limited†	UK	1	
Pearson Sweden AB	SE	15	
Pearson VUE Philippines, Inc.	PH	111	
Peisheng Yucai (Beijing) Technology Development Limited*	CN	112	
Penguin Capital, LLC	US	4	
Phumelela Publishers (Pty) Ltd*	ZA	50	
PN Holdings Inc.	US	4	
Prentice-Hall Hispanoamericana SA de CV	MX	91	
ProctorCam, Inc.	US	113	
PT Efficient English Services	ID	114	
Reading Property Holdings LLC	US	115	
Rebus Planning Associates, Inc.	US	10	
Reston Publishing Company, Inc.	US	4	
Rycade Capital Corporation	US	4	
Shanghai AWL Education Software Ltd	CN	116	
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	117	
Tecquipment Services Limited*	UK	6	
Testchange Limited**†	UK	6	
The Financial Times (I) Pvt Ltd	IN	24	
The Learning Edge International pty Ltd	AU	71	
The SIOP Institute LLC	US	118	
The Waite Group Inc	US	19	
TQ Catalis Limited	UK	78	
TQ Clapham Limited	UK	78	
TQ Education and Training Limited	UK	78	
TQ Education and Training Limited	SA	59	
TQ Global Limited	UK	1	
TQ Group Limited	UK	78	
TQ Holdings Limited	UK	1	
USLS Holdings LLC	US	4	
Vue Testing Services Israel Ltd	IL	49	
Vue Testing Services Korea Limited	KR	38	
Wall Street English Training Centre (Shanghai) Company Limited	CN	119	
Wall Street Institute Kft.	HU	120	
Wall Street Institute Master Italia Srl	IT	121	
WSE Hong Kong Limited	CN	61	
WSE Training Centre (Guangdong) Co., Ltd.	CN	123	
WSI Education GmbH	DE	124	
WSI International, Inc.	US	125	

* 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 CT 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, Ugland 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 Prentice-Hall Corporation System, MA, 7 St. Paul Street, Suite 1660, Baltimore, MD, 21202, 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, Galpao 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 CT Corporation System, 9360 Glacier Hwy Suite 202, Juneau, AK, 99801, United States
- 17 CT Corporation System, 3800 N Central Ave Suite 460, Phoenix, AZ, 85012, United States
- 18 The Corporation Company, 124 West Capitol Avenue, Suite 1900, Little Rock, AR, 72201, United States
- 19 CT 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 CT Corporation System, 1015 15th Street 10th Floor, Washington, DC, 20005, United States
- 22 1200, South Pine Island Road, Plantation, FL, 33324, United States
- 23 1201, Peachtree Street, NE, Atlanta, GA, 30361, United States
- 24 Plot No. 3, Bharti Colony Vikas Marg, New Dehli, DL 110092, India
- 25 CT Corporation System, 150 West Market Street, Suite 800, Indianapolis, IN, 46204, United States
- 26 CT Corporation System, 400 E Court Ave, Des Moines, IA, 50309, United States
- 27 The Corporation Company, Inc., 112 SW 7th Street, Suite 3C, Topeka, KS, 66603, United States
- 28 CT Corporation System, 306 W. Main Street, Suite 512, Frankfort, KY, 40601, United States
- 29 3867, Plaza Tower, 1st Floor, Baton Rouge, LA, 70816, United States
- 30 CT Corporation System, 128 State St #3, Augusta, ME, 04330, United States
- 31 7 St. Paul Street, Suite 1660, Baltimore, MD, 21202

Notes to the company financial statements

Registered office address

32 CT Corporation System Inc., 1010 Dale St N, St Paul, MN, 55117-5603, United States

33 120, 400, 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 CT Corporation System, 160 Mine Lake Ct Suite 200, Raleigh, NC, 27615, United States

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, 388 State St Suite 420, Salem, OR, 97301, United States

41 CT Corporation System, 116 Pine Street, Suite 320, Harrisburg, Dauphin, PA, 17101, United States

42 CT Corporation System, 2 Office Park Court, Suite 103, Columbia, SC, 29223, United States

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 Numero 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, 2711 Centerville Road, Suite 400, 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

60 Tuset 20-24, No. 5, Barcelona, 08006, Spain

61 Level 54, Hopewell Centre, 183 Queen's Road East, Hong Kong

62 Unit 30-01, Level 30, Tower A, Vertical Business Suite, Avenue 3, Bangsar South, No 8, Jalan Kerinchi, 59200 Kuala Lumpur, Malaysia

63 Room 2001-2, Ambassador Road 18, Yangpu District, Shanghai City, China

64 Suite 1503, 1504, 1505, No. 376 Xingang Middle Road, Haizhu District, Guangzhou, China

65 Plot 50371, Fairground Office Park, Gaborone, Botswana

66 C/o Du Preez, Llebetrau & 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

Registered office address

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, 65555 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, Sokhzmillio 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 The Pearson Academy of Vocational Training, Bangrave Road, Corby, Northamptonshire, NN17 1NN, England

79 Rodovia Anhanguera, km317, 4, Bloco B, modulo 27, Jardim Salgado Filho, Ribeirão Preto, São Paulo, 14.079-000, Brazil

80 Teikoku Hotel Tower 18F, 1-1-1 Uchi Saiwai-Cho, Chiyoda-ku, Tokyo, Japan

81 Suite 1201, Tower 2, No. 36 North Third Rign East Road, Dongcheng District, Beijing, China

82 268 Munoz Rivera Avenue, Suite 1400, San Juan, 00918, Puerto Rico

83 Suite 1212, 12/F, Tower 2, No. 36 North Third Rign East Road, Dongcheng District, Beijing, China

84 Zone B, 1/F, Digital Content Industrial Park, High Technical & Industrial Development District, Guiyang City, Guizhou Province, China

85 Gatwickstraat 1, Amsterdam, 1043 GK, Netherlands

86 26 Prince Andrew Place, Don Mills, Toronto, ON, M3C 2T8, Canada

87 Vitacura 5950, Comuna de Vitacura, Santiago, Chile

88 2, Lilienthalstrasse, Hallbergmoos, 85399, Germany

89 Jose Ananias #505, Macul, Santiago, Chile

90 Carrera 7 Nro 156 – 68, Piso 26, Bogota, Colombia

91 Calle Antonio Dovalijaime #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 Calle Río de la Plata N° 152. Piso 5. San Isidro. 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, Obaferni 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 Bulvari. No:149, Dr. Orhan Birman İş Merkezi Kat:3, Gayrettepe Beşiktaş, İstanbul, 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

Registered office address

106 1-5-15, Kanda-Sarugakacho, Chiyoda-ku, Tokyo, Japan

107 Orion City, Irge 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 Chollerstrasse 37, 6300 Zug, Switzerland

111 27/F Trident Tower, 312 Sen. Gil Puyat Avenue, Makati City, Metro Manila, Philippines

112 Suite 15A11, Tian Xing Jian Commercial Plaza, No. 47 Fuxing Road, Haidian District, Beijing, China

113 National Registered Agents, inc., 160 Greentree Dr Ste 101, Dover, Kent, DE, 19904, United States

114 30th Floor, Ratu Plaza Office Tower, Jl. Jend. Sudirman Kav 9, Jakarta, 10270, Indonesia

115 C/O Pearson Education, 501 Boylston St, Boston, MA, 02116, United States

116 Suite 3H, No. 6, Block 2, 365 Nong Xin Hua Road, Changning District, Shanghai City, China

117 Commerce House, Wickhams Cay 1, P.O. Box 3140, Road Town, Tortola, British Virgin Islands

118 P O BOX 905, Carnelian Bay, CA, 96140, United States

119 Zone 13F, Jin Mao Tower, No.88 Century Avenue, Pilot Free Trade Zone, Shanghai City, China

120 Hermina Ut 17. 8th floor, Budapest, 1146, Hungary

121 79, Corso Buenos Aires, Milan, 20124, Italy

122 21, Amfitheas Avenue, Paleo Faliro Athens, 17564, Greece

123 2F, No.118 East Ti Yu Road, Tianhe District, Guangzhou, China

124 2, Lilienthalstrasse, Hallbergmoos, 85399, Germany

125 The Corporation Trust Incorporated, 351 West Camden Street, Baltimore, MD, 21201, United States

126 Ulica Szamocka 8 01-748, Warszawa, Poland

127 Suite 2600, Three Bentall Centre, P.O. Box 49314, 595 Burrard Street, Vancouver, BC, V7X 1L3, Canada

128 44 Chipman Hill, Suite 1000, Saint Jon, NB, E2L 4S6, Canada

129 Comendador Aladino Selmi Avenue, 4630, Galpão 1, Sala 3, Parque Cidade Campinas, City of Campinas, São Paulo, 13069-036, Brazil

130 Comendador Aladino Selmi Avenue, 4630, Galpão 1, Mezanino, Sala 5, Parque Cidade Campinas, City of Campinas, São Paulo, 13069-036, Brazil

Notes to the company financial statements

Partly-owned subsidiaries

Registered company Name	Country of Incorp.	% Owned	Reg office
Certiport China Co Ltd	CN	50.69	1
CG Manipal Schools Private Limited*	NP	51	2
Chongqing WSE Training Centre Co Ltd	CN	95	3
Educational Publishers LLP	UK	85	4
GED Domains LLC	US	70	5
GED Testing Service LLC	US	70	6
Heilongjiang WSE Training Centre Co Ltd	CN	95	7
Heinemann Publishers (Pty) Ltd	SA	75	8
Maskew Miller Longman (Pty) Limited	SA	75	8
Pearson Education Achievement Solutions (RF) (Pty) Limited	SA	97.3	8
Pearson South Africa (Pty) Ltd	SA	75	8

* In liquidation

Associated undertakings

Registered company Name	Country of Incorp.	% Owned	Reg office
ACT Aspire LLC	US	50	9
Affordable Private Education Center Inc‡	PH	29.36	10
Avanti Learning Centres Private Limited‡	IN	22.54	11
eAdvance Proprietary Limited‡	ZA	38.01	12
HE Distributions, LLC	US	35.3	13
Institute for Private Education & Training KSCC*	KU	49.02	14
Karadi Path learning Company Private Limited‡	IN	27.64	16
Learn Capital Special Opportunities Fund I, L.P.‡	US	99.59	22
Learn Capital Venture Partners II, L.P.‡	US	72.93	22
Learn Capital Venture Partners IIIA, L.P.‡	KY	99.00	15
Learn Capital Venture Partners, L.P.‡	US	99.15	22
Omega Schools Franchise Limited	GH	49.05	17
Peking University Pearson (Beijing) Cultural Development Co, Ltd	CN	45	18
Penguin Random House Limited	UK	25	4
Penguin Random House LLC	US	25	9
Scala Higher Education , S.C.	ME	45	19
Scala Latin America S.A.P.I. de C.V.	ME	45	19
Scala Student, S.A. de C.V.	ME	45	19
The Egyptian International Publishing Company-Longman	EG	49	20
Zaya Learning Labs Private Limited‡	IN	20	21

* 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 Lalitpur, Sub-Metropolitan City, - 2, Bagmati, Nepal
3 9-4#, Unit 4, 24 Jintang Street, Yuzhong District, Chongqing, China
4 80 Strand, London, WC2R 0RL, England
5 CT Corporation System, 4701 Cox Road, Suite 285, Glen Allen, Henrico, VA, 23060-0000, United States
6 The Corporation Trust Company, Corporation Trust Center, 1209 Orange Street, Wilmington, New Castle, DE, 19801, United States
7 Room 503, 5F, Xin'an Building, No.238 Xinyang Road, Dao Li District, Harbin, China
8 Auto Atlantic, 4th Floor, Corner Hertzog Boulevard and Heerengracht, Cape Town, 8001, South Africa
9 C/o Corporation Service Company, 2711 Centerville Road, Suite 400, Wilmington, Delaware, 19808, United States
10 33rd Floor, Tower One & Exchange Plaza, Ayala Triangle, Ayala Avenue, Makati City, Philippines
11 16 Paschimi Marg, Vasant Vihar, New Delhi, DL, India
12 Office 201, Parktown Quarter, Corner 3rd & 7th Avenue, Parktown North, Johannesburg 2193, South Africa
13 United Corporate Services, Inc., 874 Walker Road Suite C, Dover, Kent, DE, 19904, United States
14 P.O. Box No. 6320, 32038 Hawalli, Kuwait City, Kuwait
15 Campbells Corporate Services Limited, Floor 4, Willow House, Cricket Square, Grand Cayman, KY1-9010, Cayman Islands
16 3A Dev Regency II, First Main Road, Gandhinagar, Adyar, Chennai, TN, India
17 2nd Floor OTS Building, off Accra-Winneba Road, Kasoa second, Kasoa P.O. Box WJ973, Weija, Accra, Ghana
18 Suite 216, No. 127-1 Zhongguancun North Street, Haidian District, Beijing, China
19 Calz. de la Naranja # 159, Col. Fracc. Industrial Alce Blanco, Naucalpan de Juarez, Edo. De Mex., 53370, Mexico
20 10a Hussein Wassef St, Midan Missaha, Dokki Giza, 12311, Egypt
21 Unit No. 404, New Udyog Mandir 2, Mogul Lane, Mahim(West), Mumbai, MH, 400016, India
22 Incorporating Services, Ltd. 3500 S Dupont Way, Dover, Kent DE, 19901 United States

Five-year summary

All figures in £ millions	2013	2014	2015	2016	2017
Sales: By geography					
North America	3,008	2,906	2,940	2,981	2,929
Core	1,008	910	815	803	815
Growth	712	724	713	768	769
Continuing	4,728	4,540	4,468	4,552	4,513
Discontinued	962	343	312	-	-
Total sales	5,690	4,883	4,780	4,552	4,513
 Adjusted operating profit: By geography					
North America	464	444	480	420	394
Core	103	122	105	57	50
Growth	35	32	(3)	29	38
Penguin Random House	50	69	90	129	94
Continuing	652	667	672	635	576
Discontinued	84	55	51	-	-
Total adjusted operating profit	736	722	723	635	576
All figures in £ millions	2013	2014	2015	2016	2017
Operating margin – continuing	13.8%	14.7%	15.0%	13.9%	12.8%
 Adjusted earnings					
Total adjusted operating profit	736	722	723	635	576
Net finance costs	(72)	(64)	(46)	(59)	(79)
Income tax	(97)	(118)	(105)	(95)	(55)
Non-controlling interest	(1)	1	-	(2)	(2)
Adjusted earnings	566	541	572	479	440
Weighted average number of shares (millions)	807.8	810.9	813.3	814.8	813.4
Adjusted earnings per share	70.1p	66.7p	70.3p	58.8p	54.1p

Five-year summary

All figures in £ millions	2013	2014	2015	2016	2017
Cash flow					
Operating cash flow	588	649	435	663	669
Operating cash conversion	80%	90%	60%	104%	116%
Operating free cash flow	324	413	255	549	525
Operating free cash flow per share	40.1p	50.9p	31.4p	67.4p	64.5p
Free cash flow	269	413	152	310	227
Free cash flow per share	33.3p	50.9p	18.7p	38.0p	27.9p
Net assets	5,706	5,985	6,418	4,348	4,021
Net debt	1,379	1,639	654	1,092	432
Return on invested capital					
Total adjusted operating profit	736	722	723	635	576
Operating tax paid	(191)	(163)	(129)	(63)	(75)
Return	545	559	594	572	501
Gross basis:					
Average invested capital	10,130	9,900	10,317	11,464	11,568
Return on invested capital	5.4%	5.6%	5.8%	5.0%	4.3%
Net basis:					
Average invested capital	10,130	9,835	9,422	7,906	8,126
Return on invested capital	5.4%	5.7%	6.3%	7.2%	6.2%
Dividend per share	48.0p	51.0p	52.0p	52.0p	17.0p

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 p34-40, 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, and major restructuring programmes.

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 impact of portfolio changes arising from acquisitions and disposals and are stated at constant exchange rates. 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	2017
Statutory sales 2017	4,513
Statutory sales 2016	4,552
Statutory sales decrease	(39)
Comprising:	
Underlying decrease	(111)
Portfolio changes	(54)
Exchange differences	126
Statutory sales decrease	(39)
Statutory decrease	(1)%
Underlying decrease	(2)%
Constant exchange rate decrease	(4)%

Financial key performance indicators

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; 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 impact of portfolio changes arising from acquisitions and disposals and are stated at constant exchange rates. 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	2017	2016
Operating profit/(loss)	451	(2,497)
Cost of major restructuring	79	338
Other net gains and losses	(128)	25
Intangible charges	166	2,769
Impact of US tax reform	8	-
Adjusted operating profit	576	635

All figures in £ millions	2017
Adjusted operating profit decrease	(59)
Comprising:	
Underlying decrease	(58)
Portfolio changes	(24)
Exchange differences	23
Adjusted operating profit decrease	(59)
Underlying decrease	(9)%
Constant exchange rate decrease	(13)%

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. 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 January 2016 the Group announced that it was embarking on a restructuring programme to simplify the business, reduce costs and position the Group for growth in its major markets. The costs of this programme in 2016 were significant enough to exclude from the adjusted earnings measure so as to better highlight the underlying performance. A new programme of restructuring, announced in May 2017, began in the second half of 2017 and is expected to drive further significant cost savings. The costs of this new programme have also been excluded from adjusted earnings.

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 goodwill, including impairment, and 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.

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	2017	2016
Profit/(loss) for the year	408	(2,335)
Non-controlling interest	(2)	(2)
Cost of major restructuring	79	338
Other net gains and losses	(128)	25
Intangible charges	166	2,769
Other net finance income/costs	(49)	1
Impact of US tax reform	8	–
Tax	(42)	(317)
Adjusted earnings	440	479
Weighted average number of shares (millions)	813.4	814.8
Adjusted earnings per share	54.1p	58.8p

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	2017 Gross	2016 Gross	2017 Net	2016 Net
Adjusted operating profit	576	635	576	635
Operating tax paid	(75)	(63)	(75)	(63)
Return	501	572	501	572
Average goodwill	7,236	6,987	3,794	3,429
Average other non-current intangibles	2,606	2,481	2,606	2,481
Average intangible assets – pre-publication	995	926	995	926
Average tangible fixed assets and working capital	731	1,070	731	1,070
Average invested capital	11,568	11,464	8,126	7,906
Return on invested capital	4.3%	5.0%	6.2%	7.2%

Financial key performance indicators

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	2017	2016
Net cash generated from operations	462	522
Dividends from joint ventures and associates	458	131
Re-capitalisation dividends from Penguin Random House	(312)	–
Purchase of property, plant and equipment	(82)	(88)
Purchase of intangible software assets	(150)	(157)
Proceeds from sale of property, plant and equipment and intangible software assets	–	4
Finance lease principal payments	(5)	(6)
Special pension contribution	227	90
Cost of major restructuring paid	71	167
Operating cash flow	669	663

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	2017	2016
Adjusted operating profit	576	635
Operating cash flow	669	663
Cash conversion	116%	104%

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	2017	2016
Adjusted operating profit	576	635
Depreciation (excluding items included in 'cost of major restructuring')	80	80
Amortisation on intangible software assets (excluding items included in 'cost of major restructuring')	82	70
EBITDA	738	785
Cash and cash equivalents	518	1,459
Marketable securities	8	10
Derivative financial instruments	–	(93)
Bank loans and overdrafts	(15)	(39)
Bonds	(1,062)	(2,420)
Finance lease liabilities	(8)	(9)
Total	(559)	(1,092)
Cash and cash equivalents classified as held for sale	127	–
Net debt	(432)	(1,092)
Net debt/EBITDA ratio	0.6x	1.4x

Shareholder information

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

Corporate website

The investors' section of our corporate website www.pearson.com/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 <https://www.pearson.com/news/media/email-alert-signup.html>

Shareholder information online

Shareholder information can be found on our website <https://www.pearson.com/investors/investor-information.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. It also appears in the financial columns of the national press.

2017 dividends

	Payment date	Amount per share
Interim	15 September 2017	5 pence
Final	11 May 2018	12 pence

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 Depository 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 shrelations@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.

Share register fraud: protecting your investment

Pearson does not contact its shareholders directly to provide recommendation 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 <https://www.pearson.com/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.

2018 financial calendar

Ex-dividend date	5 April
Record date	6 April
Last date for dividend reinvestment election	19 April
Annual General Meeting	4 May
Payment date for dividend and share purchase date for dividend reinvestment	11 May