excluded from adjusted earnings was income of £31m compared to income of £4m in 2020. Net finance income relating to retirement benefits decreased from £6m in 2020 to £4m in 2021 reflecting the comparative funding position of the plans at the beginning of each year and higher prevailing discount rates. In 2021, finance income of £6m relating to the revaluation of the US K-12 disposal proceeds was recorded and there were gains on long-term interest rate hedges and foreign exchange gains on unhedged inter-company loans and cash and cash equivalents in 2021 compared to 2020.

For a more detailed discussion of the Group's borrowings and interest expenses see "Liquidity and Capital Resources — Capital Resources" and "— Borrowings" below and "Item 11. Quantitative and Qualitative Disclosures about Market Risk".

Taxation

The reported tax credit in 2021 was £3m (1.8%) compared to a charge of £44m (12.5%) in 2020. The principal reasons for reduction in the tax charge are the benefit received from the revaluation of deferred tax assets following the increase in the UK tax rate from 19% to 25% together with a benefit from a change in Italian tax law.

The UK Budget in March 2021 announced an increase in the UK corporation tax rate to 25% with effect from 1 April 2023. This was substantively enacted on 24 May 2021. The UK corporation tax rate increase has resulted in an increase of £27m in the UK deferred tax liability associated with the UK Group pension plan asset position, which has been recognized in other comprehensive income, together with a £25m increase in UK deferred tax assets, which has been recognized in the income statement. The UK corporation tax rate change is beneficial to the Group's statutory tax as it increases the value of certain UK tax attributes of the Group such as tax losses and, as noted above, reduces the overall statutory tax charge.

In February 2021, the Group received charging notices requiring payment of materially all of the alleged State Aid. Payments totalling £105m (comprising tax and interest) were made during 2021. The Group expects to recover the funds in due course.

Discontinued operations

There were no discontinued operations in either 2020 or 2021.

Profit for the year

The profit for the financial year in 2021 was £160m compared to a profit in 2020 of £310m. The decrease in 2021 is mainly due to a reduction in the operating profit as a result of the gain on sale of Penguin Random House recognized in 2020 and restructuring costs in 2021 offset by improved trading profits, reduced intangible charges and gains on the 2021 business disposals. In addition, there were higher finance costs and tax charges in 2020.

Earnings per ordinary share

The basic earnings per ordinary share, which is defined as the profit for the financial year divided by the weighted average number of shares in issue, was 21.1p in 2021 compared to 41.0p in 2020. The decrease in 2021 is mainly due to a reduction in the operating profit as a result of the gain on sale of Penguin Random House recognized in 2020 and restructuring costs in 2021 offset by improved trading profits, reduced intangible charges and gains on the 2021 business disposals. In addition there were higher finance costs and tax charges in 2020.

The diluted earnings per ordinary share was 20.9p in 2021 and 41.0p in 2020, with the dilutive effect of options being minimal.

Sales and operating profit by segment

The following tables summarize the Group's sales and adjusted operating profit for each of the Group's business segments. Adjusted operating profit is included as it is the key financial measure used by management to evaluate the performance of the Group and allocate resources to business segments over time by separating out those items of income and expenditure relating to acquisitions and disposals, major restructuring programs and certain other items that are not representative of underlying performance. Reconciliations of adjusted operating profit to consolidated operating profit are included below and in note 2 within Item 18 — Financial Statements.

The Group's adjusted operating profit, excludes other net gains and losses, amortization and impairment of acquired intangibles and the cost of major restructuring programs. The intangible charges relate only to intangible assets acquired through business combinations and intangibles relating to associates. These intangible charges are excluded as they reflect past acquisition activity and do not necessarily reflect the current year performance of the Group. Other net gains and losses represent profits and losses on the sale of subsidiaries, joint ventures, associates and other financial assets. Other net gains and losses also includes costs related to business closures and acquisitions. Other net gains and losses are excluded from adjusted operating profit as it is important to highlight their impact on operating profit in the period in which the transactions take place. The costs related to major restructuring programmes are excluded from adjusted operating profit as they do not necessarily reflect the current year performance of the Group.

A reconciliation of operating profit to adjusted operating profit for continuing operations is included in the tables below:

all figures in £ millions	**Assessment & Qualifications**	**Virtual Learning**	**English Language Learning**	**Workforce Skills**	**Higher Education**	**Businesses under Strategic Review**	**Penguin Randon House**	**Total**
				2021				
Sales	1,204	713	238	172	849	252	—	**3,428**
	35%	*21%*	*7%*	*5%*	*25%*	*7%*	—	***100%***
Operating profit /(loss)	155	(41)	(15)	(10)	8	86	—	**183**
Cost of majorrestructuring	48	48	27	28	63	—	—	**214**
Intangible charges	13	25	3	7	2	1	—	**51**
Other net gains and losses	—	—	—	2	—	(65)	—	**(63)**
Adjusted operating profit	216	32	15	27	73	22	—	**385**
				2020[1]				
Sales	1,082	692	218	163	956	286	—	**3,397**
	33%	*20%*	*6%*	*5%*	*28%*	*8%*	—	***100%***
Operating profit / (loss)	118	(1)	(6)	18	90	11	181	**411**
Cost of major restructuring	—	—	—	—	—	—	—	**—**
Intangible charges	29	30	7	8	3	3	—	**80**
Other net gains and losses	—	—	—	—	—	2	(180)	**(178)**
Adjusted operating profit	147	29	1	26	93	16	1	**313**

1. Comparative amounts have been represented to reflect the new operating segments.

Assessment & Qualifications

Assessment & Qualifications sales increased from £1,082m in 2020 to £1,204m in 2021, an increase of £122m or 11%. The Group estimates that after excluding the impact of exchange rates and the contribution from portfolio changes, Assessment & Qualifications sales increased by 18% in 2021 compared to 2020. Professional

Certification (VUE) revenue was up 19%, with OnVUE continuing to benefit from growth in the IT sector. US Student Assessment revenue was up 17% and Clinical Assessment revenue was up 30% with strong product launches in the year. Pearson VUE and Clinical Assessment revenues have now grown in comparison to 2019, showing more than post-COVID-19 recovery.

Adjusted operating profit increased 59% in underlying and 47% in headline terms due to the operating leverage on revenue growth partly offset by currency movements.

Pearson VUE revenue grew 19% in underlying terms with test volumes increasing 30% to 16.8m due to COVID-19 recovery, new client launches and growth in existing programmes. We renewed 99% of our expiring contract base and fully resumed exam deliveries in our testing centres. Volumes in OnVUE, Pearson's online proctoring service, grew 46% to 3m reflecting continuing demand for remote testing and as a complementary expansion to our test centre-based delivery options.

In US Student Assessment, revenue increased 17% in underlying terms due to new contract wins and a return to state testing in 2021, following 2020 COVID-19-related cancellations.

In Clinical Assessment, revenue increased 30% in underlying terms due to new product releases and a backlog of demand for mental health services as in-person assessments resumed and schools reopened. Revenue growth continued for our digitally delivered assessments as they have become more widely accepted.

The Assessment & Qualifications results also include intangible charges of £13m in 2021 compared to £29m in 2020 reflecting impairments made in 2020. Major restructuring costs were £48m in 2021 and £nil in 2020.

Virtual Learning

Virtual Learning sales increased from £692m in 2020 to £713m in 2021, an increase of £21m or 3%. The Group estimates that after excluding the impact of exchange rates, Virtual Learning's sales increased by 11% in 2021 compared to 2020. Revenue growth reflects strong enrolment growth in Virtual Schools in the 2020/2021 academic year, with good underlying enrolment growth in OPM.

Adjusted operating profit grew 28% in underlying terms, due to operating leverage and efficiency improvements in OPM more than offsetting the investment in our Virtual Schools' platform and customer care support, as well as margin impact in OPM due to discontinued programs. Headline profit grew 10% with good growth in adjusted operating profit partially offset by currency movements.

Virtual Schools performed strongly driven by 43% enrolment growth in new and existing schools for the 2020/2021 academic year. We opened five new full-time, online partner schools in Florida, Rhode Island, Colorado, South Carolina, and Oregon. We also announced our first Connections Academy in the state of Virginia, which begins enrolment in March 2022, one school in New Mexico moved from a partner school to district programme. This brings the 2021/2022 total number of partner schools to 47 in 30 states. Enrolments in the 2021/2022 academic year grew by 2% despite a significant unwinding of the "covid cohort".

In OPM, we saw good underlying enrolment growth of 7% as Maryville University extended its OPM partnership for online degrees in the high-demand field of Nursing through to 2033 and Northeastern University added a new online master's degree and certificate programs in Nursing and Healthcare. We ended the year with a total of 477 programs across 31 partners with the addition of 43 new programs in North America across 21 partners, and 7 new programs internationally where underlying enrolments grew by more than 80%.

The Virtual Learning results also include intangible charges of £25m in 2021 compared to £30m in 2020 reflecting the impact of historical acquisition activity. Major restructuring costs were £48m in 2021 and £nil in 2020.

English Language Learning

English Language Learning sales increased from £218m in 2020 to £238m in 2021, an increase of £20m or 9%. The Group estimates that after excluding the impact of exchange rates, English Language Learning’s sales increased by 17% in 2021 compared to 2020. Revenue growth is due to COVID-19 recovery in both International courseware and Pearson Test of English (PTE) where volumes grew 25% compared to 2020.

Adjusted operating profit increased in underlying and headline terms due to increased revenue.

The English Language Learning results also include intangible charges of £3m in 2021 compared to £7m in 2020 reflecting the impact of historical acquisition activity. Major restructuring costs were £27m in 2021 and £nil in 2020.

Workforce Skills

Workforce Skills sales increased from £163m in 2020 to £172m in 2021, an increase of £9m or 6%. The Group estimates that after excluding the impact of exchange rates and the contribution from portfolio changes, Workforce Skills sales increased by 6% in 2021 compared to 2020. This was predominantly driven by strong growth in GED and TalentLens due to a recovery from COVID-19 and further expansion of their enterprise sales. GED test volumes increased by 43%, enabled by the provision of online proctored testing, launched in June 2020, which grew by 200%. BTEC and Apprenticeship sales grew by 4%, with strong international growth partially offset by lower growth in the UK, as registrations declined as a result of COVID-19 disruption and rebates for exam cancellations continued in 2021.

Adjusted operating profit grew 8% in underlying terms, with strong flow through of sales growth operating leverage. Headline profits grew 4% with good underlying growth offset by portfolio changes.

The Workforce Skills results also include intangible charges of £7m in 2021 compared to £8m in 2020. Major restructuring costs were £28m in 2021 and £nil in 2020. Other net gains and losses in 2021 relate to the acquisition of Faethm.

Higher Education

Higher Education sales decreased from £956m in 2020 to £849m in 2021, a decrease of £107m or 11%. The Group estimates that after excluding the impact of exchange rates, Higher Education sales decreased by 5% in 2021 compared to 2020. Growth in Canadian and UK Higher Education Courseware were more than offset by a 6% decline in US Higher Education Courseware driven by a decline in enrolments and courses per enrolment combined, as well as price pressure due to the mix shift from print and bundles to e-text and platform, and lower monetisation.

Adjusted operating profit declined 15% in underlying and 22% in headline terms. This is driven by the combined effects of the revenue declines and continued investments in our content and platforms (inclusive of Pearson+).

We saw continued momentum in Inclusive Access where sales to not-for-profit institutions grew 18% representing 16% of total US Higher Education Courseware revenue versus 13% last year.

The Higher Education results also include intangible charges of £2m in 2021 compared to £3m in 2020. Major restructuring costs were £63m in 2021 and £nil in 2020.

Strategic Review

Strategic Review sales decreased from £286m in 2020 to £252m in 2021, a decrease of £34m or 12%. The Group estimates that after excluding the impact of exchange rates and the contribution from portfolio changes, Strategic Review sales increased by 1% in 2021 compared to 2020.

The Strategic Review results also include intangible charges of £1m in 2021 compared to £3m in 2020. Other net gains and losses in 2021 primarily relate to the disposals of PIHE and the K-12 Sistemas business in Brazil.

Penguin Random House

In April 2020, the Group completed the sale of the remaining 25% interest in Penguin Random House to Bertelsmann, generating net proceeds of £531m and resulting in a pre-tax profit of £180m. Dividend income of £1m was recognized in 2020 pre-disposal.

Results of operations

Year ended December 31, 2020 compared to year ended December 31, 2019

For commentary on the results of our operations for the year ended December 31, 2020 compared to the year ended December 31, 2019, please refer to our Form 20-F for the year ended December 31, 2020, which was filed on April 1, 2021. However, as our operating segments have changed during the year ended December 31, 2021, the revised commentary for sales and operating profit by segment has been updated below –

Sales and operating profit by segment

The following tables summarize the Group's sales and adjusted operating profit for each of the Group's business segments. Adjusted operating profit is included as it is the key financial measure used by management to evaluate the performance of the Group and allocate resources to business segments over time by separating out those items of income and expenditure relating to acquisitions and disposals, major restructuring programs and certain other items that are not representative of underlying performance. Reconciliations of adjusted operating profit to consolidated operating profit are included below and in note 2 within Item 18 — Financial Statements.

A reconciliation of operating profit to adjusted operating profit for continuing operations is included in the tables below:

all figures in £ millions	Assessment & Qualifications	Virtual Learning	English Language Learning	Workforce Skills	Higher Education	Businesses under Strategic Review	Penguin Randon House	Total
				2020[1]				
Sales	1,082	692	218	163	956	286	—	**3,397**
	33%	*20%*	*6%*	*5%*	*28%*	*8%*	—	***100%***
Operating profit / (loss)	118	(1)	(6)	18	90	11	181	**411**
Cost of major restructuring	—	—	—	—	—	—	—	**—**
Intangible charges	29	30	7	8	3	3	—	**80**
Other net gains and losses	—	—	—	—	—	2	(180)	**(178)**
Adjusted operating profit	147	29	1	26	93	16	1	**313**

all figures in £ millions	Assessment & Qualifications		Virtual Learning	English Language Learning	Workforce Skills	Higher Education	Businesses under Strategic Review	Penguin Randon House	Total
					2019[1]				
Sales	1,280		584	320	185	1,102	398	—	**3,869**
		33%	*15%*	*8%*	*5%*	*29%*	*10%*	—	***100%***
Operating profit / (loss)	191		(36)	(31)	15	66	19	51	**275**
Cost of major restructuring	38		13	10	7	68	21	2	**159**
Intangible charges	23		36	80	9	—	3	12	**163**
Other net gains and losses	—		—	—	—	—	(16)	—	**(16)**
Adjusted operating profit	252		13	59	31	134	27	65	**581**

1. Comparative amounts have been represented to reflect the new operating segments.

Assessment & Qualifications

Assessment & Qualifications sales decreased by £198m or 15% from £1,280m in 2019 to £1,082m in 2020 and adjusted operating profit decreased by £105m or 42% from £252m in 2019 to £147m in 2020. The Group estimates that after excluding the impact of exchange rates, Assessment & Qualifications sales decreased by 16% in 2020 compared to 2019 and adjusted operating profit also decreased by 44%.

Sales declined 10% at Pearson VUE reflecting the impact of the test center closures in the first half of the year offset by pent up demand in the second half partially moderated by further lockdowns in Q4. Online Proctoring saw strong growth in the year with volumes up from 0.2m at the end of 2019 to 2.1m at the end of 2020 predominantly driven by demand from the IT sector. Overall testing volumes were down 22% to 12.9m due to test center closures. In School and Clinical Assessment, cancelation of Spring testing and school closures impacted both businesses respectively in H1 with a further modest impact due to COVID-19 in H2.

In the UK, qualifications revenue was impacted by the cancelation of exams in 2020, as well as the end of the NCT contract.

Adjusted operating profit declined 42% due to the COVID-19 impact on trading, partially offset by mitigating actions.

The Assessment & Qualifications results also include intangible charges of £29m in 2020 compared to £23m in 2019 reflecting impairments made in 2020. Major restructuring costs were £38m in 2019 and £nil in 2020.

Virtual Learning

Virtual Learning sales increased by £108m or 18% from £584m in 2019 to £692m in 2020 and adjusted operating profit increased by £16m or 123% from £13m in 2019 to £29m in 2020. The Group estimates that after excluding the impact of exchange rates, Virtual Learning sales increased by 18% in 2020 compared to 2019 and adjusted operating profit also increased by 108%.

The sales growth reflects strong enrolment growth in Virtual Schools and good growth in OPM. Adjusted operating profit growth was due to margin on sales growth more than offsetting the investment in our virtual schools platform and customer care support and margin impact in OPM due to discontinued programs.

Virtual Schools performed strongly driven by 43% enrolment growth in new and existing schools for the 2020/2021 academic year. We opened three new full-time, state-wide partner schools, and combined with two contract exits this took the total partner schools to 43 in 29 states.

In OPM, we saw good sales growth with a strong performance in undergraduate and international, partially offset by discontinued programs. We also saw the benefits of the operational changes, with increased efficiencies in our student recruitment process and student acquisition costs. Underlying course enrolments (excluding discontinued programs) grew 20% and total course enrolments declined 7%. We delivered 470 programs across 34 partners globally.

The Virtual Learning results also include intangible charges of £30m in 2020 compared to £36m in 2019 reflecting the impact of historical acquisition activity in recent years. Major restructuring costs were £13m in 2019 and £nil in 2020.

English Language Learning

English Language Learning sales decreased by £102m or 32% from £320m in 2019 to £218m in 2020 and adjusted operating profit decreased by £58m or 98% from £59m in 2019 to £1m in 2020. The Group estimates that after excluding the impact of exchange rates, English Language Learning sales decreased by 28% in 2020 compared to 2019 and adjusted operating profit also decreased by 100%.

The sales decline reflects the interruption of Australian immigration and test center closures impacting PTE. PTE volumes were down 36% with declines in all key markets except China where we saw 17% growth due to an improved competitive performance. Courseware sales also declined due to the COVID-19 pandemic.

Divisional profitability has been impacted by the PTE and courseware sales decline, market contraction as a result of the pandemic in our high margin franchise business in Brazil, and by investment in our English Assessment products.

The English Language Learning results also include intangible charges of £7m in 2020 compared to £80m in 2019 due to impairments recorded in 2019. Major restructuring costs were £10m in 2019 and £nil in 2020.

Workforce Skills

Workforce Skills sales decreased by £22m or 12% from £185m in 2019 to £163m in 2020 and adjusted operating profit decreased by £5m or 16% from £31m in 2019 to £26m in 2020. The Group estimates that after excluding the impact of exchange rates and the contribution from portfolio changes, Workforce Skills sales decreased by 14% in 2020 compared to 2019 and adjusted operating profit also decreased by 13%.

Sales decreased due to the impact of the COVID-19 pandemic, in particular, the impact on BTEC and apprenticeships in the UK.

The Workforce Skills results also include intangible charges of £8m in 2020 compared to £9m in 2019. Major restructuring costs were £7m in 2019 and £nil in 2020.

Higher Education

Higher Education sales decreased by £146m or 13% from £1,102m in 2019 to £956m in 2020 and adjusted operating profit decreased by £41m or 31% from £134m in 2019 to £93m in 2020. The Group estimates that after excluding the impact of exchange rates, Higher Education sales decreased by 13% in 2020 compared to 2019 and adjusted operating profit also decreased by 25%.

In US Higher Education Courseware sales declined 12% with total unit sales increasing slightly and digital registrations including eBooks growing 9%. In Canada and international Higher Education, courseware sales were down significantly due to bookstore closures during the pandemic.

Adjusted operating profit declined 31% due to the impact of trading partially offset by restructuring and discretionary savings.

The Group continued to see unbundling of premium priced print and digital products for digital only formats. In 2020 2.2m textbooks were sold into US Higher Education colleges, compared with 3.7m in 2019. Sales of standalone eBook units into colleges grew 33% to 3.7m units, showing signs of secondary market recapture. There has also been continued momentum in Inclusive Access with sales to not-for-profit institutions up 29% on last year representing 13% of US Higher Education Courseware revenue.

The Higher Education results also include intangible charges of £3m in 2020 compared to £nil in 2019. Major restructuring costs were £68m in 2019 and £nil in 2020.

Strategic Review

Strategic Review sales decreased by £112m or 28% from £398m in 2019 to £286m in 2020 and adjusted operating profit decreased by £11m or 41% from £27m in 2019 to £16m in 2020. The Group estimates that after excluding the impact of exchange rates and the contribution from portfolio changes, Strategic Review sales decreased by 10% in 2020 compared to 2019 and adjusted operating profit also decreased by 51%.

The sales decline reflects budgetary pressures caused by the impact of COVID-19 on courseware purchasing, with budget constraints and school closures leading to fewer purchases. The sales decline also reflects the disposal of the US K12 business in 2019.

The Strategic Review results also include other net gains and losses of £2m loss in 2020 compared to a £16m gain in 2019. In 2019 these primarily relate to the gain on sale of the US K12 business and in 2020 they primarily relate to charge in relation to the disposal of PIHE.

The Strategic Review results also include intangible charges of £3m in 2020 compared to £3m in 2019. Major restructuring costs were £21m in 2019 and £nil in 2020.

Penguin Random House

The Group’s share of Penguin Random House adjusted operating profits was £nil in 2020 compared to £65m in 2019. Dividend income of £1m was recognized in 2020. In December 2019, the Group announced the sale of its remaining 25% interest in Penguin Random House. At the end of December 2019 the Group’s share of the assets of Penguin Random House was classified as held for sale on the balance sheet. In April 2020, the Group completed the sale of the remaining 25% interest in Penguin Random House to Bertelsmann, generating net proceeds of £531m and resulting in a pre-tax profit of £180m.

Liquidity and capital resources

Cash flows and financing

Net cash generated from operations increased to £570m in 2021 from £450m in 2020. The decrease in cash generated from operations is largely explained by the drop-through of increased operating profits and an improvement in net working capital (including product development) offset by an increase in capital expenditure.

Net interest paid at £54m in 2021 compares to £50m in 2020 and primarily reflects a reduction in interest on lease liabilities following the disposal of PIHE. Tax paid in 2021 was £177m compared to tax received of £2m in 2020 with the increase mainly explained by the £97m payment related to State Aid which the Group expects to recover in due course and refunds received in 2020 in the US and UK relating to historical periods.

Capital expenditure on property, plant and equipment was £64m in 2021 compared to £53m in 2020. There were no material property sales in 2021 or 2020. Capital expenditure on software intangibles increased to £112m in 2021 from £81m in 2020. The increase in expenditure on software intangibles reflects the fact that we paused elements of technology programmes at the height of the pandemic in 2020.

Cash outflow from acquisitions in 2021 was £69m compared to £12m in 2020. The cash outflow in 2021 relating to acquisitions of subsidiaries is £55m, comprising £46m related to the acquisition of Faethm, £5m of cash consideration paid in relation to two smaller acquisitions, and £4m in relation to prior year acquisitions. In addition, there is a cash outflow of £10m relating to the acquisition of interests in two associates, Smashcut and Academy of Pop and an outflow of £4m relating to the acquisition of investments. There were no significant acquisitions in 2020, the net cash outflow on acquisition of subsidiaries in 2020 relates to deferred payments for prior year acquisitions and investment purchases.

The net cash inflow in respect of businesses and investments disposed was £131m in 2021 compared to £631m in 2020. In 2021, the cash inflow of £83m relating to the disposal of subsidiaries mainly relates to the disposal of the K12 Sistemas business and deferred proceeds from the US K-12 Courseware sale in 2019 offset by cash disposed with PIHE and other disposal costs. In 2021 there is also a cash inflow of £48m relating to the disposal of certain investments held at fair value through other comprehensive income. In 2020 the cash received largely related to the disposal of Penguin Random House and the partial repayment of the receivable held in relation to the disposal of the US K-12 business.

Dividends from joint ventures and associates decreased from £4m in 2020 to £nil in 2021. The reduction is primarily due to the fact that the Penguin Random House disposal completed in April 2020.

The cash outflow from financing of £414m in 2021 compares to £299m in 2020 and includes the repayment of borrowings of £167m in 2021 and £230m in 2020. These repayments include the repayment of the remaining €195m of its €500m Euro 1.85% notes in 2021 and the repayment of the draw down of the revolving credit facility in 2020.

In June 2020, the Group completed the issuance of £350m guaranteed notes maturing 4 June 2030. The notes bear a coupon of 3.75% and were issued in accordance with the ICMA Social Bond Principles 2018, with the proceeds primarily used to finance and re-finance delivery of education in our Connections Academy, BTEC and GED businesses to help achieve the United Nations’ 4th Sustainable Development Goal (SDG) for a Quality Education.

Also included in financing cash flows are repayments of lease liabilities which decreased from £92m in 2020 to £88m in 2021. Dividends paid to company shareholders in 2021 of £149m compares to £146m in 2020. Cash returned to shareholders via the share buyback program in 2020 amounted to £176m in 2020. Treasury share purchases in 2021 in respect of employee share plans were £16m compared to £6m in 2020.

Overall the Group’s net borrowings decreased from £463m at the end of 2020 to £350m at the end of 2021. The Group’s cash and cash equivalents decreased from £1,113m at the end of 2020 to £937m at the end of 2021.

Capital resources

The Group’s borrowings fluctuate by season because of the academic year’s effect on the working capital requirements in the educational materials businesses. Assuming no acquisitions or disposals, the Group’s maximum level of net debt normally occurs in July, and its minimum level of net debt normally occurs in December.

In assessing the Group’s ability to continue as a going concern for the period to 30 June 2023, the board analysed a variety of downside scenarios including a severe but plausible scenario where the Group is impacted by all principal risks from 2022 as well as reverse stress testing to identify what would be required to either breach covenants or run out of liquidity. The severe but plausible scenario modelled a severe reduction in revenue, profit and operating cash flow from risks which in aggregate were significantly greater than seen in 2021 continuing throughout 2022 to 2023.

At 31 December 2021, the Group had available liquidity of c£1.6bn, comprising central cash balances and its undrawn $1.19bn Revolving Credit Facility (RCF). In February 2022, the Group renegotiated its revolving credit facility, extending the maturity of $1bn of the facility by one year to February 2026. Even under a severe downside case, the Group would maintain comfortable liquidity headroom and sufficient headroom against covenant requirements during the period under assessment even before modelling the mitigating effect of actions that management would take in the event that these downside risks were to crystallize.

At December 31, 2021, the Group's net debt was £350m compared to £463m at December 31, 2020. The decrease is largely due to positive operating cash flow and proceeds from disposals of businesses partially offset by tax, interest and dividend payments. Tax payments in 2021 include amounts related to State Aid which the Group expects to recover in due course.

Net debt is defined as all short-term, medium-term and long-term borrowing (including leases and related derivatives), less all cash, cash equivalents, other liquid resources and the net investment in finance lease receivables, and a breakdown is provided in note 18 of the financial statements. Cash equivalents comprise short-term deposits with a maturity of up to 90 days, while liquid resources comprise short-term deposits with maturities of more than 90 days and other marketable instruments which are readily realizable and held on a short-term basis. Total short-term, medium- term and long-term borrowing excluding derivatives amounted to £1,400m at December 31, 2021, compared to £1,720m at December 31, 2020 reflecting the repayment of the bond in 2021 and the disposal of lease liabilities with PIHE. At December 31, 2021, total cash and liquid resources were £937m, compared to £1,116m at December 31, 2020. The decrease in 2021 is primarily due to repayments of borrowings of £167m, dividends paid of £149m, tax paid of £177m, interest payments of £67m, capital expenditure of £176m, acquisitions of £69m and repayments of lease liabilities of £88m. These were offset by the cash inflow from operations of £570m and proceeds from disposals of businesses and investments of £131m.

At 31 December 2021, the Group was rated BBB- (stable outlook) with Fitch and Baa3 (stable outlook) with Moody's.

Contractual obligations

The following table summarizes the maturity of the Group's borrowings, its obligations under non-cancellable leases, deferred consideration and pension funding obligations, exclusive of anticipated interest payments. Due to the variability of future interest payments, these have been excluded from the table below:

	Year ended December 31, 2021				
	Total	Less than one year	One to Two years	Two to five years	After five years
	£m	£m	£m	£m	£m
Gross Borrowings:					
Bank loans and overdrafts	—	—	—	—	—
Revolving credit facility	—	—	—	—	—
Bonds	767	87	70	257	353
Lease liabilities	633	68	71	178	316
Deferred consideration	44	6	15	13	10
UK pension funding obligation	—	—	—	—	—
Total	1,444	161	156	448	679

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The UK pension plan's most recent triennial actuarial valuation for funding purposes was completed as at January 1, 2021 and this valuation revealed a technical provision funding surplus of £160m. The plan expects to be able to provide benefits (in accordance with the plan rules) with a very low level of reliance on future funding from the Group.

At December 31, 2021 the Group had no capital commitments for fixed assets. Other than as outlined above, there are no other reasonably likely material cash requirements, other than those business as usual costs incurred in the ordinary course of business. At December 31, 2021, these business as usual costs include payroll costs and other executory contracts, that have not be recorded as a liability at the balance sheet date, but instead will be recorded as incurred. There are contingent liabilities in respect of indemnities, warranties, legal and royalty claims and guarantees in relation to former subsidiaries and in respect of guarantees in relation to subsidiaries and associates. In addition, there are contingent liabilities in respect of tax assessments as outlined in note 34 in "Item 18. Financial statements". None of these claims, guarantees or assessments is currently expected to result in a material gain or loss.

Off-balance sheet arrangements

The Group does not have any off-balance sheet arrangements, as defined by the SEC for the purposes of the Form 20-F, that have or are reasonably likely to have a material current or future effect on the Group's financial position or results of operations.

Borrowings

The Group finances its operations by a mixture of cash flows from operations, short-term borrowings from banks and commercial paper markets, and longer-term loans from banks and capital markets.

At December 31, 2021, the Group had an undrawn $1.19bn committed revolving credit facility with a maturity date in February 2025. The facility set in place in March 2019, contains two key covenants measured for each 12-month period ending June 30 and December 31:

The Group must maintain the ratio of its profit before interest, tax and amortization to its net interest payable at no less than 3:1; and must maintain the ratio of its net debt to its EBITDA at no more than 4:1. "EBITDA" refers to earnings before interest, taxes, depreciation and amortization. The Group is currently in compliance with these covenants.

See note 18 of "Item 18. Financial Statements" for information on the Group's longer-term loans from banks and capital markets.

Treasury policy

The Group's treasury policy is described in note 19 of "Item 18. Financial Statements". For a more detailed discussion of the Group's borrowing and use of derivatives, see "Item 11. Quantitative and Qualitative Disclosures about Market Risk".

Related parties

There were no significant or unusual related party transactions in 2021, 2020 or 2019. Refer to note 36 in "Item 18. Financial Statements".

Accounting policies

For a description of the Group's principal accounting policies used refer to note 1 in "Item 18. Financial Statements".